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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Sept. 5.—Bulb Sale at Protheroe & Morris' Rooms, and every day in the week.
Bulb Sale at Stevens' Rooms.
TUESDAY, Sept. 6.—Royal Horticultural Society: Meeting of Committees at the Drill Hall.
WEDNESDAY, Sept. 7.—National Chrysanthemum Society's Show at the Royal Aquarium (2 days).
Royal Caledonian Horticultural Society's Show at Edinburgh (2 days).
Bulb Sale at Stevens' Rooms.
THURSDAY, Sept. 8.—Bulb Sale at Stevens' Rooms.
FRIDAY, Sept. 9.—Show of Autumn Flowers at Earl's Court (2 days).
SATURDAY, Sept. 10.—Leicester Early Chrysanthemum and Dahlia Show.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, SEPT. 3rd, 1892.

THE EARL'S COURT FRUIT SHOW.—How thoroughly our anticipations as to the high class character of this show were borne out, all who were privileged to see it can testify. Whilst the disappointed exhibitors were not few, and yet men of some position in their respective spheres, yet all had to admit that the display of fruit was the finest that has been seen in London for many years. The market produce was in itself an exhibition, not only because it showed what is real market quality, and was in that respect useful teaching to the thousands of private gardeners who think anything good enough to sell in a market; but it also showed how good things should be packed. In that respect, even if in no other, the show of market produce must have done good service.

Not only was the general show of fruit of the highest excellence but the competition was remarkably keen, and many a man who came up laden with produce and full of anticipation had to realise that anticipations or fine writing do not help to win prizes when more retiring but able growers come forth as competitors. Perhaps some of the lessons in modesty of deportment and of assertion taught by the competitions last week may not be wholly lost. We fear it may be long ere we shall see such a magnificent show of fruits in London again, and therefore must cherish its remembrance with some affection.

Naturally now all thoughts are centred upon the proposed show on the Thames Embankment, but if that is to be realised and a success, it will soon be time to take the matter in hand. That, it is anticipated will excel all other shows in extent and magnificence, and if it is to occupy that position, then should action be taken speedily, for time flies fast and the amplest notice should be given as to classes. The recent Earl's Court schedule was not a bad one, but for a real International display we must have a better, and its main features cannot be too soon made generally known.

GARDENERS' WAGES AND STATUS.—There was perhaps no point in the very admirable and interesting address which Mr. Thomson, of Clovenfords, in his capacity as chairman of the dinner at Earl's Court on the 26th ult., delivered to the large number of gardeners present, more appreciated than that portion which related to the status and salaries of the craft. Mr. Thomson first demurred to the placing of men of such unquestioned intelligence, capacity, and integrity in the same category as ordinary domestic servants; and with that estimate we entirely agree because it is little less than insulting. In myriads of cases we have no hesitation in asserting that gardeners are the equals of their employers in knowledge and capacity, and are in these respects miles above the ordinary domestic level.

There may be cases in which gardeners place themselves on the menial level, and when they do so the prestige of gardening suffers. We should be very glad to see all such members of the craft cleared out, and their places taken by men who feel that to make it honourable to be a gardener it is needful that the craft should be honoured by gentlemanly demeanour and high moral conduct. As to the remuneration aspect, to which Mr. Thomson so forcibly referred, we admit that this a matter less easily remedied. Other vocations have through the aid of trade unions raised wages during the past twenty years fully thirty per cent.

Gardening is a vocation which seems to be helplessly outside the power of trade unionism, and each member of the profession has to fight his own battle. It is indeed distressing to note that myriads of ordinary mechanics and artisans, from whom nothing but fairly good workmanship is looked for, are paid far better than are the best gardeners. No wonder that the latter strives through exhibitions or other methods to help eke out what is after all but a too precarious existence. How things are to be improved is a problem we should like to see solved.

THE RECENT CHISWICK CONFERENCES.—We do very earnestly and heartily wish that it were in the power of the Royal Horticultural Society to make its Chiswick Conferences greater successes. Very likely the one held last week suffered because it was thrust into the same week as the Fruit Show at Earl's Court. Still because publicly announced as dealing with Begonias one day, and with certain stone fruits on the other, it did seem as if each section was none too well represented, the fruits especially proving to be a lamentable failure. What was so remarkable, also, was that whilst prizes were offered for Begonias, Plums and Apricots, only one poor lot of Begonias competed, there were no Plums, and very few, and these poor, Apricots, indeed we have seldom seen a worse lot of fruits anywhere than were the latter.

So great a failure has proved to be the offering of prizes to amateur growers at the various meetings that we hope next year the council will determine to vote a lump sum to be divided amongst the trade in proportion to the value of the exhibits they may show, and thus encourage that body to help even more so than at present, to make up exhibitions. But for the trade now, in the bulk of cases, the society shows and meetings would be absolute failures, the amateur class sending very little worth looking at.

The Ferns undoubtedly made a remarkable display at Chiswick, and most beautiful they are. Still they have either few admirers or very few who really understand them. In any case the public did not go to see them. Individually they are full of interest, collectively they are very monotonous. Perhaps the council might like next year to give a garden party to the Fellows in place of having a conference, and with it holding an exhibition also; certainly something should be done to popularise the Chiswick Gardens, for there are few places after all in the kingdom that contain so much that is interesting, and worthy of wider knowledge and appreciation.

BEGONIAS AS BEDDING PLANTS.—There can be no doubt but that Begonias are fast becoming even more popular as bedders than as ordinary pot plants. It is a fact that so soon as any flowering plants prove to be widely used for outdoor decoration, they fall off in popularity for greenhouse purposes. When first the newer forms were produced by our capable raisers and hybridists, it perhaps hardly entered their minds that they were thus developing what would prove to be the most popular as well as most beautiful race of summer bedding plants of the century. The zonal Pelargonium has had a long innings, and has served a good turn. Still it has its weaknesses, especially in wet seasons, and even this year we see rampant growth and bloom very much the worse for occasional storms.

The Begonias, however, seem to be almost unaffected by rains, and smile with brilliant beauty under their depressing influences. Then in sunshine how wondrously beautiful they are, yet neither garish nor vulgar. There is that about the Begonia that will not lend itself to excess of colouration or garishness, let it bloom ever so profusely. Whilst, however, our trade growers have been too intent on the production of mere size of bloom in both singles and doubles—and we earnestly hope the maximum by now has been reached—their products have only in a minor degree been acceptable for bedding purposes. Those who have to furnish big bedding displays therefore have had to turn their attention to the production of varieties which bloom profusely, have good, stiff, erect stems, and seem to be very little the worse for exposure to rough weather.

We are not sure whether presently, when the trade growers are left high and dry—stranded on the rocks of bigness—the unpretentious raisers of bedders for their own pleasure will not be reaping the reward of usefulness in having created the finest race of bedding flowering plants ever yet seen. We heard very little about Begonias as bedding plants at the recent conference; but whilst some are talking others are quietly doing, and our gardens are reaping the advantage in consequence.

THE PROPOSED POTATO SHOW AT EARL'S COURT.—We are in a position to announce that the talked-of Potato Exhibition at Earl's Court will really take place on October 5th and following days as originally announced. The reason for the non-issue of the schedule is not clear, but it seems to have got hung up somehow. However, it will be issued shortly, and it is about time that those who grow good Potatos learnt what the classes are.

We may mention also that growers of other vegetables will have their opportunities in two classes at the same show: one for a trophy of vegetables arranged for effect, and the other for a class of twelve dishes, distinct varieties.

Mr. Samuel Reece, for the past thirteen years gardener to Robert Whyte, Esq., Pentland House, Lee, S.E., and under whose care the yellow Arum Lily (Calla Pentlandii) first grew and flowered in this country, has been engaged as gardener by W. J. Jarratt, Esq., Hatton House, Westgate-on-Sea, Isle of Thanet.

Preston and Fulwood Horticultural Society.—At the monthly meeting of the members, which will be held in the large room of the Legs of Man Hotel, Fishergate, Preston, this (Saturday) evening, Mr. S. H. Stott will read a paper on "Rose growing near large towns."

British Ferns at Chiswick.—We regret that in our report of the Fern Conference at Chiswick, last week, we omitted to state that Mr. William Marshall had the honour of taking the prize offered for the best specimen in the exhibition with a very beautiful example of Polypodium vulgare trichomanoides. Mr. Marshall, as an old grower of British Ferns, naturally keenly appreciates this award, hence this record of his triumph.

The Noble Strawberry.—In his fine collection of twenty dishes of fruit at Earl's Court last week, Mr. McIndoe had a very fine sample of the Noble Strawberry, which rather opened the eyes of many of his brother gardeners. The plants had been forced, and subsequently planted out, and then gave a satisfactory autumn crop of fruits, which were of good size, well coloured, and better flavoured than Noble generally is in its regular season. The hint should prove a useful one to others.

The Black Duke Grape.—This is the name, and a very appropriate one, which Mr. McIndoe, of Hutton Hall, has given to a most promising seedling raised from Gros Guillaume crossed with Duke of Buccleuch. The berries run much larger than those of Gros Colmar, and the bunches promise to be larger too. It will apparently take on a good colour, and the flavour is said to be better than that variety. If thinner skinned, as we suspect it to be, it will make a most telling variety for the autumn exhibitions, but whether it will cut out Gros Colmar altogether, as some growers seemed to imagine, remains to be proved. In any case it is a noble looking Grape.

A New Park for Tottenham.—The grounds attached to an historic building at Tottenham known as Bruce Castle have recently been purchased by the Tottenham Local Board of Health, and formally thrown open to the public. It is recorded that the original builder and occupant of this building was the grandfather of King Robert the Bruce, and Queeu Elizabeth is said to have once stayed in the castle.

Hampton Horticultural Co., Limited.—This company was registered on the 25th ult., with a capital of £3,800, divided into 760 shares of £5 each, to carry on in Great Britain, Ireland, and elsewhere, the trade or business of florists, nurserymen, farmers, and gardeners, or merchants of flowers, fruit, vegetables, etc.

Importation of Californian Fruits.—Californian fruit growers have begun the export of some of the principal fruits of their orchards direct to Covent Garden Market. A consignment arrived on the 21st ult., comprising 2,000 packages of Peaches, Nectarines, Plums, and Pears. The fruit arrived in magnificent condition, having been stowed in cool chambers, in which a temperature of 45° was preserved. The entire lot, when put under the hammer at Covent Garden, realised excellent prices. Each description of fruit above mentioned left nothing to be desired, either in size or quality, and the opinion of people in the trade is that the export of fruits from California is destined to be carried on upon a large scale. These Californian fruits are expected to enter into strong competition with those from French orchards, as the climatic conditions to which they are subjected are unusually favourable for the production of varieties at once luscious in taste and superior in size. The next delivery, consisting of 3,000 packages, arrived on the 26th ult. The supply will continue during the next four months.

FUCHSIA NOTES.

I AM reminded at p. 800 of your last volume, that in preparing my paper on the Fuchsia, which was read at the meeting of the Royal Horticultural Society on the 9th ult , I omitted giving credit to many of those who have done good service in the raising and producing grand examples of this graceful and charming family of decorative plants, whether grown under glass or in the open garden. This I much regret, and trust that although honourable names appeared to be ignored, it was done with no invidious intent, but quite inadvertently. I most fully endorse all that is said of Mr. Lye, for although I am not personally acquainted with him I have for many years heard and read of his fame and success in the raising of new varieties that have graced the exhibition tables wherever they have been shown, and as having eminently succeeded on very many occasions in producing some of the noblest and grandest examples that ever graced our exhibition tents.

I for one very much regret that more encouragement is not given to men like Mr. James Lye who produce plants that tax a gardener's skill to the uttermost to render them worthy subjects ; but my long experience has taught me that most plants have what may be designated their season or period of earnest attention and consequently devotion. The old adage is that "Familiarity breeds contempt ;" and thus I opine that in many instances the tastes vary, and to a certain extent the mind becomes satiated, other pets gain the ascendency for a time and till some other rival presents itself, and the old favourites have to fall into the ranks of General Utility, who commands now immense forces of regulars and irregulars, and which in combination tend very materially to suppress ennui, and to give a healthy tone to our systems both physically, mentally, and commercially. And it is those men who make it their pleasure and devote much time in the preparation of such grand feasts of flowers, fruits, vegetables, etc., as can now be seen and enjoyed by all classes of society from the highest grade to the lowest, or be the avocation what it may the blessed products of the earth can be more or less enjoyed by all.

I have known very many during my time that employed their leisure and talent in fostering a love for the beautiful; and although many have long since passed away we cannot but recognise the fact that such are amongst the greatest benefactors of their fellow men. Those whose object it is to give recreative and pure enjoyment have their reward from the great Author of all that is lovely on earth, because such is the inherent disposition of our great Master.—*George Fry.*

NEWCASTLE FLOWER SHOW.

AFTER the disastrous event of last year ending in the suspension of the annual summer show through the destruction of marquees, it is a matter of sincere congratulation that the executive of this old-established society have by their exertions placed it now upon a better basis than heretofore. The sympathy shown towards the society has resulted in a net gain of something over £500. The show held on the 24th ult., and two following days, was in all respects a most excellent one. Its strongest features were to be seen in the flowering stove and greenhouse plants, and the Ferns, the Roses, herbaceous and other cut flowers, the floral decorations, and the fruit. In the plant classes Mr. Nicholas, gardener to the Earl of Zetland, Uplertham, was a strong exhibitor, he took the first prize for eight flowering plants, with a grand lot of specimens, such as are rarely seen now-a-days. The best were large and fresh examples of Erica Austiniana, and E. ampullacea, Dipladenia amabilis, and Allamanda nobilis. Mr. Wylam, of Shankhouse, came in a good second, his best being a splendid plant of Stephanotis floribunda, and another of Rondeletia speciosa major. In the smaller class of six Mr. Morris, of Felling, was first; here was shown a superb plant of Ixora Williamsii. Mr. Nicholas was also first in two classes for Cape Heaths, staging fresh medium sized plants of Æmula Irbyana, Aitoniana, Turnbulli, Ne plus Ultra, and Marnochiana. For foliage plants he shared the honours with Mr. McIntyre, Woodside, Darlington, both showing well. The latter exhibitor was in grand form with Exotic Ferns in both classes, having two immense plants of Davallia Fijiensis, with excellent specimens of Gleichenia Mendelli, and G. dichotoma, with Adiantum Veitchii very fine.

In the cut flower classes Messrs. Harkness & Son staged Roses as fine as were seen in the south this year, they were in all points superb; particular note should be made of Mrs. John Laing, which was shown in quantity. This firm was first, being followed by Messrs. Mack & Son, of Catterick Bridge. Dahlias were excellent, but here a southern grower (Mr. Humphries, Chippenham) was the most successful. Hardy herbaceous and border plants were a fine feature. In the large class for eighteen varieties Mr. J. G. Roe, Barnard Castle, won in a close competition from Messrs. Harkness & Son, both exhibiting immense bunches of the best things in season. In the floral arrangements Messrs. Perkins & Son, Leamington, showed strongly, but were beaten in two cases out of five by local exhibitors, which of itself speaks well for the quality and taste of the exhibitors. Messrs. Perkins took first for hand bouquet, sprays, and button-holes, but were beaten for a bridal bouquet by Mr. W. R. Armstrong, and for a basket by the same exhibitor, the latter production being an exquisite arrangement. The best arranged Epergnes were those from Mr. Geo. Webster, Sunderland, who took first prize in two classes with choice arrangements.

The fruit classes would probably have been better filled had the show not run into that held at Earl's Court, yet it was in all respects an excellent display. Mr. Hunter, Lambton, was the most successful exhibitor, taking first for collections of twelve and eight kinds respectively, showing in his usual fine style. In other classes he was also prominent, but in one he was disqualified (a questionable case) for showing what the judges considered other than a bunch of Alicante Grapes, one bunch being in its true character, the other having more oval berries. Mr. Hunter was, however, easily beaten for three kinds of Grapes by Mr. Potter, gardener to W. Moore, Esq., of Carlisle, who showed finely finished Muscats, Madresfield Court, and Alicante. The miscellaneous exhibits were most important features, and greatly added to the interests of the show.

AUTUMN ROSES.

THOSE Roses which flower particularly early and those which produce late blooms in the greatest profusion and perfection, are certainly among the most pleasing of all the numerous varieties now in cultivation. There are a few kinds that are essentially autumn bloomers; Madame Norman Neruda is a case in point. Such good and late flowering varities as these, are wonderfully pleasing when the end of our short summer is close upon us. In the majority of gardens, late Roses come more by chance than from any special cultivation they may have received. This ought not to be the case, because there are many sorts that would amply repay for growing with the object of late blossoms only.

There is far more in the question of stocks and soil, than is generally imagined as regards this end. Very few indeed of our Hybrid Perpetuals will flower satisfactorily towards the autumn upon the Manettii stock. This stock is so much earlier than the Brier in any form, and ripens fully a month sooner than the latter stock, that late growth of any vigour is seldom obtained. It also thrives much the best upon a somewhat light and dry soil, and the majority of varieties drop their foliage soon after August when grown upon the Manettii. All this is very much against late flowers, therefore it is well to have some plants upon both of these most popular stocks.

The Brier blooms later in the early summer, and continues in growth and flower until well into the autumn months. Several of our very dark Roses will flower up to the middle of October, when worked upon this stock ; but the same plants if upon the Manettii would have quite finished their flowering and be ready for transplanting or potting up, while those on the other stock were still in active growth. Another point which conduces to later flowers upon the Brier is the stiffer and moister soil that this stock prefers compared to the Manettii. Such a soil is naturally better for producing late flowers, as it is cooler and retains more moisture than the soil generally recommended for the Manettii.

If in conjunction with the seedling or cutting Brier stock, we use those varieties that naturally produce later blooms than the majority of kinds, we may look for a fairly good autumnal show of Roses. The majority of the Teas and Noisettes thrive better on the Brier, and are also much latter in growth as a class than the Bourbons and Hybrid Perpetuals. While alluding to the first named of these classes, I must not omit to mention the grand old favourite Souvenir de la Malmaison, as being an exception to the majority of the Bourbons. There are. in fact, very few if any Roses that are more generally suitable for autumn flowering than this variety.

Almost all of the short growing Tea scented Roses will continue to produce flowers more or less until frost or very cold weather checks their young growth. We have a splendid collection of such Roses at the present day; Rubens, Marie van Houtte, Madame Lambard, Sunset, Madame de Watteville, and many others, all of which produce blooms at the points of all young growth. Indeed, from such kinds as these, I have more than once cut a nice handful of blooms, even so late as the early part of December; and I leave it to my readers to imagine how very useful and gratifying such are at that time of year.

Perhaps the best of all Roses for late flowering are the Chinas or Monthlies. These are more or less in flower from early June until winter has come upon us. In sheltered nooks and corners, the Chinas are found doing well long after the first frosts ; and such kinds as partake of the blood and characteristics of this class are the very best for the purpose of producing a good supply of autumn blooms. We have Mrs. Bosanquet, Cramoisie Superieure, Camœns, Angustine Guinoisseau, Vicomtesse Folkestone, Madame François Piltet, Madame Alfred de Rougemont, and others, that although they are not pure Chinas, evidently promise a strong resemblance to this class as regards continous and late flowering. —*Experience.*

COOKHAM FLOWER SHOW.

THE third annual exhibition of the Cookham Cottagers' Horticultural and Industrial Society was held on the 25th ult., in the lovely riverside grounds of Formosa, which were placed at the disposal of the society by H. Gold, Esq., and proved to be the most successful show yet held in the district since the formation of the society three years ago. The encouragement offered to the cottagers has had a very marked effect on the cottage gardens and allotments, and much time and attention must have been bestowed on them to produce such fine examples of vegetables and flowers as were brought forth on this occasion. A clean and healthy growth characterised the vegetables, and careful treatment was evident in every thing. Among the many dishes of Potatos staged it was gratifying to note that no sign of disease was visible.

The judges, Mr. Harry Turner, Mr. Sage, Ham House, and Mr. Robert Owen, of Maidenhead, had in many cases a very difficult task to perform in deciding their awards, and in some classes the exhibits were so uniformly good that they had to award extra prizes. The tents were made very attractive by the tasteful arrangement of plants and flowers sent not for competition. Mr. Geo. Phippen, of Reading, staged a very fine lot of plants, a lovely cross, and several bouquets, which were very much admired. Messrs. Veitch & Sons had a stand of cut specimens of herbaceous plants which came in for a large share of admiration. Mr. Such, of Maidenhead, had a charming collection of cut flowers ; and Mr. Robert Owen's double and single Begonias received great praise. Mr. Wm. Masson, gardener to Miss Goolden, The Grove, Cookham, had a group of plants arranged for effect, which the judges highly commended, and a group of Cockscombs of great size received similar notice. Mr. Fulford, gardener to F. D. Lambert, Esq., contributed a very fine collection of stove and greenhouse plants ; and Mr. Preston, gardener to H. Gold, Esq., had a fine collection of vegetables tastefully arranged which was highly commended.

The executive details were admirably carried out by the indefatigable and courteous hon. sec., Mr. Wm. Masson, ably assisted by Mr. Llewellyn, treasurer, and an excellent working committee. In the evening the Duchess of Westminster distributed the prizes connected with the horticultural department ; the Hon. Mrs. Anson those awarded in the industrial section ; and Mrs. H. Gold those connected with the sports. The prize list was a lengthy one, but only of local interest.

FRUIT SHOW AT EARL'S COURT.

The executive of the International Horticultural Exhibition at Earl's Court had every reason to congratulate themselves on the success of their great fruit show on the 26th and 27th ult., certainly from a horticultural point of view, and we could hope financially; but while on Friday the weather was all that could be desired and the attendance large, on the second day the heavy rains which fell during the afternoon must have kept great numbers away. This was much to be regretted, for it is long since we saw such a splendid show in London, or one in which so many gardeners took such keen professional interest. For quality of produce and keenness of competition it was indeed admirable all round, and well deserves a longer notice than the claims on our space usually warrant.

The Collections.

There were three competitors with collections of twenty dishes, and Mr. McIndoe, Hutton Hall, Guisborough, secured the premier award with a grand lot, including Gros Maroc, Golden Champion, Black Hamburgh, and Duke of Buccleuch Grapes, all perfectly finished, Charlotte Rothschild and Queen Pines, a splendid dish of Noble Strawberries, Figs, Melons, Violette Hative Peaches, Stanwick Elruge and Humboldt Nectarines, Plums, Duchess of Oldenburgh Apples of fair size and lovely colour, Souvenir du Congres Pears, Oranges, Lemons, Cherries, Gooseberries, Currants, and Passiflora edulis, etc. Mr. Goodacre, Elvaston, was a good 2nd, and Mr. H. W. Ward, Longford Castle, 3rd. Six competitors contested the prizes for twelve dishes, and all were worthy of an award. The 1st prize went to Mr. R. Parker, Impney, and the others in the order named to Mr. G. Reynolds, Gunnersbury Park, Mr. T. Coomber, The Hendre, and Mr. Goodacre. Mr. Parker had a fine smooth Cayenne Pine, perfect Muscat of Alexandria and Black Alicante Grapes, Princess of Wales Peaches, Elruge Nectarines, Best of All Melon, Kirke's Plums, Jargonelle Pears, and a fine dish of Apricots, etc. Mr. Reynolds had also a beautiful clean lot, which were much admired. With a collection of eight dishes there were eleven competitors, and here Mr. McIndoe again came to the front with beautiful samples of Duke of Buccleuch and Black Hamburgh Grapes, Best of All Melon, Lady Sudeley Apples, Early Transparent Gage Plums, Golden Eagle Peaches, Humboldt Nectarines, and Brown Turkey Figs, etc. Mr. Dumble, gardener to Sir C. Phillips, Bart, Haverford West, was a good 2nd; Mr. J. Dawes, gardener to M. Biddulph, Esq., 3rd; and Mr. A. Ocock, Havering Park, 4th.

The Grapes.

Mr. McIndoe again secured the highest award with ten varieties of Grapes, two bunches of each, beating Mr. G. Reynolds, Mr. Goodacre, and Mr. H. W. Ward in the order named In his collection, which did him great credit, Mr. McIndoe had Gros Colmar, Duke of Buccleuch, Alicante, Black Duke, a noble looking seedling from Gros Guillaume crossed with Duke of Buccleuch, Black Hamburgh, Gros Guillaume, Trebbiano, Gros Maroc, Golden Champion, and Lady Downes Seedling, all of good size, well ripened, and perfectly finished. With five varieties, two bunches of each, Mr. Allan, of Gunton, came to the front in good style with a capital lot, consisting of Buckland Sweetwater, Black Hamburgh, Madresfield Court, Gros Maroc, and Foster's Seedling; Mr. W. Elphinstone, Shipley Hall, being a close 2nd; Mr. Bury, gardener to C. Bayer, Esq., Forest Hill, 3rd; and Mr. T. Osman, Chertsey, 4th.

In the single dish classes for Grapes the numbers shown were very good and the quality ran high generally. Of black Hamburghs, there were fourteen to select from, and the awards went to Mr. Gibson, Draycott, Chippenham, Mr. G. Reynolds, and Mr. J. McNaughton, Kingston-on-Thames. The Muscats were a better class, and here the prizes went to Mr. G. Reynolds, Mr. Dumble, and Mr. Elphinstone, all showing exceedingly well. Of Gros Colmar Mr. McIndoe was the only exhibitor; but of Madresfield Court there were seven lots, a pretty class, and here Mr. Gibson again came in 1st; Mr. G. Elliott, gardener to A. P. Graham, Esq., West Moulsey, a good 2nd; and Mr. J. Bury a close 3rd. Mr. S. J. Wright, Glewston, Ross, had the finest Alicantes; Mr. J. Hollingsworth, Derby, 2nd; and Messrs. T. Rivers & Son, Sawbridgeworth, 3rd, in a good class. In the any other white Grape class, we had grand examples of the Canon Hall Muscat from Mr. Peter E. Kay, of Finchley, and Mr. Elphinstone, of Shipley, handsome well set bunches all of them, but Mr. Kay's were the most compact, and so secured the premier; Mr. Elphinstone coming 2nd; and Mr. T. Osman 3rd, with a beautiful sample of Mrs. Pearson. In the corresponding class for black Grapes Mr. Reynolds was an easy 1st with Gros Maroc, beautifully compact bunches of enormous berries, and perfectly coloured; Mr. Coomber was 2nd; and Mr. Iggulden, Marston House, 3rd, with exceeding good Gros Maroc also. Mr. Hudson, Gunnersbury House, secured the 1st prize for a basket of Grapes; and Mr. Turton, Maiden Erleigh, that for a box of Grapes, in competitions in which a number of competitors were disqualified for non-compliance with the terms of the schedule.

The class for three Pines was a better one than we have seen in the South for years as regards numbers, and the quality was good too. Mr. Slade, Clumber, took 1st honours with Smooth Cayennes; Mr. T. Coomber being 2nd with Charlotte Rothschild and Smooth Cayenne; and Mr. J. Fry, Pinner, 3rd, with the last named variety. Mr. A. Methven, Wimbledon, had the best single fruit; and Mr. Slade, was awarded a Silver Gilt Medal for a very good collection.

Hardy Fruits.

The competition was grand in the eighteen classes for fruits grown in the open air, and generally the exhibits were all that could be desired; while some were exceptionally good for this period of the year. The first prize for three dishes of Peaches was taken by Mr. R. Potter, gardener to Sir M. W. Collet, Bart., Sevenoaks. He was followed by Mr. William Carr, gardener to Mrs. S. Clarke, Croydon, with better coloured but not so ripe fruit. Mr. J. Dawes had the best two dishes, and Mr. Haines, Highworth, was second with somewhat smaller fruits. Mr. J. Austen, Witley Court, Stourport, had the best single dish with excellent samples; and Mr. R. Potter was a good second. The latter however came to the front with three good dishes of Nectarines, an even lot; and Mr. Carr was second with smaller but intensely coloured fruits. Mr. J. Dawes was first for two dishes; Mr. J. Miller, gardener to Lord Foley, Ruxley Lodge, Esher, being second. Mr. J. Dawes also had the best single dish; and was followed by Mr. Thos. Turton. The best three dishes of red Plums came from Mr. McIndoe, beating Messrs. T. Rivers & Son, who were a good second. Mr. W. Lane, Ascot, was first with purple Plums; Mr. W. Iggulden was second, but came to the front with green or yellow Plums; Mr. J. McIndoe took a second place. Mr. Jas. Vert, gardener, to Lord Braybrook, Saffron Walden had the best dessert Plums and was followed by Mr. J. Hudson. The best culinary Plums came from Mr. H. W. Ward, and Mr. T. Turton was second. The latter came boldly to the front with six dishes of cooking Apples, with fine samples of The Queen and others; Mr. J. McKenzie, gardener to F. Cornwallis, Esq., Maidstone, was second. Mr. Will Tayler, Hampton, had the best three dishes of cooking Apples; and Mr. A. W. Porteous, gardener to E. H. Watts, Esq., Devonhurst, was second. Mr. T. Turton had the best single dish with grand samples of Peasgood's Nonsuch, in a strong competition. Mr. Geo. Goldsmith, Horsham, had the best three dishes of dessert Apples, and was followed by Mr. Geo. Reynolds. The best dish of a dessert variety came from Mr. T. A Hester. Mr. R. Potter had the three best dishes of Pears; and Mr. Geo. Helman, gardener to Lord Gage, Lewes, was second, but took the first place with a single dish.

In the classes mentioned below it was allowable to show fruit that had been grown under glass. Mr. Thos. Turton carried off the leading prize for three dishes of cooking Apples; and Mr. J. McIndoe was second, but came to the front with three dishes of dessert varieties. In the latter case Mr. T. Turton was second, as well as in the class for one dish of a cooking variety. Here Messrs. T. Rivers & Son were first, and they kept this position for one dish of dessert Apples, three dishes and one dish of Pears, the latter being magnificent examples of Pitmaston. In the three last named classes Mr. J. McIndoe, Mr. J. Nicholson, gardener to J W. Welles, Esq., Chingford, and Mr. Geo. Reynolds were second respectively. Tomatos were well represented and in most cases good. The first prize for six dishes went to Mr. Ed. Ryder, Orpington, and Mr. J. Hill, New Malden, followed. The best three dishes came from Mr. J Roberts, Shepperton, who had large and even fruits: he was followed by Mr. J Berry, gardener to C. Bayer, Esq., Forest Hill, who was also second for a dish of yellow Tomatos. Mr. Ed. Ryder was first in the latter case. Mr. John Hill had the best single dish, and was followed by Mr. J. Roberts.

Miscellaneous Exhibits.

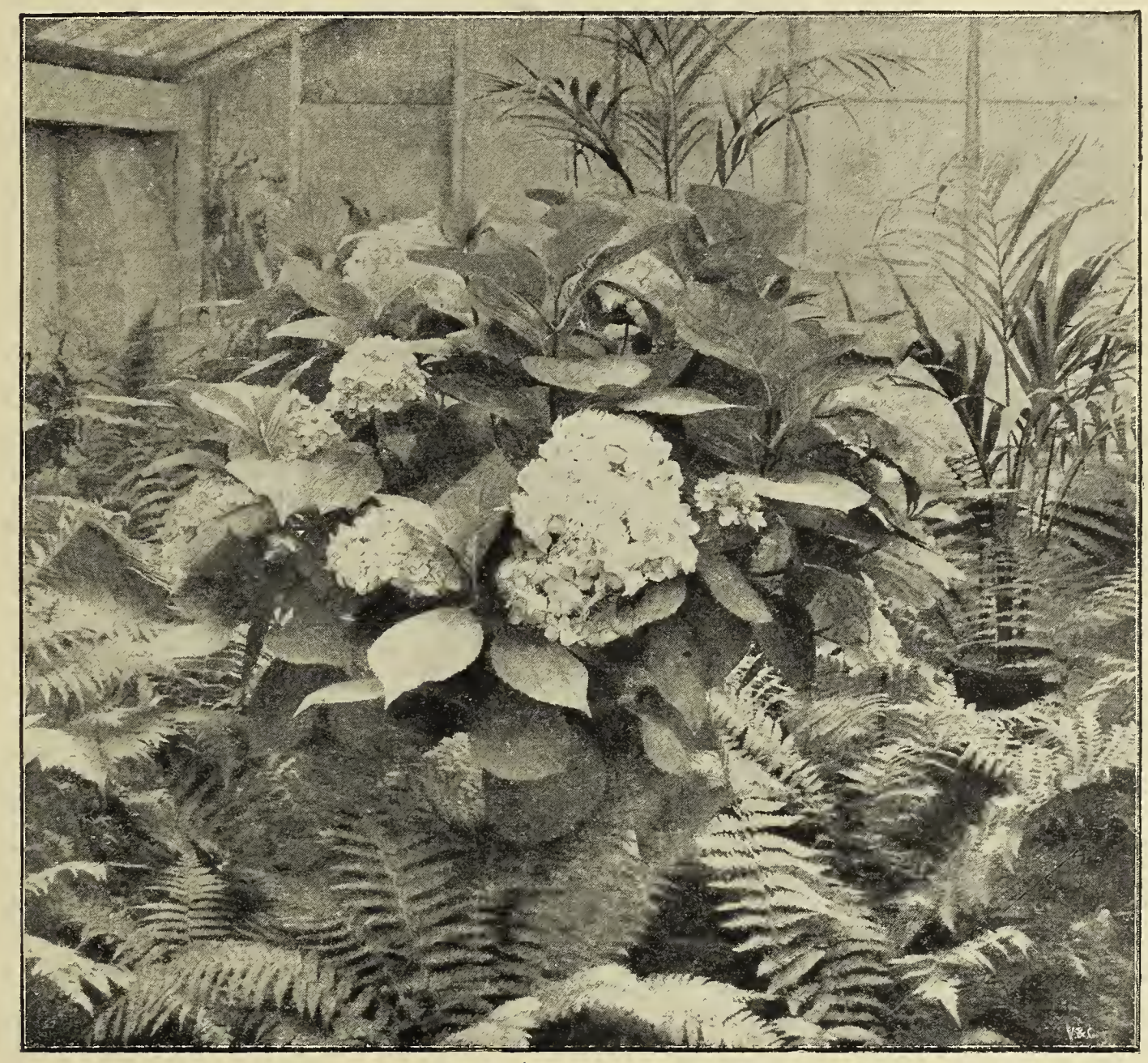
The miscellaneous class included numerous extensive exhibits which contributed largely to the general effectiveness of the exhibition. Two groups of large-sized Palms from Messrs. Wills & Segar, Onslow Crescent, South Kensington, occupied the ends of the two buildings in which the show was located. In front of one of these was a splendid group of tuberous Begonias, evenly graded in three undulating banks, from Messrs. J. Laing & Sons, Forest Hill. The scarlet, white, yellow, and other colours were more or less massed, and consisted almost exclusively of double sorts, including such grand varieties as Duke of York, Lady Esher, Lord Esher, Lady Dunsany, Stanstead Gem, Duchess of Teck, and others (Gold Medal). Opposite this was a fine group of variegated and other trees and shrubs, hybrid greenhouse Rhododendrons, and an attractive lot of hybrid Streptocarpus seedlings from Messrs. J. Veitch & Sons, Chelsea. The branches of Farleigh Prolific Damson shown by them were loaded, literally piled with fruit (Silver Gilt Medal). A brightly coloured group of Crotons, Dracænas, Caladiums, and Calatheas, mixed with Lilium speciosum, was shown by Messrs. B. S. Williams & Son, Upper Holloway, who had also a group of new plants, several of which were certificated (Gold Medal). Six large pot Vines well loaded with fruit, as well as a collection of Apples, Plums, Filberts, and Cobs, were staged by Messrs. H. Lane & Son, Berkhamstead (Gold Medal). A similar award was also made to Messrs. T. Rivers, & Son, Sawbridgeworth, for a collection of fruiting Apple trees, Pears, Plums, Peaches, and Nectarines arranged on each side of the south entrance door. Messrs. E. D. Shuttleworth & Co., Albert Nursery, Peckham Rye, had a Gold Medal for a nicely arranged group of Palms, Crotons, Dracænas, Coleus, Ferns, Lilium speciosum, and L. auratum. A similar award was made to W. Marshall, Esq., Bexley, for a complete collection of the species of hardy Ferns, including the handsome Polypodium vulgare trichomanoides finely cut like the Kilarney Fern, also Polystichums, Lastreas, and Lady Ferns. A Gold Medal was also awarded to Messrs. F. Sander & Co., St. Albans, for a fine group of Orchids, including several new varieties and hybrids, many of them receiving certificates. They were elevated on a round table, and included Lælia Gravesiæ, Cattleya Parthenia nobilis, Lælia elegans Schroderæ, L. e. Schrederiana, etc.

A similar award was made to Mr. George Munro, Covent Garden, for a grand consignment of fruit from various parts of the globe, including Grapes, Pineapples, Peaches, Tomatos, Figs, and others in boxes and baskets as sent by the growers for market. A number of Silver Gilt Medals were also awarded for exhibits, including one for an attractive bank of Crotons from Mr. J. F. McLeod, The Gardens, Dover House, Roehampton. They were arranged with Maidenhair Ferns and Palms, and Hydrangea paniculata grandiflora at the back. A similar award was made to Mr. G. Wythes, gardener to the Duke of Northumberland, Syon House, Brentford, for a showy display of Campanula pyramidalis, with Palms behiud and Maidenhair in front. Messrs. H. Cannell & Sons, Swanley, Kent, exhibited a collection of Cactus, decorative, and Pompon Dahlias set up in triangular bunches neatly arranged on a bank of Bracken fronds. They also showed some Cannas (Silver Gilt Medal). A collection of show, fancy, Cactus, and Pompon Dahlias, as well as Roses, Sunflowers, Rudbeckias, and Gaillardias, was shown by Mr. C. Turner, Slough. The show Dahlias were arranged in the usual exhibition style (Silver Gilt Medal).

A similar award was made to Mr. Jas. Walker, Ham, Surrey, for a collection of Apples in fine form, as well as some Peaches. Messrs. W. N. White & Co., Covent Garden, had an extensive collection of fruit, including French Peaches and Pears, English Plums and Apples in baskets, Belgian Plums and Pears, Dutch Pears, Spanish Melons, Italian Lemons, and Portuguese Grapes, the latter being packed in sawdust (Silver Gilt Medal). A Gold Medal was awarded to Messrs. Wm. Paul & Son, Waltham Cross, for a collection of cut flowers of Roses, Sunflowers, Phloxes, and other hardy plants. Messrs. Jarman & Co., Chard, had a collection of

Grapes, Peaches, Cherries, Apples, and another of Potatos, Onions, Tomatos, Peas, Beet, etc. (Silver Medal). A similar award was made to Messrs. G. Bunyard & Co., Maidstone, for a fine collection of Apples, including Lady Sudely, Stirling Castle, Grenadier, Golden Spire, and others in neat square baskets. Messrs. J. Cheal & Sons, Crawley, had a collection of Apples, including fine samples of Duchess of Oldenburg, the Queen, and Peasgood's Nonsuch, as well as a collection of dwarf fruiting trees in pots (Silver Medal). A similar award was made to Mr. J. R. Chard, Stoke Newington, for table decorations, consisting of arching wire stands, lightly decorated with Montbretias, grasses, etc. Bronze Medals were awarded to Mr. A. H. Richwood, Fulwell Park, Twickenham, for a collection of Peaches; to Mr. J. Clarke, Albion Nursery, Farnham, for Grapes grown without heat; to Mr. J. Gibson, Carshalton, for an exhibit of large-sized Onions; to Mr. Wm. Beech, gardener to L. Seligman, Esq., South Kensington, for an exhibit of Madame Desgranges and G. Wermig, Chrysanthemums; and to Messrs. Webb & Brand, Saffron Walden, for Hollyhocks. Messrs. Collins Bros. & Daniel, 39, Waterloo Road, showed Tomato Collins' Challenger; Mr. J. Miller showed a basket of fruit; Mr. Geo. Reynolds had a basket of the Carnation Mrs. Leopold de Rothschild; and an extra prize was awarded to Miss M. Hodgkins, Didsbury, Manchester, for an exhibit of skeleton fruits, leaves, etc.

Outside of the exhibition houses in the western gardens was a large collection of Phloxes, Gladioli, Dahlias, Asters, Pentstemons, and other hardy herbaceous plants from Messrs. J. Laing & Sons, for which a Silver Gilt Medal was awarded. A similar award was made to Mr. Arthur Rawlings, Romford, Essex, for a collection of show and fancy Dahlias in the cut state as well as Pompons in pots. A Silver Medal was awarded to Messrs. Cutbush & Son, Highgate, for a collection of Sunflowers, Phloxes, Coreopsis, Erigeron, Pentstemons and other hardy plants as well as Dahlias. A similar award was made to Messrs. Herb & Wulle, 84, Tower Hill, E.C., for a collection of cones of various kinds of Conifers. Outside the south entrance was a fine group of large and well grown, old fashioned, sweet-scented Pelargoniums, shown by Mr. J. Hudson, for which a Silver Gilt Medal was awarded. At the south end of the main exhibition building was a group of Peaches and Figs in pots, shown by Messrs. Wm. Paul & Son (Silver Gilt Medal). A group of Cactus and single Dahlias and Gladioli was shown by Messrs. J. Cheal & Son (Silver Medal). In the middle of the building was a fine collection of eleven large stands of Gladioli, as well as Gaillardias, Sunflowers, and other herbaceous plants, shown by Messrs. Kelway & Son, Langport, Somerset. A Silver Gilt Medal was awarded. Some of the Gladioli were Certificated.



A Good Amateurs' Plant: Hydrangea hortensis. (*See p.* 8.)

The Dinner.

In the evening a large number of gardeners attending the exhibition dined together under the presidency of Mr. William Thomson, of Clovenfords, and after the usual loyal toasts had been duly honoured he gave the toast of "Success to Gardeners and Gardening," and was well received on rising to do so. Mr. Thomson gave a retrospect of horticultural progress from the time when he commenced his gardening career in 1848, mentioning the names of most of the old worthies who had distinguished themselves in various branches of gardening in the first half of the century and had now passed away. This led him on to the repeal of the tax on glass by Sir Robert Peel, and the enormous advantages which had resulted to horticulture thereby. He alluded also to the good work done by Robert Marnock, and by George Glenny, who were the pioneers of periodical gardening literature. Then came Dr. Lindley, who established *The Gardeners' Chronicle*, and other papers followed until now we had the most efficient press of any branch of work in the country. The educational value of the exhibitions of the past was duly noted with appreciative references to many of the famous old exhibitors. Gardeners as a class, said Mr. Thomson, had been greatly handicapped by the fact of the real gardeners being classed with those who in reality should be known only as garden labourers Their position before the law was also unsatisfactory, for he never could see why they should be considered as menial servants. As to remuneration, there was no class so badly paid considering the skill they brought to bear on their business. He had always done his best to raise the pay and the social status of the good gardener, and considered it a sad thing that in this important matter so little progress had been made. If employers would only realise the fact that a cheap gardener was the dearest, there would soon be an improvement in the rate of pay. They should never forget that the gardeners had the honour of showing the way to farmers; deep cultivation and deep husbandry all began in the garden, and the fields wanted more of it yet. He appreciated highly the compliment which his fellow gardeners had paid him in asking him to preside at that social gathering, and most heartily wished success to them and their labours. The Rev. W. Wilks responded.

Mr. W. Marshall gave "The Gardening Charities of the United Kingdom," to which Mr. Ingram, Mr. Barron, and Mr. Hudson responded. Mr. A. McKenzie, Epping Forest, gave "The Health of the Chairman," to which Mr. Thomson suitably replied, and the proceedings were brought to a close with the singing of "Old Lang Syne."

Gentiana asclepiadea.—The Swallowwort Gentian will hold its own with any of the others for hardiness and general ease to cultivate. Occasionally peat is mixed with the soil in which it is grown, and that may assist it in making stronger growth where the soil is naturally light and sandy, but in most gardens where the soil is moderately good it will grow with freedom without any artificial mixture.

A PLANT FOR AMATEURS

THE accompanying illustration, prepared from a photograph taken in a small greenhouse situated in a little garden in a densely-populated neighhourhood in south-west London, admirahly serves to show how much hetter it is for amateurs to grow a few specially suitahle plants, and to give them room to grow freely, than to fill their little houses with all sorts and conditions of things, and yet never have anything fit to look at. The little house in question is unheated, hut is made the most of hy its owner, and except for a month or two in mid-winter gives an immense amount of pleasure. The central object is a favourite Hydrangea grown on for four or five years from a single stemmed market plant hought off a street vendor, and the plants surrounding it are Palms and common British Ferns.

As a matter of course the Hydrangea is nearly hardy or quite so in the more favcured and maritime parts of Britain; hut in London gardens it is liable to get more or less injured in winter, thus preventing it from flowering the following year if it does not get killed outright. With the protection of a greenhouse it can be grown to perfection and flowered as a specimen plant or shruh of any size. Small plants only, as a rule, are permissihle in the amateur's greenhouse, wbich is usually a *multum in parvo* of all sorts of things. The plant shown in the illustration was 3 ft. high, and about 4 ft. through, and was grown naturally without staking or tying, so that really more than half of the flowers are hidden. It had been pretty hard cut hack in winter, thus causing the huds to hreak forth with great vigour, producing strong branches and large panicles of hloom. The Ferns and Palms surrounding the plant hide much of its individuality; but they serve to show what class of plants may he grown together.

The Palms and Ferns are removed in Octoher to make way for Chrysanthemums, which in turn give way to spring flowering hulbs, and when they have played their part the Ferns are ready to begin growth again, the Hydrangea is hrought out of its corner, hard pruned, repotted, and set in motion again. For several months its handsome head of large deep green leaves are very grateful to look upon.—[We should be glad if other amateurs would send us photographs of their favourites.—ED.]

BRIGHTON FLOWER SHOW.

THE exhibition of the Brighton and Sussex "New" Horticultural and Mutual Improvement Society was held on Tuesday and Wednesday last, and proved in every respect an immense success. Over 700 entries were received, and every class was contested, some of them, particularly among fruit and vegetables, bad from six to twenty-four competitors. All of the produce was of first-class quality; and the competitors represented a very large area, as was seen hy the prize list. For a miscellaneous group, arranged for effect, not to exceed 100 square feet, Mr. Peel, gardener to Miss Todd, Sidford Lodge, Sbirley, Southampton, was 1st, with a pretty group of Asparagus, Francoas, Tuberoses, Begonias, Ferns, Crotons, Orchids, Palms, Aralias, Vallotas, etc, etc., that were arranged in a very effective manner. 2nd, Mr. J. Turner, gardener to Sir Greville Smyth, Wick Hall, Furze Hill; 3rd, Mr. G. Miles, Dyke Road, Brighton. Messrs. Shuttleworth & Co, Peckham Rye, were awarded an extra prize. For a miscellaneous group, not exceeding 60 square feet, Mr. Meachin, gardener to Mrs. Armstrong, Woodslee, Brighton, came in 1st, with a very pretty and neatly arranged collection; 2nd, Mr. A. Fry, gardener to C. W. Catt, Esq., Middle Street, Brighton.

The 1st prize for a group of Ferns arranged for effect went to Mr. G. Miles; this was a splendid collection, having a very prettily arranged archway with a deep recess as centre, while the outsides were covered with various Ferns; 2nd, Messrs. Wm. Miles & Co., Church Road, Brighton; 3rd, Mr. Jupp, gardener to G. Boulton, Esq., Easthourne. The hest tahle of plants arranged for quality and effect came from Mr. Jupp; and Messrs. E. D. Shuttleworth & Co., Alhert Nursery, Peckham Rye, were 2nd. For a tahle of Begonias, single or douhle, Mr. C. Murrell, gardener to Mrs. Macdonald, Manor House, Preston, came in 1st; Mr. Baker, gardener to F. H. Brady, Esq., Burgess Hill, heing 2nd.

Twelve stove and greenhouse plants, six foliage and six flowering: 1st, J. Warren, Esq., Handcross Park, Crawley, with Croton Prince of Wales, C. Princeps (grand), C. Evansianus, Kentia Belmoreana, K. Australis, Dipladenia amabilis, Allamanda Hendersoni, Erica Aitoniana turgida, E. A. ruhra, Lapageria rosea, and L. splendens, all in first class condition and cultivation. 2nd, Mr. T. Portnell, gardener to Sir A. Lamb, Bart., Battle, also a really grand lot. 3rd, Mr. Meachin, gardener to Mrs. Armstrong, Woodslee, Brighton. Six stove and greenhouse plants: 1st, Mr. Jupp, with very showy and well grown plants. Six Crotons, not less than three varieties: 1st, J. Warren, Esq, Handcross, Crawley, with C. Chelsoni, C. Mooreana, C. Sunset (very bright and good), C. Nelsoni, C. undulatus, and C. Williamsii, also very grand in colour; 2nd, Messrs. E. D. Shuttleworth & Co. The first prize for six Dracænas, coloured three varieties in 6 in. pots, also went to Handcross Park; and that for six Palms in 8 in. pots to Messrs. Wm. Miles & Co.; 2nd, C. W. Catt, Esq, Middle Street, Brighton; 3rd, E. D. Shuttleworth & Co., Peckham Rye, who had also the best six Ferns, distinct. Mr. G. Duncan, gardener to C T. Lucas, Esq, Warnham Court, had the hest four Orchids, and Mr. T. Portnell the hest six Ericas.

Cut flowers were abundant and of good quality throughout, and among the leading winners, with Gladioli and Dahlias, were Messrs. J. Cheal & Sons, Crawley, and Mr. Humphries, of Chippenham. The fruit classes were also very good. For a collection Mr. G. Reynolds, Gunnershury Park, Acton, was 1st with Grapes Muscat of Alexandria and Gros Maroc, Clapp's Favourite Pear, Brown Turkey Fig, La Grosse Sucrée Strawherry (good), Scarlet Flesh Melon, and Sea Eagle Peach, all of the finest quality; 2nd, Mr. G. F. Sage, Ham House, Richmond; 3rd, Mr. R. Potter, gardener to Sir M. W. Collett, Sevenoaks. Mr. Reynolds had also the best black and white Grapes; Mr. J. Spottiswood, Queen's Park, Brighton, being 2nd; and Mr. Glen, Worth Park, Crawley, 3rd, with the former; and Mr. J. Coleman, gardener to — Henderson, Esq., Horsham, 2nd; and Mr. T. Glen 3rd with the latter. Vegetables were also particularly good and numerous Several special prizes were given for vegetables and salads, and called out some strong and close competition. Brighton has not of late years supported a show well, but this first venture of the "new" society has been in every way thoroughly satisfactory.

GARDENERS AT FALKLAND PARK.

THE members of the Ealing and District Gardeners' Mutual Improvement Society had their fourth annual outing on Thursday of last week, when they paid a visit to Falkland Park, South Norwood Hill, the residence of Thos. McMeekin, Esq. They had a fine day and thoroughly enjoyed themselves. The visitors were somewhat surprised to see the beautiful and extensive place which is heing made there. Much of the work is now completed, and although it may be years before the full beauty of the place is realised, there is much of interest to be seen now while the grounds are in their summer beauty. The visitors were shown over the grounds by Mr. A. Wright (one of their old members), who explained briefly the work being carried out.

The plant houses, next to the splendid views to be obtained from various points of the ground, were, perhaps, most admired, the long corridor being at the present time interesting and gay with flowers. It is seldom Solanum jasminoides is to he seen in such fine condition, Lapagerias, red and white; Plumbago, hlue and white; several passion flowers, Eccremocarpus Scaher, Heliotrope, Fuchsias, Ahutilons, Pelargoniums, Kadsura japonica, Cohea scandens var., &c., all helped to make a fine display, and the plants were all in fine health. In the plant stove Anthurium Andreanum, A. chrystallinum, A. Warocqueanum, were very fine. The edging of Panicum hanging over the side stages through which Cissus discolor was creeping freely, made a good border to an interesting lot of plants. The Orchids were looking in good condition, although there were not many in flower. In the new Holland plant house a good collection of young healthy plants was noted, and the Azaleas gave promise of plenty of flower in their season.

After inspecting the gardens an adjournment was made to the Swan Hotel, where a suhstantial luncheon was partaken of. After which a hearty vote of thanks was accorded to Mr. McMeekin for his kindness in allowing the visitors the privilege of visiting Falkland Park. The party subsequently visited the Crystal Palace and inspected the flower heds there, which are now at their hest, and stayed to see the fireworks in the evening, which hrought to a close a pleasantly spent day.

NEW & RARE PLANTS.

THE undermentioned flowers, plants and fruits were exhibited at the Begonia, Apricot and Plum conference, held in the gardens of the Royal Horticultural Society, Chiswick, on the 23rd and 24th ult., when the various certificates were accorded them.

BEGONIA MARIE LOUISE.—Amongst the varieties of the B. Rex type recently sent out none are more generally attractive and pretty than Marie Louise. The leaves are roundly heartshaped, ohlique, olive green in the centre and at the margin, while a hroad hright green zone occupies a large area in a median position of the leaf. The whole upper surface is irregularly blotched with white, the blotches near the margin being the smallest. It was exhihited hy Messrs. J. Veitch & Sons, Chelsea, and received a First Class Certificate.

NEPHROLEPIS DAVALLIOIDES MULTICEPS.—In most respects this may he compared to the well known N. d. furcans, hut instead of a shallow and simple fork at the apex of the fronds, the latter have a deep fork at the apex and each of the forks is again more or less deeply forked, forming a large loose tassel. First-class Certificate.

PTERIS TREMULA VARIEGATA.—The stipes or stalk of the frond is here very short and the frond itself three times pinnate at the hase. The centre of each pinna and pinnule is creamy yellow with lines of the same colour running towards the edges. First-class Certificate.

PTERIS REGINÆ.—Here again the stalks of the fronds are short, in fact the lamina in some cases almost rests upon the soil. The pinnæ are long and much pointed with only one pair of pinnules on the larger ones. They are creamy yellow with green veins. First-class Certificate.

PTERIS REGINÆ CRISTATA.—The plants of this variety are very moderate in size, with every pinna crested at the apex, otherwise the plant resembles the last-named in heing variegated. The crests, curiously enough, are green, at least in the young state, while the rest of the frond is variegated. First-class Certificate.

ADIANTUM ELEGANTISSIMUM.—Tbe fronds of this Maidenhair are 18 in. long, with slender, glaucous-hlack stalks. Tbe pinnules are wedge-shaped, small and irregular in size, with the terminal one largest. The plant has an elegant appearance, owing to the elongated and slender character of the stalks of the numerous divisions. Award of Merit. This as well as the previous four Ferns, were exhibited hy Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton.

ASPARAGUS DEFLEXUS.—The main branches of this species are 3 ft. to 5 ft. long, and pendant, while the ultimate hranches, popularly hut erroneously spoken of as leaves, are awl-shaped, curved and half an inch long. Clearly the hest way to treat this plant is to grow it in baskets suspended from the roof of a greenhouse or conservatory. It was shown by Mr. J. Hudson, gardener to the Messrs. de Rothschild, Gunnershury House, Acton, and received a First-class Certificate.

BEGONIA MADAME ALAMANGY.—Here again we have a variety of the Rex type, and very distinct in its markings. The leaves are ohliquely heart-shaped, lohed and grey with a very narrow olive-green margin, and a hlotch in the centre of the same hue; the latter runs out with lobes or fingers into the grey, giving the whole a characteristic appearance. A First-class Certificate was awarded it when shown by W. Marshall, Esq., Auchinraith, Bexley.

TILLIA VULGARIS PLATYPHYLLA.—Some branches of a Lime tree shown under the ahove name hy Mr. G. Wythes, gardener to the Duke of Northumherland, Syon House, Brentford, were notable for tbe huge size of their leaves. The latter are ovate, long-pointed, of a dark green ahove and grey beneath, measuring 8 in. to 11 in. long, exclusive of the petiole, and 5 in. to 6½ in. in width. A First-class Certificate was awarded the variety.

ATHYRIUM FILIX-FŒMINA SETIGERUM.—Being one of the Victoriæ group, the fronds of this Fern have the usual cruciate or cross-shaped arrangement of

its pinnæ. The characteristic feature of it is that the pinnules end in slender, sharp, bristle-like teeth. It was exhibited by Messrs. W. & J Birkenhead, Sale, near Manchester, and received an Award of Merit.

Begonia Rex Bertha McGregor.—The leaves of this fine-foliaged variety are obliquely heart-shaped, deeply lobed and grey with an olive green centre and margin; a striking feature of it is that the grey follows the outline of the lobes. The margin is often blotched and the under surface is variegated with red. Award of Merit.

Begonia Picotee.—The flowers of this tuberous variety are of good average size and double. The sepals are creamy white or blush with a pink margin and neatly arranged round a common centre, as refined as a Picotee. Award of Merit.

Begonia Lord Esher.—The huge double flowers of this variety are bright scarlet with their broad and rounded sepals arranged round a single centre. The leaves are moderate in size and rich green. Award of Merit.

Begonia Lady Gertrude.—This is also a tuberous sort, with very large double flowers of a soft pink with a white centre ultimately deepening to pink. The sepals are arranged round several centres. It is very choice, and the flowers backed up by half cordate, deep green leaves. Award of Merit.

Begonia Earl Cranbrook.—Here the leaves are broad and of a rich green. The double flowers are large, deep scarlet, with the outer sepals large, the inner gradually smaller and all arranged round a single centre. Award of Merit. This and the previous three tuberous varieties, as well as the variety of B. Rex, were exhibited by Messrs. J. Laing & Sons, Forest Hill.

Carnation Mrs. Leopold Rothschild.—The stems of this border variety grow about 2 ft. high, branching towards the top. The leaves are narrow and glaucous. The flowers are late, freely produced, of medium size, double, soft pink, and fragrant, but the petals are slightly ragged or toothed at the edges, An Award of Merit was accorded it when shown by Mr. Geo. Reynolds, gardener to the Messrs. de Rothschild, Gunnersbury Park, Acton.

Helenium grandiflorum striatum.—The stems of this variety grow to a height of 3 ft. to 4 ft., and come into bloom during August and September. The flower heads are of medium size, crimson, and irregularly striped with yellow. It is hardy and suitable for the herbaceous border. An Award of Merit was accorded it when shown by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

Gladiolus Private Secretary.—The flowers of this variety are of a soft salmon-scarlet, tinted with crimson at the edges, and having a large creamy-yellow blotch on one to three of the lower segments.

Gladiolus Mr. Hobhouse.—The flowers of this variety are of large size and salmon coloured, with a crimson blotch on the lower segment.

Gladiolus Mrs. MacAlister.—The soft sulphur hue of the flowers of this variety are very distinct. The lowest segment deepens to primrose with a crimson blotch below the middle, and there is also a crimson zone in the throat. All three were exhibited by Messrs. Kelway & Son, Langport, Somerset, and received Awards of Merit.

Phlox Eclaireur.—The flowers of this Phlox are of good average size and deep purple, tinted with violet and shaded with white in the centre.

Phlox Michæl Cervantes.—The medium-sized flowers here again are of medium size, but pure white with a deep purple centre.

Phlox Soleil.—Here the flowers are of a deep rose-purple, shaded with white around the centre, which is purple. All the three received Awards of Merit when shown by Messrs. Paul & Son, Cheshunt.

Coleus Distinction.—Notwithstanding the numberless varieties of Coleus in cultivation, this seems to merit its name. The leaves are ovate, of large size, and of a uniform blackish-purple.

Veronica exaltata.—This Siberian species has the form of V. longifolia but the stature of the American V. virginica. The lanceolate, deeply serrate leaves are borne in whorls of three upon the stem; and the latter grows to a height of 4 ft., terminating in a long raceme of pale blue flowers, while several other racemes arise a little lower down. The plant therefore is quite a stately object, and the wonder is it has not found its way into private gardens before this time. It is perfectly hardy and easy to propagate.

THE HOLLYHOCK.

In a leading article in your issue of August 13th, a rather gloomy view is taken of the future of the Hollyhock. There is no doubt had it not been for the disease the Hollyhock would still have been one of our most favourite autumn flowers. However much it may have suffered from the disease in the south of England, in the north of Northumberland we have not been troubled with the fungus this summer. If we are to see the Hollyhock restored to its old place among florists' flowers we must not depend too much upon seedlings, for as long as we have such noble varieties as Grace Darling, Robert Ryle, Alba Superba, Nettie Grieve, etc., it would be a mere waste of time raising seedlings. We may raise scores of seedlings yet not get one really good flower among them; and it might be years before we could raise such varieties as we have already. Besides, in two or three years seedlings will be as liable to decimation by the disease as the named sorts. If we are to combat the disease successfully we must look to other means. It is observed that diseases always attack at first plants that are of weak growth; so one of the main points in growing Hollyhocks is to give them very liberal treatment and keep them growing. It is also of great importance to procure plants from a district that is not affected with the disease. If the spores of the fungus are about the plants the disease is sure to break out as soon as favourable conditions for their growth set in. It is to be hoped that the Hollyhock will again be taken in hand by some of our leading florists, and that it will soon be grown as largely in our gardens as it was a few years ago.—*T. C. Steel, Crookham, Northumberland.*

WESTERHAM FLOWER SHOW.

The annual exhibition organised by the Westerham Horticultural Society took place in the capacious covered building, kindly placed at the disposal of the committee by Norman Watney, Esq., and which is situated in the grounds of Dunsdale. The classes generally were well filled, and the exhibits excellent all round. For a miscellaneous group of plants arranged for effect, Mr. Rowe, gardener to Leut.-Col. Warde, Squerrys, was first; Mr. Heffenden, gardener to Norman Watney, Esq., Valance, second; and Mr. A. Bolton, gardener to Earl Amherst, Sevenoaks, third. For six exotic Ferns Mr. Rowe was again first, with small but fresh specimens, Davallia Mooreana being his best; second, Mr. Haffenden; third, Mr. A. Bolton. Fuchsias were well shown by Messrs. Rowe, Haffenden, and Hawker, who took the awards in the order named.

It is not often that we see specimen plants of Coleus, but here there are always some very fine ones. Mr. Rowe had the best, followed by Mr. Haffenden and Mr. Howard. There were a few very good boxes of Roses considering that the season is over, the best coming from Mr. Blundell, gardener to — Cristy, Esq., Cudham; second, Mr. Mist, Ightham; third, Mr. Bolton. For an epergne or centre piece (ladies only), Mrs. Searing, Sevenoaks, was first with a very light and elegant arrangement, the top being done with Oncidium flexuosum and grasses, and the base with yellow Begonias and Coreopsis; second, Mrs. Hatton, Sevenoaks, with a good stand, but a little bit over-done; third, Mrs. Bolton. In another class confined to gardeners Mr. S. Cooke, Sevenoaks, was first; Mr. W. Searing, Sevenoaks, second; and Mr. Bolton, Sevenoaks, third. The same order was maintained in the class for a hand bouquet.

Fruit was fairly shown, and for a collection of four dishes Mr. Rowe led, Mr. S. Bolton, gardener, Brasted Park, being second. For white Grapes, Mr. Searing was first, Mr. Rowe second, and Mr. S. Bolton third; and for black, Mr. Rowe was first, Mr. Blundell second, and Mr. S. Bolton third. Nectarines were well shown by Mr. Hatton, who was easily first, Mr. Haffenden, second, Mr. A. Bolton, third. For Peaches, Mr. Searing led, Mr. S. Bolton second, and Mr. Haffenden third.

Vegetables, always a great feature here on account of their quantity and quality, were quite up to the average. Mr. Blundell was first with a grand basket, Mr. Rowe, second, Mr. Mist, third. The cottagers' exhibits again were numerous and good, especially the vegetables.

There was a fair attendance during the afternoon, notwithstanding the unfavourable weather which prevailed, and everyone seemed well satisfied with what they saw, and congratulated the secretary, Mr. Saxby, and the committee, on the success which attended their untiring efforts.

ORCHID NOTES AND GLEANINGS.

Vanda cærulea.

A plant of this lovely species is just now putting forth its pale blue flowers in the plant stove at "Wavertree," Sevenoaks, the residence of Sir John Kirk. The plant in question is one of a consignment sent direct to Sir John by a friend, and which arrived during the very sharp weather experienced last spring. On being unpacked it was found that the best plants—of course, it always is the best plants—had been frozen; but the smaller pieces did not suffer, and we are pleased to say are now doing wonderfully well. They are grown in baskets with a few crocks and live sphagnum, which suits them well evidently, for they have made plenty of roots and a corresponding amount of foliage, which speaks well for the treatment they receive. We also noticed Dendrobium infundibulum doing well by the side of the Vandas, and a dwarf-growing Sobralia which failed to grow when potted in peat, but when potted in loam it began to grow away, and will we hope soon grow into flowering size. There are several other things here to interest one, one in particular being a Cactaceous plant, which when potted in the ordinary way and watered, refused to grow and even began to rot away. It was shaken out, placed among crocks, and water withheld entirely, when it started to grow and is now doing well, but hardly ever gets any water given to it directly.

WHAT TO DO IN THE GARDEN.

Clerodendron fallax.—Where a stock of this plant is kept it will now come in very serviceable for conservatory decoration. The flowers will last longer under the cool conditions if the atmosphere is kept dry. Plants from cuttings or seeds may produce only one head of bloom, but last year's plants if cut down after flowering and properly treated when making their growth will produce several heads of bloom. The bright scarlet colour is by no means plentiful, if we exclude Ixoras at this season of the year. Give manure water until the flowers have expanded.

Hymenocallis ovatum.—In gardens this is best known as Pancratium fragrans. The plants as they go out of flower will commence to make new growth. Repotting where necessary should be done at this time, taking off the small offsets and potting them separately so as to give the old bulbs the best chance of making good growth for next year's flowering.

Allamandas.—Whether grown in pots or planted out, Allamandas cannot be too freely exposed to light. Those which are trained up the rafters or along the roof of a house make shorter jointed wood than those grown in pots, it may be at some distance from the glass. As the sun gets feebler the greater the necessity of keeping the plants near the light.

Camellias.—Look over the stock of plants in pots and tubs, and where repotting is to be done have it effected now, as the roots will take strong hold of the fresh soil before winter and flower all the better for it in the coming winter and spring. Use a compost consisting of good fibrous loam, or the latter with an equal quantity of good peat with sufficient sand and some nodules of charcoal if obtainable. The two latter will keep the soil in an open and porous condition. Finely crushed bones would also prove very serviceable, and encourage growth in the following season.

Zonal Pelargoniums.—The stock of plants intended for winter flowering should receive every attention in the matter of watering and feeding with liquid manure as the pots get filled with roots. It will be all the better for the plants if the flowers are kept off them for the present. They may be required about the end of the month to keep the conservatory gay till the Chrysanthemums come into bloom. At present they must not suffer from crowding, whether they are kept in frames or on a bed of ashes out of doors.

Peaches.—The trees from which the fruit was gathered in May should now be resting, with the sashes and doors wide open night and day. All useless wood not required for covering the allotted space should be removed if not already done to give the remainder the full benefit of light and air. The winter pruning should then be reduced to a minimum. If the sashes can be taken clean off so much

the better. Last autumn being a wet one proved the fact that trees out of doors ripened their wood much better than those under glass. The outdoor crop of Peaches this season also points to the same fact. Trees taken from open walls and planted under glass did better than others previously in the houses.

Melons.—Late sown and planted Melons intended to fruit in November should receive plenty of attention during this month; in fact they require more attention to secure success than the plants producing the main crop, and which were brought on naturally by sun heat. At present ventilation must be given to secure a sturdy growth and good constitution while the light is good, even if it is necessary to keep up the desired temperature by artificial heat. If good constitution is secured now the plants will be less liable to disease later on when the light becomes feeble, and they will be in better condition to bear well.

Cucumbers.—Plants intended to fruit about Christmas should be planted out without delay, in order to give them all advantages. It is a mistake to keep the plants in pots till they get rootbound, as they lose a long time before they can recover their wonted vigour even after they do get planted out.

French Beans.—Where an indoor supply is made to take the place of the outdoor crops as the latter fail, a commencement may be made now by sowing in pots to furnish a supply in November. At present the pots need only be half filled with soil so as to allow of a top dressing being given later on of some rich material.

Tomatos out of Doors.—In order to ripen their fruits, Tomatos on open walls must now have close attention in the way of nailing and stopping of the side shoots. The upper half of each leaf should also be cut away where it shades the fruit from direct sunshine.

Cabbages.—The ground occupied by Onions and early Peas having been cleared, heavily manured and trenched, should now be ready for the planting of Cabbages from the seed beds or sowings made in the last week of July. Tread the ground along the lines where it is intended to plant the Cabbages, especially if of a light nature, and dibble in the plants firmly at two feet apart each way.

Pansies and Violas.—For planting out about the end of March, the present is the best time to take cuttings of this showy and profuse flowering class of plants that are now becoming so popular in various designs of summer flower bedding. The suckers produced from the base of the plants are the best.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "THE EDITOR" or "THE PUBLISHER," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa, London."*

DISEASE AND VARIEGATION.—*C. B. G.*: Without knowing the circumstances, or rather the condition of the different parts of your plant, and their capability of performing their functions, it would be difficult to define the cause of its death. Of course there was no evidence of fungoid or insect agency on the specimen sent us, whereby pathological conditions might be set up, nor indeed could we see any pathological phenonema. We took it for granted that there had been a separation of mixed characters—a thing of frequent occurrence in certain races of garden plants. The two separate colours on the head of bloom might have been caused through some physical defect; but what the defect was we are not in a position to say. "What can we reason but from what we know?" The roots might have been completely decayed, or so much so as to prevent any transfer of food, liquid or otherwise, from the roots to the stem, leaves, and flowers, and the defect, if such we may term it, might have been occasioned by the want of some necessary constituent not present in the living part of the plant in sufficient quantity to bring about the colour characteristic to the variety. The outer florets being the oldest and first to expand appropriated the material present. At all events the plant made an effort to reproduce itself before dying. The destruction of the roots might have been caused by nematoid worms. Did you examine the roots to see what condition they were in?

NAMES OF PLANTS.—*Daniel Campbell*: 1, Bocconia cordata; 2, Tradescantia virginica; 3, Œnothera fruticosa; 4, Galium Aparine.—*Thos. C. Steel*: 1, Helenium autumnale, unless it be the dwarf one, which is H. pumilum; 2, Tradescantia virginica; 3, Veronica spicata variegata; 4, Alyssum saxatile.

GLADIOLI.—*Mrs. W. M. G.* asks if the flowers or corms of Gladioli are poisonous, and states that she has heard of a number of young pigs dying after eating withered Gladiolus flowers. We have never heard that the plant was even suspected of being poisonous, and have our doubts about the pigs dying from the cause stated, but perhaps some of our readers will give their experience.

COMMUNICATIONS RECEIVED.—T. W. S.—H. J. C.—D. B. & I.—W. M.—C. H. B.—W. M.—R. D.—M. L.—G. F.—C. H. (next week)—B. S.

TRADE CATALOGUES RECEIVED.

ROBERT VEITCH & SON, Exeter.—Dutch and other Bulbous Roots.

BENJAMIN SODDY, 243, Walworth Road, S.E.—Choice Dutch Bulbs.

A. FINLAYSON, 42, Above Bar, Southampton.—Bulbs and other Roots for Autumn planting.

MULLER, Langsur, near Trier, Germany.—Trees and Shrubs, Fruit Trees, &c.

W. P. LAIRD & SINCLAIR, Dundee.—Dutch Flower Roots.

J. & R. THYNNE, 83, St. Vincent Street, Glasgow.—Dutch and other Bulbs.

FOTHERINGHAM & CO., Dumfries.—Select Bulbs, Fruit Trees, etc.

LONDON SEED TRADE.

August 30th, 1892.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, E.C., report a steady trade in Trifolium incarnatum and Mustard, and a brisk demand for New Winter Tares. These have advanced in value 9d. per bushel owing to short supplies.

COVENT GARDEN MARKET.

August 31st.

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Grapes..... per lb.	0 6	1 6	Pine apples.		
Kent Filberts	0 8	0 9	—St. Michael's, each	2 6	6 0
„ Cobs.....	0 8		Apples...per ½ sieve	1 0	3 6
Peaches ... per dozen	2 0	8 0	Plums...per ½ sieve	1 3	2 6
Melons ... . each	1 6	2 0			

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
ArticbokesGlobe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, perlb.	0 6		Lettuces ...per dozen	1 6	2 0
Beet..... per dozen	2 0	3 0	Musbrooms, p. basket	1 3	2 0
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Cauliflowers, Eng.dz.	3 0	6 0	Radishes... per dozen	1 6	
Celery.....per bundle	2 6		Smallsalading,punnet	0 4	
Cucumbers .....each	0 4	0 9	Spinach, per strike ...	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	0 9
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Asters .....per doz.	4 0	6 0	Heliotrope, per doz.	4 0	6 0
Balsams .....per doz.	3 0	6 0	Lilium Harrisii, doz.	12 0	24 0
Begonias ...per doz.	6 0	12 0	Lilium lancifolium...	12 0	24 0
Cyperus .....per doz.	4 0	12 0	Lilium Auratum.....	18 0	36 0
Dracæna term., doz.	24 0	36 0	Lobelia, ...per doz.	2 6	4 0
Dracæna viridis, doz.	9 0	18 0	Marguerites, per doz.	6 0	12 0
Evergreens, invar. doz	6 0	24 0	Mignonette, per doz.	4 0	6 0
Ferns, invar., per doz.	4 0	18 0	Palms in variety, each	2 6	10 0
Ferns, small, per 100	6 0	10 0	Palms, Specimen ...	15 0	63 0
Foliage Plants, doz.	12 0	60 0	Pelargoniums, perdoz.	6 0	12 0
Fuchsia, ...per doz.	3 0	6 0	—scarlet .....per doz.	2 0	4 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	2 0	4 0	Mignonette... 12 bun.	1 0	3 0
Asters.....doz. bun.	3 0	6 0	Pelargoniums, 12 sps.	0 6	0 9
— French .....bun.	0 9	1 3	— scarlet.....12 bchs.	3 0	4 0
Bouvardias, per bun.	0 6	1 0	Primula, double, bun.	0 6	0 9
Carnations, 12 blooms	1 0	3 0	Pansies, doz. bchs ...	1 0	2 0
Carnations, doz. bun.	4 0	6 0	Pyrethrum doz bnchs	2 0	4 0
Cornflower doz bnchs	1 6	3 0	Orchid Bloom in var.		
Eucharis ...per doz.	1 0	3 0	per bloom, from	0 2	0 8
Gardenias 12 blooms	1 6	3 0	Roses, doz bunches	2 0	6 0
Gladioli...doz. buns.	6 0	12 0	Roses, yellow, dozen	2 0	4 0
—..... doz. spikes	1 0	2 0	— Red..... doz. blms.	1 0	2 0
Heliotropes, 12 sprays	0 3	0 6	— Saffrano...per doz.	1 0	1 6
Lilium Harrisii,			— Tea ..... per dozen	0 6	2 0
doz. blooms	1 6	3 0	Stephanotis, dz. sps.	2 0	4 0
Liliums var., dz. blms.	1 0	3 0	Stocks .....doz. bun.	3 0	4 0
Maidenhair Fern, 12 bs.	4 0	6 0	Sweet Peas, dz. bns.	2 0	4 0
Marguerites, 12 bun.	2 0	4 0	Sweet Sultan, dz. bn.	2 0	4 0
Myosotis or Forget-me-not, doz. bnchs.	2 0	4 0	Tuberoses, per doz	0 3	0 6

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Long	Wide	High		On Rail.	Delivered & Erected Complete.
7 ft.	5 ft.	7 ft.	4 ft. to eaves	£2 16 0	£4 5 0
8 ft.	5 ft.	7 ft.	4 ft. to eaves	3 10 0	5 0 0
9 ft.	6 ft.	7 ft. 3	4 ft. to eaves	4 0 0	5 10 0
10 ft.	7 ft.	7 ft. 6	4 ft. 6 to eaves	5 0 0	6 15 0
12 ft.	8 ft.	8 ft.	5 ft. to eaves	6 0 0	8 [illegible] 0
15 ft.	10 ft.	8 ft. 6	6 ft. to eaves	8 10 0	12 0 0
20 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	12 0 0	16 0 0
25 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	17 0 0	22 0 0
50 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	30 0 0	40 0 0
100 ft.	10 ft.	7 ft.	5 ft. 6 to eaves	50 0 0	70 0 0

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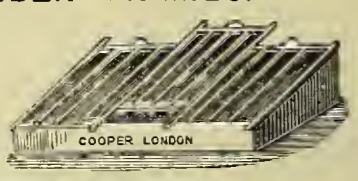

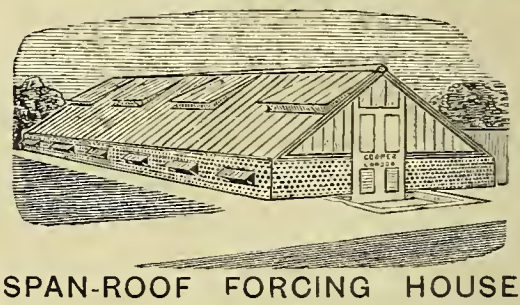

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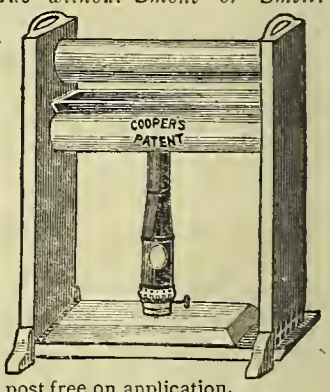
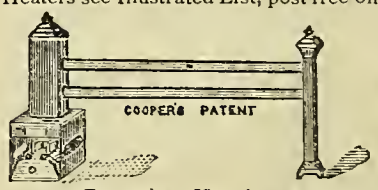


These Heaters are constructed as a means of Heating by Hot Air without the use of hot water or fire. Its peculiar construction economises the heat generated, so that there is no waste of heat or fuel. There being perfect combustion in this Stove, and nothing whatever injurious to plants, but actually everything conducive to their health, it should be observed that plants may be had in full bloom throughout the severest winter. From 20s. complete. For full particulars and prices of other sized Heaters see Illustrated List, post free on application.



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Glass cut to any size required: 15-oz., 1½d. per ft.; 21-oz., 2½d per ft. Large sizes for cutting up, 15-oz., per case, 300 ft., 26s.; 21-oz., per case, 200 ft., 26s. All glass is cut and packed in own warehouses and put on rail free of charge; quality of glass and careful packing guaranteed. Special quotations for large quantities. Have cash estimates from me before ordering elsewhere.

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INTERNATIONAL HORTICULTURAL EXHIBITION, EARL'S COURT, LONDON, S.W.

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Mr. Dodwell's Grand Carnations.

THE FINEST GROWN, all Classes, 10/6 per doz.

Also 3,000 Unbloomed Seedlings, warranted of the highest parentage, unrivalled whether for bedding or forcing for Spring flowering.

4/- per Doz.; 25/- per 100.

Special Terms for Quantities. Particulars on application.

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ADIANTUM CAPILLUS-VENERIS IMBRICATUM (DICKSONS).

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Full particulars, with price, on application.

DICKSONS, THE NURSERIES, CHESTER.

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'Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Sept. 12.—Trade Sale of Bulbs at Protheroe & Morris' Rooms, and every day in the week.
Trade Sale at Dyson's Lane Nursery, Upper Edmonton, by Protheroe & Morris.
Bulb Sale at Stevens' Rooms.

TUESDAY, Sept. 13.—Sale of Orchids and Tree Ferns at Protheroe & Morris' Rooms.
Trade Sale at Burnt Ash Nursery, Lee, by Protheroe & Morris.

WEDNESDAY, Sept. 14.—Trade Sale at Lea Bridge Road Nurseries, by Protheroe & Morris.
Bulb Sale at Stevens' Rooms.

THURSDAY, Sept. 15—Trade Sale at Brimsdown Nurseries, Enfield Highway, by Protheroe & Morris.
Bulb Sale at Stevens' Rooms.

FRIDAY, Sept. 16.—Sale of Orchids at Protheroe & Morris' Rooms.
Trade Sale at Longland's Nursery, Sidcup, by Protheroe & Morris.

SATURDAY, Sept. 17.—Sale of Bulbs at Stevens' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, SEPT. 10th, 1892.

ROOT PRUNING.—This subject, upon which Mr. George Bunyard so ably dilated at the meeting of the Royal Horticultural Society on Tuesday afternoon, may well be classed among the oddities or contradictions of cultivation. It needs often very much elucidation to ignorant minds to enable them to fully grasp the philosophy of root pruning. "What," they say, "do all you can to induce a tree to become well rooted and make a good growth, and then go to work and cut away the roots which form the very anchors of the trees to the soil"—that is not easy to understand. It may be that there is something wrong about our method of planting at the first that should render such drastic action needful a few years later; but there seems to be no doubt whatever but that root pruning is an indispensable course in the majority of cases with respect to fruit trees in fertile soils.

We have to impress upon our unlearned critics at the outset that root pruning is needful only for fruit trees, and also that whilst in the case of ordinary trees growth is the essential feature, in the case of fruit trees it is not so much wood growth as fruit that is desired, and the root action that leads to the one result is too often subversive of the other. To promote fruitfulness then is the object of root pruning, but here again is it the case that it is a practice applicable chiefly to trees which need restriction of growth and which of necessity must be top pruned annually.

To be constantly cutting away annual growths whilst the roots have unchecked action in the hope of producing fruitfulness is folly, hence it is necessary to create such a balance between root action and top growth as will produce the required result. If we would avoid the necessity for root pruning then we must plant our trees where they can grow as they may, only thinning out the branches rather than pruning the growths. Then in good time heavy cropping will ensue and that will be the best pruner, for roots and branches will then be brought into comparative harmony.

Packing Fruit for Market Sale.—A statement was made at the recent Plum Conference at Chiswick, that very probably some ninety per cent. of the best private gardens in the kingdom were now more or less market gardens. Could anyone be in the secrets of the chief fruit salesmen of the kingdom they would be astonished to find what great people were amongst their clients, and from how many fine gardens produce came for disposal. When we hear on the part of the legitimate market grower complaints as to foreign competition we are tempted to ask whether, if he suffers at all, it is not much more so from the illegitimate competition of noblemen and gentlemen's gardens than from outside products ?

But the weak point in the gardener consignee of garden produce, especially of fruit, is his comparative lack of packing ability. Salesmen are constantly urging the necessity of greater care and capacity in this direction, but too often without avail. The recent fruit packing competition at Earl's Court, though limited to Grapes only, yet served to show how few gardeners, after all that has been done, really understand correctly the art of sending Grapes to market in such a way that they will reach the salesman in the best possible condition, and so enable him to obtain the best prices. Those gardeners who were at the recent show and closely observed the market produce sent by experienced stage packers, must have thought how much there was for them to learn in this matter.

It will be well if in connection with the proposed City fruit show of next year, some good market fruit prizes be instituted especially for gardeners, and they should not be confined exclusively to Grapes, but include any other fruits in season. The sending of soft fruits, such as Grapes, securely by Parcel Post is also a problem difficult to solve. Without doubt parcels passing through the post are exposed to the greatest possible rough usage, and the severest test of good packing is applied. However, in this case such fruit cannot well be for open market sale.

Flower Show Prize Cards.—It is so often a subject for complaint on the part of exhibitors at flower shows that large loose prize cards get mislaid on the wrong exhibits, or almost entirely hide them from view, that it is a matter for wonder committees have not universally adopted the cheap, simple, and assured plan of gumming the prize labels on to the class cards, thus rendering transference to the wrong exhibit practically impossible. Only recently we have met with many unpleasant troubles that have arisen between exhibitors because of this shifting of the cards, and even the secretary's book has sometimes been wrong, because the clerk in charge was misled.

There are two things which ought to be the rule at every show. The first is supplying each set of judges with red or blue pencils, to mark the exhibitors' cards as they go as distinctly as possible. Those figures representing the judges' actual awards could then never be challenged. The second is an attendant gumming prize labels on to the exhibitors' cards according to the judges' award as fast as they are made. Nothing can be simpler or easier, and if another attendant follows with the class book and enters the awards at the same time the entering and judging is complete.

Another objection to these large prize cards is that they too often not only hide the exhibits when it is a dish of fruit or vegetables, but also the exhibitor's name. This is specially the case when class cards are set upon sticks, and of course the prize card is stuck just in front of the class, much to the annoyance of reporters and the public. Still the chief object of every arrangement should be to prevent blunders which so often lead to unmannerly disputes. It seems to be so easy to do the right thing as well as the simplest, that it is wonderful so much trouble and expense should be incurred needlessly.

The Weather.—How is it possible for Britons to avoid talking of the weather and making it the one eternal subject of conversation? What is there with us that is more erratic or brings more surprises? We never know how to have the weather, although that does seem to know how to have us, and that so frequently too that we always feel that the weather has the best of us. We have been suffering just recently from a small cholera scare. Probably that has expended itself, at least we hope so. Still the cholera seems after all to be but a small matter compared with the weather, especially that of the past two or three weeks. What fierce cold winds, what frequent and continuous rains, what afflictions for our pleasures and pastimes, our flower shows, and fetes indeed for all our outdoor vocations and enjoyments.

It was a pitiful sight the other day in a rural district to see the ripe corn standing drenched and sodden in the fields, and the anxious labourers driven for shelter beneath the thick overgrowth of the hedgerows, knowing that for another day at least they must endure enforced idleness and the corn must suffer greatly. It is true the growing root-crops in the fields have a luxuriant aspect, but great size of root and luxuriance of leafage is not all indicative of good feeding stuff, but rather of an excess of water. Then the Potatos with the Corn have suffered too, indeed we have too much reason to fear that the disease which just prior to the coming of the heavy rains was so slight in its attacks, has now become widespread and is doing much mischief.

Were the weather not as it is a stereotyped subject of talk with us, the present condition of our crops and many other things so much affected disastrously by it, is of itself ample excuse for making it a subject of conversation. We do not feel the effects of a cold wet autumn alone at the moment, but the following year also. Thus the rains are generating the production of far too much coarse, sappy growth on fruit trees, which will be to the detriment of fruit production next year.

Mr. G. T. White.—We regret to hear of the death, at sea, of Mr. G. T. White, of Winchmore Hill, the well-known Orchid collector. Mr. White had been a collector in South America and in the East for some years, and mainly, if not entirely, for Messrs. Hugh Low & Co., of Clapton. He was, we understand, returning from an Eastern expedition when his death took place, but the exact particulars are not yet known.

Kew Gardens.—The new Chief Commissioner of H.M. Office of Works, Mr. Shaw-Lefevre, has promised to receive a deputation in November next, on the subject of the earlier opening of these gardens to the public.

Rock Plants at Chiswick—The Royal Gardens, Kew, have made an acceptable donation to the Royal Horticultural Society of upwards of 200 named plants for the rockery at Chiswick.

The Bristol Chrysanthemum Show is announced to be held on November 16th and 17th.

Chrysanthemum Madame Desgranges.—All lovers of the Chrysanthemum know the value of the white, early flowering Madame Desgranges, and its yellow counterpart, George Wermig, and will therefore be pleased to learn that there is now a pink sport in existence, or rather a sport which has the white petals edged with pink. The sport originated with Mr. Russell, of Mitchell, Farnborough, Hants.

Royal Horticultural Society of Aberdeen.—The accounts of the annual show of this society, held on 18th, 19th, and 20th August, have now been made up, and show a surplus of over £500, after paying the 50 per cent. additional prize money which was promised by the directors on the condition that the fete proved a success. The acting directors are to be congratulated on the splendid result attending their labours. The surplus last year was only £60.

Yellow Cactus Dahlias have never yet been overabundant, nor of particularly good quality. We have much pleasure therefore in announcing that a really good one made its appearance at the Floral Committee on Tuesday, and was unanimously voted an Award of Merit. It was raised by Messrs. Keynes, Williams & Co., of Salisbury, and has been named Kaiserin.

National Chrysanthemum Society.—At a meeting of the general committee on the 2nd inst., it was announced that Lord de L'Isle, of Penshurst Place, had kindly consented to become a patron of the society. Nine new members were elected, and the Stockport, South Shields, Borough of Longton, and the Lizzard Chrysanthemum Societies were admitted into affiliation. The latter, it may be noted, is the most southern society in England, having its headquarters at Penzance, and it has been established with great hopes of being successful and useful.

Mr. William R. Smith, curator of the Washington Botanic Garden, is the elected president for the ensuing twelve months of the Society of American Florists; and Prof. Trelease, of St. Louis, is the new vice-president. The society held a very successful convention at Washington in the middle of last month, and decided to meet again next year at St. Louis.

The Onion Crop in America.—From returns made to *American Gardening* by some two dozen of the leading seedsmen in the States, it appears that the area of land devoted to Onions this year is much larger than usual, and that, barring accidents, the crop will be one of the largest ever raised, and prices probably low. Yellow Onions will be especially abundant, and white ones comparatively scarce.

Cobea scandens variegata.—"W. L.," Perthshire, asks if it is not an unusual occurrence for this popular climber to produce fruit, remarking that on a large plant in his conservatory there are a quantity of fruit, and he does not remember having seen the plant in fruit before. As a matter of fact it is unusual to see this plant fruiting because it is seldom that it can be allowed to grow to a sufficiently large size. When it can be given room enough it fruits freely.

The Shrewsbury Horticultural Fete.—Another great success was scored here at their last exhibition, when the income of the society for the year reached £3,700. The weather on the first day was delightful, not too broiling. The morning of the second day was threatening but cleared off soon after midday, and 53,000 persons were present. Nearly £700 worth of cheap tickets were sold beforehand. It was a grand exhibition and all passed off happily.

How our Ferns are Exterminated.—A correspondent of *Nature Notes* says:—"When visiting lately a beautiful village in the heart of the Scotch Highlands I was sorry to observe a placard posted in a prominent position, stating that the local church was in debt, and that it was proposed to lessen this by

digging up and selling the choice Ferns of the neighbourhood. I myself saw offered for sale on a table in front of the principal inn, tufts of Holly Fern (Polystichum lonchitis), which is now getting extremely rare in this country, and also Parsley Fern, Black and Green Spleenwort, Bladder Fern, and several others. One is almost provoked to say that it would be preferable not to go to church at all, than to one which is subsidised in this manner."

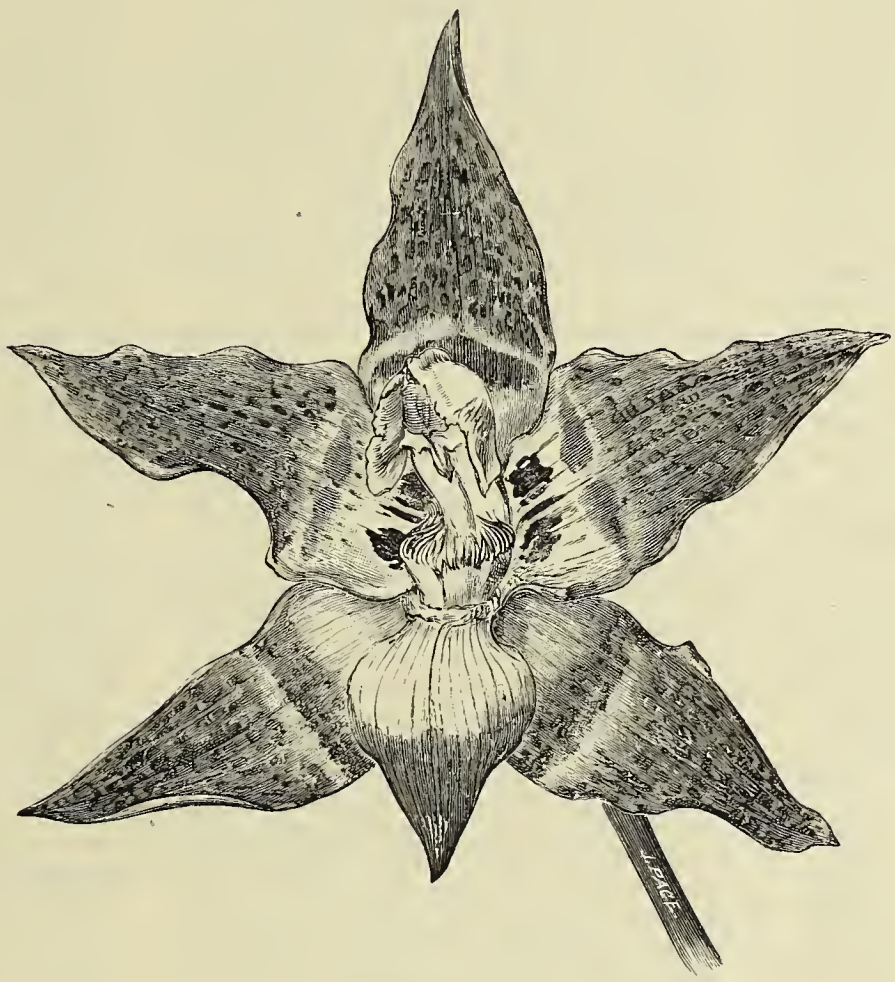
What Constitutes an Amateur?—"Juarezi" writes:—"This knotty question cropped up in a somewhat novel way at the National Dahlia Society's Show at the Crystal Palace last week, and afforded another illustration of the fineness of the line which often divides amateurs from professionals. It seems that a well-known gardener and Dahlia grower who has been a very successful exhibitor at the National Society's Shows in the past, some time ago, in conjunction with his employer, issued a catalogue or list of Dahlias for sale, which was subsequently withdrawn. Naturally when he entered in the recognised amateurs' classes at the late show, the question was immediately raised, 'can he be allowed to compete as an amateur?' and the committee on his assurance that the list had been withdrawn and that no plants had been sold, decided the question in his favour. It was a nice point and very properly raised, but still the dividing line was very fine."

"Annals of Horticulture" is the title of a work of some value as a record of horticultural progress in North America during the year 1891. The author is Prof. L. H. Bailey, of Ithaca, N. Y., and the publishers are the Rural Publishing Co., New York. The first part deals with fruit, vegetables and general interests, ornamental subjects, plant diseases and insects, and national and education interests, a mass of interesting reading matter; but perhaps to English plant lovers the most valuable matter will be found in Part 2, in which is given a list of the species of plants native to North America, North of Mexico, which have been commercially introduced to cultivation. When possible the date is given when the plant was introduced into England.

The Cyclone of April 29 in Mauritius: Remarkable Velocity of the Wind.—Writing in "Blackwood" for September, Lieut.-Governor H. E. H. Jerningham, C.M.G., says:—"Nothing could withstand in places the terrible force of the wind on that fatal day of the 29th of April. It will be for scientific men to explain how trees firmly planted more than a century back, and of 8 ft. and 12 ft. in diameter, were felled to the ground; how the iron-like teakwood branches were snapped and cut and broken as mere brushwood; how girdles of iron 18 in. thick were indented and twisted so as to become useless, as in the case of the great pulley-ladders of a sea-dredger; how, in fine, a column of stones, each weighing more than a ton and fast riveted with iron girders and cement, was thrown down like a pack of cards; and it will be for meteorologists to explain how an island of thirty-three miles by thirty-one in extent, through which the centre of a cyclone is passing, can escape at all from a wind so violent as the above denotes. In tables of observations, the velocity of the wind is set down at 121 miles at its maximum, which corresponds to a pressure of 67 lbs. to the square foot. Noble trees that had stood the first blast went down, and in a short two hours upwards of 200,000 trees had been overthrown, and all the rest bereft of their bark, their leaves and their branches, throughout the island. Such velocity had been unknown. The storm had come from the N.E., and there are only two instances of a cyclone having approached the island from that quarter: in January, 1863, and in January, 1868, when little damage was done.

BATEMANNIA BURTII.

According to the *Genera Plantarum* there is only one species of Batemannia, a native of Guiana, and while acknowledging that Huntleya Meleagris and several other allied species were relegated by Reichenbach to Batemannia, yet that both in habit and in character they differed and were to be referred to Zygopetalum. Some of them however that have appeared before the British public are certainly very different in general appearance from the typical forms of Zygopetalum. That under notice is one of them. The flatness of the flower and its peculiar arrangement of colours is very marked. The sepals are ovate lanceolate, rugose on the surface or having numerous elevated areas; they are yellow at the base, and this is followed by a brown band, and that in turn by a yellow one, while the upper portion is marked with brownish-yellow and white. The petals are smaller with a crimson blotch at the base, but are otherwise similar. The three-lobed lip has an ovate lamina which is white in the lower part and brown in the upper, tinted with purple. The crest consists of a curious fleshy cup, with incurved purple fringes and white at the base. The species is a native of Costa Rica, from whence it was introduced in 1872. Autumn is the usual season of flowering, but this is not absolute as we have seen it flowering in March.



Batemannia Burtii.

NATIONAL DAHLIA SHOW.

As usual the National Dahlia Society held their annual show at the Crystal Palace, on Friday and Saturday of last week. No fruit show was held in conjunction with it this year, a fact which may account for the comparatively scanty attendance of visitors on the opening day, as against that of former years. The show itself was as good as on previous occasions notwithstanding the boisterous weather immediately preceding it, and which did much damage to the plants in the open ground, disfiguring the blooms by lashing them about.

The first prize for 60 distinct blooms was carried off by Messrs. Keynes, Williams & Co., Salisbury, who showed a fine lot including Gloire de Lyon, the best white in the show, Maud Fellowes, Mrs. Gladstone, Duke of Fife, T. S. Ware, Shirley Hibberd, Mr. Glascock, Eclipse, Harry Keith, all good show kinds. Good fancy varieties were Duchess of Albany, Dandy, Rev. J. B. Camm, Buffalo Bill and Mrs. J. Downie. Mr. C. Turner, Slough, was a close second with many fine blooms such as Mrs. Saunders, Agnes, Flag of Truce, Glowworm, &c. Mr. Arthur Rawlings, Romford, Essex, was third, and Mr. M. V. Seale, Sevenoaks, came in fourth. Messrs. Keynes, Williams & Co., again led in the class for 48 blooms, many of which were smaller than in the class for 60 blooms, but were otherwise of good quality. Mr. C. Turner and Mr. Arthur Rawlings also held their previous positions, without dispute. Messrs. Saltmarsh & Son, Chelmsford, took a leading place in the class for 36 blooms with some very fine light coloured varieties. Mr. George Humphries, F.R.H.S., Kington Langley, Chippenham, was second, and the third place was taken by Mr. S. Mortimer, Rowledge, Farnham. Mr. G. Humphries came to the front with 24 blooms in fine order. Messrs. Saltmarsh & Son took a second place, and Mr. S. Mortimer held his previous position. In the class for 12 blooms Messrs. J. Cheal & Sons, Crawley, were first with a well-selected variety of blooms. Mr. J. R. Tranter was a good second; and Mr. H. Harris, Chelmsford, was third. Messrs. J. Cheal & Sons again took the leading position with 18 Cactus and decorative Dahlias in bunches, including Rayon d'or, Beauty of Arundel, Duke of Clarence and Black Prince. Mr. C. Turner was second with a good stand, but the colours were less telling. Messrs. Keynes, Williams & Co. led with 12 blooms of Cactus and decorative sorts, showing among others a beautiful warm lilac variety named Countess of Pembroke; Messrs. J. Burell & Co, Cambridge, were a good second. The class for 12 Cactus varieties only showed that exhibitors even are not agreed as to the exact delimitation between a Cactus and a decorative Dahlia. Messrs. Keynes, Williams & Co. were first in this class, and Messrs. J. Cheal & Sons came in second. The class for 24 bunches of Pompons was an attractive one, the neat little blooms being set up in bunches. The first award went to Mr. C. Turner, who had some pretty bunches of Golden Gem, Mars and Lady Blanche. Messrs. J. Cheal & Sons followed, having amongst others a distinct and beautiful sort named Iolanthe, buff yellow tipped with lilac. Mr. M. V. Seale had the best 12 bunches, and Mr. G. Humphries was second, both showing pretty lots. Messrs. J. Cheal & Sons took the leading place for 24 singles in bunches, the striped varieties being numerous and fine. Mr. M. V. Seale was second, and Mr. E. F. Such, Maidenhead, was third. Mr. G. Humphries was first for 12 singles, and Messrs. Paul & Son, Cheshunt, followed.

In the amateurs' classes Mr. J. T. West, gardener to W. Keith, Esq, Cornwallis, Brentwood, took the leading award for 24 show and fancy blooms, mixed, showing fine blooms of Queen of the Belgians, Glowworm, Duke of Fife, and Lustrous. Mr. Arthur Ocock, gardener to Mrs. McIntosh, Havering Park, Romford, was second. Mr. Sidney Cooper, Hamlet, Chippenham, had the best 12 show blooms, the best 12 fancy varieties, and the best 6 Pompons in bunches of six. Mr. J. Couzens, Langley Burrell, Chippenham, took the first place for 6 show blooms, and Mr. G. Boothroyde, Red Hill, Havant, had the best 6 fancies. Mr. J. T. West again led in the class for 12 Cactus and decorative varieties, and

6 Pompons in bunches of ten blooms. Mr. Wm. Hopkins, Cross Hands, Pilming, Bristol, was first for 6 Cactus and decorative sorts in bunches of three; and Mr. C. Osman, South Metropolitan Schools, Sutton, Surrey, had the best in bunches of six. Mr. T. W. Girdlestone, F.L.S, Sunningdale, Berks, had the best singles in bunches of ten, and the best 12 in bunches of six. Mr. E. Mawley, Berkhamstead, was first in another class for singles. Mr. A. Ocock had the best 6 blooms of any dark Dahlia; Mr. John Walker, Thame, Oxon, had the best stand of any light kind, showing a good creamy white named John Walker. Mr. M. V. Seale had the best yellows; Messrs. Saltmarsh & Son were first for tipped varieties; Mr. G. Humphries had the best striped variety; and Mr. S Mortimer had the best edged blooms.

The miscellaneous exhibits were arranged around the sides of the main thoroughfare, while the Dahlias were on two rows of tables in the centre. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, exhibited a large bank of Dahlias, Cactus and decorative varieties occupying the centre, and forming an elevated mound, while Pompons occupied either end with a group of single varieties in the centre of them. Messrs. Reid & Bornemann, Sydenham, exhibited a tastefully arranged group of Chrysanthemums flowering from the crown buds, and surrounded by Coleus, Begonias, and Maidenhair Fern mixed with Lobelia splendens Victoriæ. Messrs. Pitcher & Manda, Hextable, Swanley, showed a fine group of Lilium auratum, L. a. vittatum rubrum, L. a. macranthum, L. Batemannæ, Callirhœ involucrata, Asclepias incarnata pulchra, and other herbaceous plants. Messrs. J. Cheal & Sons exhibited a group of single and Pompon Dahlias and fine foliaged shrubs. Mr. E. F. Such had a small group of herbaceous plants. Messrs. J. Peed & Sons, Roupell Park Nurseries, Norwood Road, exhibited a collection of show, Cactus, Pompon, and single Dahlias. Messrs. H. Cannell & Sons, Swanley, showed a large group of double tuberous Begonia blooms, Cannas, Pompon, Cactus and decorative Dahlias. Roses and herbaceous plants were shown by Messrs. Paul & Son.

THE ORDER OF RIPENING IN PEACHES.

Two south walls, each of considerable length, are occupied with Peaches and a few Nectarines in the gardens of the Royal Horticultural Society at Chiswick. A large number of varieties of Peaches are grown in the allotted space, but the most of them are kept within very moderate dimensions merely to secure accommodation for the different kinds. This shows what young trees can do in relatively a few years, and the amount of fruit such trees are capable of producing, although it does not show what area of wall space the trees could profitably occupy. The dates of ripening are, however, important, as it should give cultivators an idea of the relative time when certain varieties would come into use not only in the neighbourhood of London but also in Middlesex and the adjoining counties. Statistics of the early, mid-season, and late varieties grown upon open walls should be an admirable guide for intending planters; and if the same trials were made at intervals all over Britain where it is possible to ripen Peaches in the open air much good would accrue. The varieties that do not ripen on a south wall till the end of September at Chiswick would be of little or no use whatever in the midland or northern portions of England or the south of Scotland. Such varieties would of course be useful for late crops under glass with or without artificial heat according to the necessity in cold and northern districts.

The first to ripen was Waterloo an American Peach, of excellent flavour and bright crimson. Its worst fault is that it adheres a little to the stone. Gathering was commenced on the 12th of July, and the crop was good. It was followed by Alexander on the 14th of that month. The crop was very good, and the fruit of large size and bright in colour. It is also a clingstone. The fruits of Early Beatrice were small, but the crop was heavy and gathering was commenced on the 20th of July. This was followed by Early Rivers on the 25th of that month; the fruit was large, light in colour, and the crop heavy. This was all that ripened in July.

The next in order was Acton Scott, ripening on August 15th. The tree bore a good crop of deep red fruit. An older tree of the same variety did not mature its fruits till the 18th, and the crop here was good. The Scarlet Nectarine came in on the 20th, with a heavy crop of deeply coloured fruits. Except when otherwise stated all the varieties here mentioned are Peaches. Early Alfred and Early Albert were fit to gather on the 22nd, the former with a very good crop of dark crimson fruits, and the latter yellow with a red side. Hardwicke Elruge Nectarine was fit to gather on the 23rd, the crop being heavy and the fruits bright crimson red on the exposed side and of good flavour. Crawford's Early followed on the 24th, with a good crop of large, light coloured fruit.

Five varieties came into use on the 25th, namely Early Louise, of medium size, bright crimson on the exposed side and a very heavy crop; Red Magdalen, heavy crop of dark red or crimson spots; White Nectarine, large white fruit; Dr. Hogg, one of the best Peaches grown, with a heavy crop of deep crimson fruits of excellent flavour, and Cricket Nectarine. The latter was a small tree about 2 ft. high and 4 ft. wide and bore 12 fruits. An older and larger tree of this variety did not ripen its fruits till the 30th.

Vanguard, bearing a heavy crop of crimson fruits of excellent flavour, came in on the 26th. In appearance, quality and earliness it may be placed in the same category as Dr. Hogg. Frogmore Golden is also a grand Peach, with yellow flesh to the centre, where it is red round the stone. It is a freestone of excellent quality. Gathering was commenced on the 28th of August. French Mignonne also ripened a heavy crop on the same date, and the fruit is also excellent in flavour. Stanwick Elruge Nectarine came in at the same date bearing a good crop of dark crimson fruit.

A number of varieties date from the 30th of August, including George the Fourth, an excellent fruit with a bright red side. Royal Charlotte bore a good crop of fruit, of a dark crimson on the exposed side. Stirling Castle had a heavy crop of large, deep crimson fruits, and the second tree from it is the Oldenburgh Nectarine, with a fair crop of small, deep crimson fruits. The tree had been lifted last winter. Goshawk bore a heavy crop of fruit, crimson on the exposed side, and richly flavoured. An old tree of the same variety did not ripen its fruits till the 1st of September. The Early Morray Nectarine bore a fair crop of deep crimson fruits. Grosse Violette Hâtive also came in on the 30th of August, with a good crop of small, deep crimson fruits. The Red Roman is very similar to the last named variety, ripening at the same date.

As will be seen a large number of varieties ripen about the last week of August and the first in September. Galande dates from the 1st inst., with a fair crop of very large fruits. An old tree of Bellegarde bears a heavy crop of fruit, some of which was ripe on the 1st inst. Violette Hâtive bearing a good crop of fair-sized, bright crimson fruits, also ranks in the same order of ripening. The gathering of Magdala commenced on the 2nd inst; the crop is a heavy one. Some of the trees date from the 3rd inst., including Early Admirable, which has a heavy crop of fruit of a bright red on the exposed side. Bellegarde, of the same date, has dark crimson fruits of fair average size. Malta, with a fair crop of light-coloured fruit having a soft red side, and Duc de Zellier's Nectarine, with a good crop, are also of the some date, as is Pitmaston Orange Nectarine, with a fair crop of almost black fruits, while Dymond commenced to be fit for use on the 5th.

The exact date of the others, not being yet ripe, cannot be fixed to a day, although an approximate date may be given. A young tree of Prince of Wales bears a heavy crop of dark red fruit that may come in about the 10th. Another tree of the same variety on the old Peach wall is also laden with fruit. A curious Peach is Exquisite, with one side of the fruit much higher than the other like Galande. It is also of very large size, light in colour, and will be fit to gather by the 10th, that is, by the time this will appear in print. Grimwood's Royal George will be ready about the end of the second week of this month. The fruit is greenish-yellow with a red side, and the crop good.

Barrington, with a fair crop, will apparently ripen about the middle of this month; and the same may be said about Princess of Wales, also heavily cropped. The fruits of the latter are large, pointed, and one side is much larger than the other, as in the case of Exquisite and Galande. Sea Eagle will ripen about the same time or a little later, and carries a heavy crop.

A number of kinds are so late that we cannot estimate their date of ripening, especially in view of the fact of shortening days and cold nights, which will sooner or later give place to frost. One of these is Salway, bearing a fair crop, which, however, may not ripen at all. An older tree on the old wall bears a heavy crop, and is coming on more quickly. The end of this month is a near enough date to give for Late Admirable, of which there are two trees well cropped. The same almost might be said about Stump the World, an American variety, which has been proved worthless in this country, although much lauded in the United States. A fair crop is also borne by Radcliffe, apparently equally late. The same may be said of Teton de Venus, and Lord Palmerston. Unfortunately the Victoria Nectarine must be placed in the same category notwithstanding its usefulness as an excellent late sort for culture under glass.

SPECIAL SOCIETIES IN AMERICA.

In his address to the members of the Society of Florists at the recent convention held at Washington, President Dean remarked that the work done during the past ten years by State Horticultural Societies and kindred associations is not as well understood as it should be. "The great improvements made in the Chrysanthemum, Rose, Carnation, and many of the other flowers can be traced directly to the high standard of excellence adopted at their exhibitions; in this connection we are pleased to note the progress being made by the Chrysanthemum and Carnation Societies formed within our own membership, each with the special purpose of improving the class of plants and flowers it represents. I would earnestly recommend the closet affiliation between these associations and the main society. We are about to organize a Rose Society, with possibly an Orchid Society, and at the rate we are advancing we may have a 'Palm' Society and a 'Fern' Society. The danger is that we may so divide our forces as to weaken ourselves, and, in some degree, impair our usefulness, unless these sub-societies work hand in hand with the parent association. The important meetings of the auxiliary societies will doubtless be at the time of our annual meeting, when the widely scattered members can conveniently get together. It is confidently expected that these experts in each special line will be enabled to do good work in the departments, and I suggest that a review of their work and of the latest developments should be embodied in a report by one of the members, selected for the purpose, to be read as part of the proceedings of this Society; in this way can the latest and most complete information in each line be given to the whole association."

Mr. Robert Craig expressed much gratification with the view Mr. Dean took in regard to the auxiliary societies connected with the main association. It was well known that in all departments of human knowledge that specialists generally attained greater distinction than those who covered greater ground. That was the case in law, medicine, the science of disease, and in floriculture. The man who made a speciality of Carnations alone, and followed that up day by day, and had his whole mind centred on that branch alone, would certainly realise more than the man of the same mental capacity, but whose mind was divided over a greater surface. The president's suggestion that we look to these reports at our annual meetings, for the latest developments in each line, was a most excellent one.

FIELDS UNDER GLASS.

Some of the largest forcing houses in existence are to be seen at W. W. Rawson's, at Arlington, near Boston. Mr. Rawson is an energetic market gardener, and he prides himself upon taking advantage of every improvement which can in any way advance the pleasure and profit of his business. He has an enormous area devoted to the growing of winter crops, chiefly Lettuce. Thirteen houses are devoted to this crop, and one of them covers nearly one-third of an acre.

This great house was built last year at an expense of $5,000. It is so large that the ground inside is ploughed with steam. It is 33 ft. by 370 ft. in outside dimensions, 15 ft. to the ridge, 3½ ft. high on the south or lower side, and 12 ft. on the north side.

The size of the glass panes is in keeping with the proportions of the house, being 20 in. by 30 in. This glass is double-thick, No. 2 quality. In such houses as this Mr. Rawson finds that crops can be more easily grown than outdoors. The dimensions allow of easy movements on the part of workmen, and the body of air is so large that it remains in a comparatively uniform condition, there being few drafts. Such a house is simply an enclosed field. The plants grow in the natural soil, three to four inches being removed every year or two as it becomes somewhat worn or infested with germs of fungi. One does not feel that he is in a greenhouse as he enters this Lettuce garden on a December day, but rather that he is suddenly transported to June.

From this great house Mr. Rawson takes at one crop 2,000 dozen heads of Lettuce, and the heads are twice the size of those which we ordinarily see on the market. This crop returns from $1,000 to $2,500, according to the time of the year when it is ready. All the houses are supposed to grow three crops of Lettuce and one of Cucumbers during the year. The first Lettuce crop is taken off just before Christmas, the second from February 14 to March 1, and the third about April 1. Then the Cucumbers —White Spine—are started, and another crop is off by September or October, in time to give room for the winter Lettuce. In all the houses steam heat is used. Hot water is not applicable to such large houses, and it is not sufficiently manageable for Lettuce.

Mr. Rawson was probably the first to use the electric light for the commercial growing of plants. His attention was called to the subject by observing the beneficial effects of street lamps which hung near his houses. These observations by Mr. Rawson were largely instrumental in provoking the serious study of the subject at Cornell University. He now runs three 2,000 candle-power arc-lights all night throughout the winter for the sole purpose of hastening the growth of Lettuce. Mr. Rawson declares that these lights hasten the maturity of Lettuce by 10 per cent., and says that the gain produced upon one crop pays for running the lamps for the entire winter. He calculates that there is an average gain of five days for each crop, or a total saving of fifteen days during the winter. He also says that the plants head up better under the light, and that the quality is superior. The effect of the light is marked at a distance of 100 ft. from the lamp. One need only to visit these houses in order to convince himself that here is the acme of winter Lettuce cultivation in which the electric light plays no small part. It will probably become a prime factor in vegetable forcing. —*L. H. B., in "American Gardening."*

THE VEGETABLE GARDEN.

Exhibition Brussels Sprout.

Wherever we have seen this variety under cultivation it has been giving much satisfaction. Last year a breadth of it was planted at Mr. R. Dean's seed grounds, Bedfont, at 3 ft. apart, with Runner Beans between them, with the view of getting the crop from the latter before the Brussels Sprouts attained any size. The season was a wet one, and the latter grew so fast and strong that the Beans were completely covered up. The early part of the past summer was very dry, and kept crops of all kinds in check. The Sprouts were planted at the usual distance apart, and the heavy rains of recent date have enabled a vigorous growth to be made, so that the Sprouts will amply repay the ground allotted them. The old imported Sprouts that used to be so popular in private gardens and elsewhere have now little chance with the magnificent kinds that have since been raised. Long stems and plenty of firm Sprouts of medium size, are most useful at the present day.

Collins' Challenger Tomato.

The fruit of this Tomato is above the medium size and deeply globose, but more or less angled with three to four blunt angles, but otherwise quite smooth and bright red or scarlet. Some plants pulled up with the fruit upon them showed the variety to be prolfiic when well grown. A First-class Certificate was awarded it when shown by Messrs. Collins Bros. & Gabriel, 39, Waterloo Road, S.E., at Chiswick on the 23rd ult., and again at Earl's Court on the 26th ult.

FRUITING OR BERRIED ROSES.

There are a great many Roses that are well worth growing for their showy autumn fruits alone, and as they are so showy at the present time, it may be well to call attention to them. There is great variation in size and shape, as well as in the colours of Rose fruits. Rosa pisocarpa may well represent the miniature, and Rosa pomifera the larger sized fruits. The numbers of intermediate sizes are many, and I only propose naming a few of the best.

Rosa nutkana has shoots some 3 ft. long that are now bearing quantities of bright scarlet and nearly spherical shaped fruits.

R. rubrifolia produces large bunches of fruit that are intense crimson.

R. gallica pumila has orange coloured fruit.

R. rugosa alba has very large medlar-like fruit of an orange scarlet colour.

R. rugosa rubra is of similar size and shape, but deep scarlet in colour.

R. spinosissima maxima bears black fruit.

R. rubiginosa has quantities of scarlet coloured fruit, that are very showy.

R. alpina, the wild variety of the Boursault Roses, also has pretty scarlet coloured fruit.

R. polyantha grandiflora has very showy red fruit.

R. lucida also has bright fruit.

R. pomifera (or the Apple Rose) has fruit of immense size and in great abundance, deep scarlet in colour. All of these are well worth growing. —*Experienee.*

EASTBOURNE FLOWER SHOW.

This annnal show was held in Compton Place, through the kindness of the Duke of Devonshire, on the 31st ult. It was a fairly good show when one considers how it clashed with others at Brighton and in the immediate neighbourhood. The weather was fine but very boisterous, many exhibits being much bruised and damaged by the wind, which twisted about in the tents very much. This show would be greatly improved by a little more civility on the part of some of the officials, both to exhibitors and pressmen. Several incidents came under my notice that caused much unpleasantness and dissatisfaction among these hard working men.

In the first place it was difficult to gain admission before the general public, and many (in fact all but one lady) of the non-competition exhibitors were forced to leave their exhibits less than half staged. This is not as it should be, especially when most of these were, by special request, endeavouring to cover much unoccupied space; and this after the labours of staging their competition exhibits. Why all but one should be turned out (and this one a competitor), passed our understanding, and was the cause of many complaints. A little more attention and urbanity towards exhibitors is much needed at Eastbourne. I may say it was the worst in this respect of the many hundreds of shows I have attended.

Good prizes were offered, and it was a pity that better competition did not result. The chief prizes only can be named here, as space is short and valuable. Stove and greenhouse plants: 1st, Mr. Portnell, gardener to Sir A. Lamb, Bart., Beauport, Battle, with good plants of Erica Eweriana, E. McNabiana, Statice, Allamanda Hendersoni, Bougainvillea glabra, Erica Irbyana, Ixora j. floribunda, and Dipladenia amabilis; 2nd, Mr. Gilbert, Springfield Nursery, Hastings; 3rd, Mr. Gadd, gardener to P. A. Eagles, Esq., Hollington.

Stove and greenhouse, six varieties: 1st, Mr. Portnell; 2nd, J. Warren, Esq., Handcross Park, Crawley; 3rd, Mr. Watson, gardener to C. H. Simons, Esq., Eastbourne. Eight exotic Ferns: 1st, J. Warren, Esq., Crawley; 2nd, Mr. E. Gilbert, Hastings. Six exotic Ferns, 1st, Mr. Tugwell, gardener to Miss Swift, Beechwood; 2nd, Mr. Watson, Eastbourne. Eight ornamental foliaged plants: 1st, J. Warren, Esq.; 2nd, Mr. Gilbert. Six ornamental foliaged plants: 1st, J. Warren, Esq.; 2nd, Mr. Watson. Six Ericas: 1st, Mr. Portnell, with good examples.

Group of plants for effect: 1st, Mr. Griffin, gardener to Mrs. Randall, Eastbourne; 2nd, Mr. Watson. Group of Ferns arranged for effect: 1st, Mr. Gilbert, Hastings; 2nd, Mr. Griffin; 3rd, Mr. A. McBean. Three dinner-table decorations: 1st, Miss E. Harmer, Hastings; 2nd, Mrs. Sherrard, Hailsham; 3rd, Miss Andrews, Eastbourne. Fuchsias were shown in good style, in fact Eastbourne and Hastings are noted for the grand way these are grown.

Cut Flowers.—Twenty-four varieties of stove and greenhouse plants: 1st, Mr. Portnell; 2nd, Mr. Blake, gardener to F. C. S. Roper, Esq., Eastbourne. Miss Clara Offer of Handcross, Crawley, was first for a good collection of wild flowers. For herbaceous flowers Mr. Sutton, Hollington, was first, followed very closely by Mr. Blake and Mr. Christian. Thirty-six cut Roses: 1st, Mr. C. H. Gorringe, Roselands, Eastbourne; 2nd, Mr. Woollard, Cooksbridge; 3rd, Mr. A. Slaughter, Steyning. Twenty-four cut Roses (amateurs): 1st, Mr. A. Slaughter, Steyning; who was also first for twelve cut Roses.

Fruit.— Collection of fruit: 1st, Mr. Blake, gardener to F. C. S. Roper, Esq.; 2nd, Mr. Helman, gardener to Lord Gage, Firle Park. Three bunches of black Grapes: 1st, Mr. Tugwell; 2nd, Mr. Gadd; 3rd, Mr. Clapson. Three bunches of white Grapes: 1st, Mr. Clapson; 2nd, Mr. Foxley; 3rd, Mr. Tugwell. One bunch, any variety: 1st, Mr. Tugwell; 2nd, Mr. Grace; 3rd, Mr. Foxley.

Collection of vegetables: 1st, Mr. Helman; 2nd, Mr. Blake; 3rd, Mr. Putland. Collection of vegetables for cottagers: 1st, Mr. H. Newmann; 2nd, Mr. Godden; 3rd, Mr. Breach.

There were a great many subjects not for competition most of which were well worthy of note, especially the collection of herbaceous subjects from Messrs. Cutbush & Son, Highgate and Barnet; Messrs. Cheale & Sons, Dahlias, &c.; Mr. Charlton, Tunbridge Wells, also showed a good lot. Messrs. J. Scott & Co., Eastbourne, had a grand lot of small plants with some very pretty floral designs, a cross, a lyre, and a chaplet. Strange to say these were strongly objected to by the secretary. Mr. Dann, Hailsham, had some good examples of Apples and Plums.—*Experience.*

SCOTTISH NOTES.

Banchory Horticultural Association. — The annual exhibition of this flourishing association, which embraces the beautiful and fertile district of Lower Deeside, was opened in the Town Hall, Banchory, on Saturday last by Dr. Farquharson, of Finzean, M.P. for West Aberdeenshire. The show in all sections was a splendid one, despite the lateness of the season. There were about 500 entries, an increase of 50 as compared with last year. Apart from the competitive sections, there was an excellent collection of hothouse plants from Crathes Castle for exhibition. Dean of Guild Macdonald sent from St. Ternan House a number of beautiful Fuchsias; and Messrs. James Cocker & Sons, Aberdeen, sent a superb display of Roses and herbaceous plants which was greatly admired. A quantity of Grapes on exhibition from Crathes Castle was really of grand quality, as was also the fine collection of fruit sent from Durris House, by Mr. Reid. The competitive sections were closely contested. In the professional classes the principal winners were Messrs. Phillips, Blackhall Castle; McIntosh, Banchory; P. D. Reid, Raemoir; Westland & Sons, Banchory; and Francis Stewart, Inchmarlo.

Glenbervie Hortus Club Show.—The annual show of this club was held in the beautiful grounds of J. Badenoch Nicholson, Esq, Glenbervie House, Fordoun, Kincardineshire, on the 31st ult. The competition in the numerous classes for fruits, flowers, and vegetables is confined to residents in the parish, yet the competition amongst the farmers, cottagers, and others was good, and the attendance was quite equal to that of former years, notwithstanding the unfavourable nature of the weather in the early part of the day. China Asters and Stocks constituted a fine display considering the nature of the season. Hardy fruits were not equal to those of last year, yet a similar display could not have been made about London with Gooseberries, Currants, Strawberries, and similar subjects, as they have long been out of season except where grown under special conditions. Potatos and Turnips, for which Glenbervie has long been famous, were in splendid condition. The plants shown were such as could be grown in the open garden, in windows, frames, and greenhouses, and were staged in large numbers. In connection with the show some sports were organised, including pony and other races. Not the least amusing were some donkey races which created a considerable amount of amusement, because the obstinate "mokes" refused to be hurried under any pretence whatever.

FLORICULTURE.

Violas from Cornhill-on-Tweed.

We received a very attractive lot of bedding Violas from Mr. Thos. C. Steel, Crookham, Cornhill-on-Tweed. The flowers were in most cases large for the respective varieties, thus affording evidence of a suitable climate or good culture, probably both. They included some of the best and most popular of the kinds, such as the procumbent or "tufted" Duchess of Fife, Goldfinch, and Ardwell Gem, the latter the best yellow, although some give the preference to the deeper coloured Bullion. The new type Violetta is a charming little thing, which we have heard described as resembling varnished calico. The broad, blue-edged Blue Cloud was sent under the name of Skylark which should have a narrow margin. Archibald Grant is one of the richest violet purple sorts of the Hollyrood type, and Sir Joseph Terry is one of the finest of the maroon purple type as far as the flower is concerned. Mrs. Pearce is a flower of the Duchess of Sutherland type, but larger and darker. Magpie is a very old acquaintance, perhaps one of the oldest of the parti-coloured Pansies grown for bedding purposes. The colours of Columbine in the flowers sent had become "run," and resembled York and Lancaster more than the real hues, which are similar to, but much lighter than those of Lucy Ashton. The names had unfortunately fallen away from a great many in transmission so that we could not identify Nellie Grieve, Alice Dranfield, Grace Darling, Purple Prince, and La Perle. Some of these names must have been accidentally dropped in, as there were fewer varieties in the box than the names rolling about loosely. We suppose La Perle must apply to the white variety, and if so, we consider it too closely identical with Countess of Hopetoun to be retained as distinct unless it differs materially in the foliage and habit. Mrs. Bellamy is a rich purple with pale blue and white upper petals in the way of The Mearns, but more intense in colour and larger. One of those from which the name had dropped was a beautiful flower of unusual size, white, or palest lavender, and splashed with blue and purple on the upper petals, in the way of Sweet Auburn, but quite distinct from any we have seen. We should like to see the number of rayless flowers increased as well as the procumbent types like Duchess of Fife and Ardwell Gem.

Yellow Ground Picotees from Sheffield.

We have been favoured with a boxful of Picotees, mostly yellow ground varieties, from Mr. Ben Simonite, whose garden is on a bleak and cold hill-side, a fact which accounts for their lateness. Notwithstanding these adverse circumstances, the blooms, which were from plants grown on an open border, were in many instances of magnificent proportions, and Mr. Simonite informs us that they are much stronger growers than any of the white grounds. The largest of all was a magnificent yellow Carnation, the only one of that class sent. under the name of Marchioness of Salisbury, perfectly full in the centre, and over 3 in. in diameter without any dressing.

All the rest were yellow ground Picotees, except a fancy named Brilliant, the nearest scarlet yet raised, and which most took our fancy. It measured 3in.across and had a broad, bright red edge on a pure white ground. A neat and pretty flower of smaller size was Sylvia, striped with crimson and red on a bright yellow ground. The darkest varieties sent were Nos. 18 and 31, both striped and marked with crimson on a sulphur yellow ground. Ellen was of the same type, but the ground colour was a richer yellow. Rather a pretty variety was Modesty, striped with soft rose on canary yellow.

Another huge flower, named Haide, was notable for the curious mixture of soft brick red, heliotrope and white, on a soft, satiny yellow ground. No. 8 would have been an acquisition if the scarlet stripes had been more numerous, there being only a few on each of the bright yellow petals. In No. 8 there was a slight shade of amber in the yellow, and the crimson markings were mostly confined to isolated spots on the edges of the petals. A larger and finer flower was Mrs. Booth, with a few faint red and heliotrope lines here and there upon the broad soft yellow petals. The pale heliotrope markings were more evident in Nancy than in any other, extendin from the margin inwards in numerous, short lines; a few faint red lines were also noticeable on the canary yellow ground. Altogether they were a beautiful lot, of which any one might be proud, more particularly at this late period of the year.

THE ROSERY.

Autumn Treatment of Climbing Roses.

Much more depends upon this than is generally imagined, as unless you aid nature in securing thoroughly matured wood upon these vigorous growers, you are doomed to disappointment next season. I do not say that without ripe wood the plants will not grow well another year; they are almost certain to do this, but they cannot possibly flower satisfactory unless they have the long and rambling growths of the present season well matured. We sometimes have an autumn when such growths mature well, and then, if favoured with an ordinarily good spring-time, we are certain of a grand show of flowers at the end of June.

But it will be asked how can you assist nature in ripening these growths out of doors, and while they are growing away so rampantly as at the present time. The best plan is to cut away all side and superfluous wood at once, also to remove a few of the leaves upon other growth if they be too thick to allow of plenty of light and air gaining free access to these vigorous shoots. As a general rule these strong growers are near a wall or fence, and the radiation from these during the summer causes the soil to be rather drier and warmer than in the open. Now should we have a damp autumn after a dry and warm summer, such Roses will usually grow away very vigorously and late; with the consequence that sooner or later they are severely crippled by a severe frost. Although in many cases this at first seems to only affect the tips of such growth, the sap being in such an active state, the whole of the wood is more or less crippled.

Unless you have a few old sacks or mats that you can put down to keep the soil a little drier around the plants, and can afford them a little protection from the first few frosts, it will be well to pinch out the tips of long growths by the early part of October. This will check the sap for a time, and the lower eyes at any rate will have a better opportunity of plumping up and maturing.

The whole aim should be to secure a fair amount of ripened wood upon these vigorous shoots, as they will then produce quantities of blossoms from almost every eye. Too often these long shoots are cut away at pruning time, or else tipped during summer to cause more uniform growth. The proper plan is to cut away all such growths as soon as they have flowered, and encourage those of a similar vigorous character that are breaking from the main stem by that time.—*Experience.*

FLOWER SHOW ODDITIES.

Your recent comments on "Judging at Flower Shows" tempt me to offer a few observations on some curiosities of competitions that have come under my notice. It has often occurred to me when judging at horticultural exhibitions that if some one or more of my colleagues would make careful and accurate notes of the odd things which crop up from time to time in connection with their avocation, they might in the process of time secure enough material for a book that would furnish amusing reading for the gardening community. There are few shows perhaps at which some little thing or other does not arise which is worth recording, either because it opens a novel point for dispute, illustrates the natural cupidity of man, or else shows the singular ideas which some persons entertain as to the rights or privileges of exhibitors.

I heard but the other day of an exhibitor who, staging sixteen Ferns in a class, actually wanted the judges to go back to his collection of sixteen, and from those select eight to compete in a class for that number, and was very angry because they declined to recognise the "innocent" arrangement. Such a singular piece of obtuseness has surely never been heard of before.

Only the other day a protest was made in the class for the largest collection of fruit at Earl's Court that seemed so utterly trivial and paltry that it was difficult to understand how it could ever have been made. I should like to see all exhibitors rise above such trivial considerations, and mention these two incidents to indicate the nature of the experiences which constantly occur to judges, though I know that there are many others not less extravagant and some far more absurd.

To make a book about them would be holding up the mirror to exhibitors' natures, and perhaps help to cure them of many defects. It is sometimes pleaded that schedules are obscurely worded. Well, that may be so too, but it is very difficult to word schedules that are comprehensible by all intellects. It would be exceedingly awkward were it found that when conditions to classes are appended, it was further necessary to add explanations of the conditions.—*An Old Judge.*

BATTERSEA PARK.

As far as the carpet and sub-tropical bedding is concerned we cannot expect it to look better or fresher than it is at present, although the plants in the latter case may yet be much larger, as they are now growing very rapidly with the abundant moisture at their command; but the fading of flowers, cold nights, and windy weather must soon tell upon their freshness. Should this month, however, prove fine generally, it is not unreasonable to expect to see everything wearing a comparatively fresh appearance till the end of the month. Flowering subjects, such as Pelargoniums, cannot be expected to look so well as they have been, although at present there is little to complain of except that a fuller exposure than they get in the sheltered enclosure known as the sub-tropical garden, and less shading would suit them better.

Commencing at the west side of this place and proceeding eastward the principal beds may be noticed. A carpet bed here is laid out in three circles with a half circle at either end. In the central one is a plant of Dracæna surrounded by Coleus, and that again by a line of Pelargonium cinctum; then come four arcs of Coprosma Baueriana variegata, pegged down, bounded by a line of Kleinia repens and two of Alternantheras. The centres on each side of this consist of Sedum sarmentosum variegatum edged with Alternantheras, followed by four ovals of Mentha surrounded by lines of Pachyphytum aduncum, Alternantheras and Kleinias. The groundwork consists of Alsine pilulifera and Mentha, with four lines of edging. Near this is a bold bed of Polymnia grandis about 3 ft. high with huge Heracleum-like leaves on a ground of Heliotrope, Lantana, and Coleus. A circular bed filled with tuberous Begonias with a Dasylirion in the centre is quite gay. A large bed of the same shape is filled with bronzy-leaved Cannas, mixed with scarlet Gladioli, and is handsome. A bed of Pelargonium Henry Jacoby is also floriferous. A border of Castor Oil plants, having tall specimens of Ailanthus behind, mixed with Marguerites and edged with Phloxes, is also noteworthy in the way of sub-tropical gardening. A large oblong bed of Dahlias mixed with Plumbago capensis may be seen to advantage at the present time.

In the same place as last year is a fancy bed of little mounds planted with carpet bedding stuff, the design being different from what it was last year, neat and pretty. Around and at some distance from the centre are four three-sided pyramids so to speak, and alternating with them but nearer the outside are four figures of the Prince's Feather. Between these again are four figures like elevated dagger points. All these raised figures are neatly planted on the sides and top with Alternantheras, Mesembryanthemum cordifolium variegatum, yellow Alsine, Sedum glaucum, and Mentha, neatly divided into differently shaped figures by means of Kleinias, Echeverias, Mesembryanthemum tigrinum, and other subjects, with numerous dot plants on the broader faces and in the centres. On the right is a large curved bed of Wigandia caraccasana, 2½ ft. high, with leaves 18 in. long by 12 in. wide, on a groundwork of Heliotropes and Agapanthus with several edgings. Two circular beds of a dark foliaged Coleus, trimmed so as to form a low topped dome, are striking from their uniformity and richness of colour. A large bed widening to a circle at either end is planted with various succulent plants, showing to what purpose they can be put when properly handled. The object is to bring each plant into bold relief individually. The two centres are occupied by large plants of Dasylirion on a groundwork of the yellow-leaved

Sagina, and having numerous dot plants of long legged Sempervivums, Echeveria metallica. A groundwork of Sedum sarmentosum variegatum follows, and is surrounded with a tall line of Iresine Lindeni. This is succeeded by large patches of green leaved Mesembryanthemums and Sedum sarmentosum variegatum; the outer patches are of Sedum glaucum and Herniaria, with the usual edgings. Both ends of the bed are the same, and in the narrow neck connecting them are some grotesque and gouty-looking Cacti.

Behind the last named is a large round bed of the bronzy foliaged Ricinus Gibsoni 2½ ft. high, mixed with variegated Maize, slightly taller, on a ground of striped Petunias. Near it is a circular bed of succulents modelled somewhat on the same plan as the large one already mentioned. Occupying the corner or the angle where the walk forks is a bold plantation of Brugmansia Knightii, 6 ft. to 8 ft. high, mixed with dwarfer plants of a variety of the garden Orache, having red leaves on the tips of the face. Alternating with and outside of those four pyramids are four domes of a red foliaged Alternanthera, with several edgings. The two end beds are each elevated, forming a plateau along the centre, and the figures are of different patterns in each, consisting of Alternantheras, Mesembryanthemum, and the yellow leaved Alsine; but they are too intricate to follow in detail. Two large centre plants of Agave filamentosa are noticeable, and neat dot plants are also pretty freely used here and there. The groundwork on the lower level consists of Mentha Pulegium gibraltarica and a magnificent red foliaged Alternanthera. The edgings are again raised above the surrounding level, and are planted with the yellow Alsine, and the steep sides with Echeveria secunda glauca. Altogether the three beds forming the whole figure are well worth seeing by those interested in carpet bedding.

Behind this is a large oblong bed boldly planted with large specimens of Aralia papyrifera, with Melianthus major and bold pieces of the Canary figures of different patterns filled with Coleus Verschaffelti. The groundwork at either end is of the yellow Sagina, and Mentha in the centre. Both beds are novel, neat, and pretty.

The old mounds in the alpine garden have been derobed of their former hoary covering of Antennaria tomentosa, a fact to be regretted, for although they presented great sameness year after year they were very unique and characteristic, as may be judged by the accompanying illustration. The various slopes and mounds have been dug up and planted with a mixture of Thalictrum adiantoides, Salvia patens, Fennel, scarlet Lobelias, Lilium pardalinum, L. speciosum and L. auratum on a groundwork of Pilea muscosa, species of Mesembryanthemum, Sedum sarmentosum variegatum, and various other low-growing plants. The mixture of course presents a good deal of variety at different seasons; but the mounds might be occupied differently to advantage another season. Bold clumps of the perennial Sunflowers, one varieties of Michaelmas Daisies and

The Old Alpine Quarter in Battersea Park.

shoots, also bronzy-foliaged Cannas, Everlastings, and other plants. A peculiarity of the double flowers of the Brugmansia is that the inner corolla is often much longer than the outer, whereas the reverse order is usually the case The long trumpet-shaped flowers were numerous when we saw them. Close by the corner bed is a circular one filled with Dracænas, Yucca aloifolia variegata, Eucalyptus, and Lilium speciosum on a ground of Coleus fulgens and patches of Pelargonium Crystal Palace Gem centred with bicolors.

The design of what are usually spoken of as the coffin beds is entirely different from what it has been in former years, and if anything more intricate. As a piece of carpet bedding the three beds constituting the figure are *facile princeps* the best in the park. The central bed is circular, and that at either end is oblong, and concave at the end abutting upon the circle. The centre of the latter is occupied by an obtuse pyramid of Alternanthera paronychoides aurea with dividing lines of Rochea falcata on the edges. Around this are four pyramids of the same Alternanthera with dividing lines of Pachyphytum bracteosum, Echeveria Peacocki, and Kleinia repens, and a dot plant of Sempervivum tabulæforme on each Creeper between, but curiously enough although vigorous the latter was not in flower when we saw it. Petunias formed the groundwork and Abutilon Thompsoni formed a bold inner edging. Pursuing the path to the right a circular bed of simple but attractive design comes into view. It is thinly planted with Lobelia splendens Victoriæ on a groundwork of the tricolor Pelargonium Mrs. Pollock and the dwarf blue Lobelia edged with Iresine Lindeni and Veronica Andersoni variegata.

The Palm and Fern dell is planted with the usual occupants, and although interesting presents nothing new. A little farther on, that is eastwards, are some neatly executed carpet beds on the left hand side, but facing the lake. A large oblong and curved bed is occupied by an intricate scrollwork and figures of Coleus Verschaffelti and Mesembryanthemum cordifolium variegatum edged with Alternanthera versicolor on a ground of Herniaria. Not far distant is another bed of similar shape, planted with stellate or star-like figures of Echeveria secunda glauca, edged with Alternantheras, and figures of the latter edged with Kleinias. At either end of the bed are elevated egg-shaped patches of Alternantheras ranged round a small centre, also some three-lobed autumn flowering Phloxes of the newer improved kinds and other hardy subjects might with advantage be introduced into the park. The bank of Clematis Jackmannii is fine as usual. Wholesale introductions every year would be expensive, but a few might be made every year of the more popular subjects, not necessarily in the subtropical garden proper, but elsewhere as there is plenty of space. The park everywhere gives evidence of careful management on the part of Mr. Coppin, the Superintendent.

LOBELIA MILLERI.

This is considered to be a garden hybrid between L. syphilitica and L. cardinalis or some of its allies. The stems vary from 18 in. to 2 ft. in height and are therefore stronger than those of L. syphilitica usually are. The flowers are large, deep purple, produced in a long terminal raceme, and are quite handsome even although they lack the lustre or brilliancy of the three Mexican species, L. cardinalis L. splendens with its beautiful and popular dark purple foliaged variety Victoriæ, and L. fulgens, which is equally choice as far as the flowers are concerned. These Mexican Lobelias might be more extensively grown than they are at present together with L. Milleri, which would be more interesting and enhanced even by contrast.

NEW & RARE PLANTS.

The undermentioned flowers, plants, and fruit were exhibited at the International Horticultural Exhibition at Earl's Court, on the 26th and 27th ult., and with one exception received First-class Certificates.

LIRIODENDRON TULIPIFERA AUREA.—The curious looking saddle-shaped leaves of this grand Magnoliaceous tree are pretty well known, and hardly call for description here. The variety under notice has the leaves variegated with a broad but irregular yellow edge.

CORNUS ALBA SPATHII.—The leaves of this beautiful variety are clear yellow fading with age to a creamy white, and having an irregularly lobed green blotch in the centre. Sometimes the whole leaf or the leaves of a branch are entirely yellow.

RHODODENDRON PRESIDENT.—The flowers are of large size, and salmon - coloured with a red line across the throat.

RHODODENDRON IMOGENE.—Here again they are of large size, and creamy yellow, tinted with pale salmon.

RHODODENDRON RUBY.—In this case the individual blooms are only of medium size but intense red.

RHODODENDRON MINERVA.—For want of a better term this variety may be described as Indian yellow, with a red zone in the throat and red stamens. The blooms are of large size and very choice.

RHODODENDRON SOUVENIR DE J. S. MANGLES.—This variety is of a deep salmon red with a pale purple throat. Like the previous four varieties of Rhododendrons, it belongs to the class known as hybrid greenhouse Rhododendrons, which flower more or less every day in the year, when a good collection of them are grown.

STREPTOCARPUS VEITCH'S HYBRIDS.—The certificate in this case was granted for the strain and not for any variety in particular. The plants shown had been raised from seeds sown in January of this year, and exhibited a great variety of colour, ranging through the various shades of rose, purple, violet, blue, white, and mauve, variously and often heavily striped or banded with purple or violet in the throat. They were exhibited by Messrs. J. Veitch & Sons, Chelsea, who also showed all of the above-mentioned subjects from Liriodendron to Streptocarpus inclusive.

CARLUDOVICA PALMÆFOLIA.—Many of the species of Carludovica bear a close resemblance to Palms. That under notice may well be compared to some of the species of Geonoma. It is of course more closely allied to Pandanus, and has large, arching, deeply bifid or lobed, and strongly ribbed leaves. It is a useful decorative plant.

DRACÆNA H. E. MILNER.—The leaves of this Dracæna are of moderate width, of a bronzy red, with broad, but irregular bright red margins, and the midrib is sometimes also of the same hue.

DRACÆNA INDIVISA VEITCHII VARIEGATA.—The leaves of this variety are similar to those of D. australis as to width, but the midribs are red and the edges white.

CUPANIA ELEGANTISSIMA.—The leaves of this graceful plant are 2 ft. long, and pinnate with long, linear-lanceolate leaflets, and, as might be expected, they assume a gracefully arching form.

DRACÆNA ALEX. LAING.—Here the leaves are narrow, and distinctly narrowed at the base into sheathing petioles. Their colour is of a bronzy red with bright red margins. This and the previous four subjects described were exhibited by Messrs. B. S. Williams & Son, Upper Holloway.

DAHLIAS.

DAHLIA BEAUTY OF EYNSFORD.—The flower heads of this variety are soft buff-red, or salmon, with long pointed florets. It belongs therefore to the Cactus class, and is very choice in its way.

DAHLIA MRS. KEITH.—The florets of this variety are short, blunt, and nearly flat, so that it would be classed amongst the decorative types. The bloom as a whole is rosy pink, and yellow at the base of the central florets.

DAHLIA ROBERT CANNELL.—The blooms in this instance belong to the true Cactus type, and are of medium size with long pointed florets, revolute at the sides making them appear narrower than they really are. The colour is a deep or rich red tinted with violet.

DAHLIA ERNEST CANNELL.—This is also a Cactus variety with medium sized heads. and long pointed deep scarlet red florets. A Second-classCertificate was awarded it, whereas the other three received First-class Certificates. All the four were exhibited by Messrs. H. Cannell & Son, Swanley, Kent.

GLADIOLI.

GLADIOLUS ALBANS.—The flowers of this new variety are large and creamy white, more or less striped with light red.

GLADIOLUS ALARIC.—Flowers large, blush white, with a deep purple throat.

GLADIOLUS MR. MANDA.—The general colour of this variety is scarlet, but the crimson stripe on the three lower segments is quite prominent, and is more or less suffused with purple on each side of the crimson.

GLADIOLUS ALFRED HENDERSON.—The segments are soft salmon red, more or less striped with a deeper hue towards the edges. The basal half of the lower segment is white, and stands out prominently by contrast with the other colour.

GLADIOLUS ALBANO.—The large white flowers of this variety are splashed with pink. All the five varieties of Gladiolus were exhibited by Messrs. Kelway & Son, Langport, Somerset.

NEW BEGONIAS.

THE Begonias here recorded are being grown upon trial in the gardens of the Royal Horticultural Society at Chiswick, and received certificates according to merit at the Begonia Conference held there on the 23rd and 24th ult.

BEGONIA SEMPERFLORENS RUBRA VERNON'S VAR.—The flowers of this grand variety are much about the same size as those of the type, but of a glowing red or crimson. The leaves are of good average size, shining, and when grown out of doors as at Chiswick they assume a ruddy or metallic hue like burnished bronze. It was sent for trial by Messrs. Vilmorin, Andrieu & Co., Paris, and also by Messrs. Sutton & Sons, Reading, under the name of Crimson Gem. A First-class Certificate was accorded in both cases.

BEGONIA PRINCESS BEATRICE.—The stems of this variety are dwarf, spreading, very much branched and floriferous, usually ranging from 3 in. to 6 in. high. The leaves are small compared with those of B. semperflorens, ovate and shining. The flowers are pink, small and numerous. It was sent by Messrs. Sutton & Sons, and received an Award of Merit.

BEGONIA MULTIFLORE L'AVENIR.—This is one of a race of dwarf, small flowered, and floriferous, tuberous Begonias well adapted for bedding purposes. The flowers are double, nodding, deep red, with a creamy yellow centre where the sepals are short. The leaves are also small and half ovate.

BEGONIA MULTIFLORE MADAME LOUIS URBAN.—The leaves are here again small, half ovate, and of a rich dark green. The flowers are nodding, but are carried well above the foliage; externally they are deep red, tinted with rose, and deep rose internally, with all the sepals arranged in a single and neat rosette.

BEGONIA MULTIFLORE ROSEA.—The leaves are paler green than those of the last named variety, but otherwise similar. The flowers are very full, well carried above the foliage, but nodding, rose externally, pink internally, and very freely produced, and like the previously named double varieties of this type well adapted for bedding purposes.

BEGONIA MULTIFLORE LOUISE ROBERT.—The flowers of this sort are single and larger than any of those previously named. Externally they are red, tinted with rose at the edge, and of a soft pink internally. They are also produced in great abundance, just rising above the foliage on stout stalks. All the four of the Multiflore type were sent by Messrs. Vilmorin, Andrieu & Co., Paris.

THE following were exhibited at the International Horticultural Exhibition at Earl's Court on August 26th and 27th ult., and were awarded First-class Certificates:—

BEGONIA REX MADAME ALAMANGY.—For description of this variety see p. 8. It was exhibited by W. Marshall, Esq., Auchinraith, Bexley.

BEGONIA DUCHESS OF TECK.—This and the six varieties following it all belong to the tuberous class, and all have double flowers with exception of Lady Grimthorpe. The blooms of Duchess of Teck are large, full, bright yellow and consist of several centres.

BEGONIA DUKE OF YORK.—The flowers of this sort are very large, perfectly double, and salmon pink with plain or flat sepals.

BEGONIA STANSTEAD GEM.—Here again the flowers are large, and bright scarlet with somewhat wavy sepals, resembling a double Hollyhock.

BEGONIA LADY ESHER.—The flowers of this beautiful variety are pure white, with broad, wavy or crisped sepals.

BEGONIA COUNTESS OF ZETLAND.—Like the last named, this has large, full flowers with wavy sepals, but they are creamy white instead of being pure.

BEGONIA LADY THEODORA GUEST.—The flowers here are yellow tinted with apricot, and of great size with broad wavy sepals.

BEGONIA LADY GRIMTHORPE.—As already stated above, this is a single variety and a fine one with huge, orbicular flowers of good substance, and pink shaded with rose. All of the seven tuberous varieties were shown by Messrs. J. Laing & Sons, Forest Hill.

MOSELEY DAHLIA SHOW.

A FIRST-CLASS exhibition was held in the Moseley Botanical Gardens, Birmingham, on Tuesday, Wednesday, and Thursday of last week, but the weather was wretched, rain falling continuously on the two earlier days with a strong gale. Dahlias in collections were made a strong feature, all sorts admissible, to occupy a space of not less that 12 ft. by 3 ft., and seven very fine exhibits were staged, ranging in length from 15 ft. to 20 ft. It was a matter for general surprise that so grand a display could be made in face of the stormy weather for cutting. Staging collections makes a most effective display, and to the general public is more effective than staged on stands entirely. Messrs. Perkins & Sons, Coventry, were first with a beautiful display so nicely set up, not too formally: the Pompons in neatly arranged clusters being most effective, show blooms on boards in the front, with baskets and bouquets of blooms, Cactus and singles also. Messrs. Jones & Sons, Shrewsbury, were second with a fine display. Messrs. Kimberley & Co., Stoke, Coventry, third; and a fourth and extra prizes were awarded. In the classes for thirty-six and twenty-four Dahlias several fine stands were staged. Messrs. Heath & Son, Cheltenham, were first in each class; Messrs. Kimberley & Son, Coventry, second; and other prizes were also won in both classes.

Prizes were offered for twenty-four bunches of hardy border flowers, and fine exhibits were staged. Mr. W. B. Child, Acocks Green, was first; Messrs. Harkness & Sons, second; Messrs. Pope & Sons, third. The gentlemen's gardeners' classes for groups, flowers, and fruits were well filled, as well as the vegetable classes.

Good prizes were offered for a collection of eight varieties of fruits, open to all, and five good exhibits were staged. Mr. James Dawes, gardener to H. M. Biddulph, Esq., M.P., was first with a fine lot, viz., two bunches each of Gros Maroc, and Muscat of Alexandria Grapes; a fine La Favorita Melon; very fine Barrington Peaches, and Humboldt Nectarines, Apricots, and Figs. Second, Mr. F. Roberts, gardener to H. W. Foley, Esq., Pristwood, Stourbridge, with excellent Alicantes, and Muscat of Alexandria Grapes, a very fine lot of Brunswick Figs, Grosse Mignonne Peach, Hemskirke Apricots, and Pitmaston Orange Nectarines; third, Mr. E. Gilman, Ingestre; fourth, Mr. T. Bannerman, Blithfield. For three bunches of Black Hamburgh Grapes, Mr. Bannerman was first; Mr. A. J. Page, second; and Mr. A. Bird, third. For three bunches of Muscat of Alexandria, Mr. Bannerman was again first, and Mr. W. Shaw. Blakebrook, Kidderminster, second. For three bunches of Black Grapes, not Hamburghs, Mr. Bannerman came in first with Alicantes; second, Mr. Shaw; and third, Mr. Gilman, both with Black Maroc; extra, Mr. Lister Qia.

Mr. Pritchard, Umberslade Gardens, staged eight fine Queen Pines. Messrs. George Bunyard & Co., Maidstone, sent, not for competition, fifty-six dishes of Apples and Pears, and eight baskets of Apples, a very fine display of Kentish fruit. Amongst the Pears were fine examples of Pitmaston Duchess, Beurre d'Amanlis, Souvenir de Congres, Triomphe de Viennes, and Doyenne Boussoch. Amongst the Apples were fine examples of Washington, Lady Sudeley, Benoni, O'Kera, Seaton House, Duchess of Oldenburgh, very handsome; Ribston Pippin,

Grenadier, Warner's King, Beauty of Bath, Ecklinville, Cardinal, a fine Apple; Bismarck, Gold Medal, Duchess of Gloucester and Lord Grosvenor. These formed a prominent feature of the exhibition. Mr. Stainton, Stoneleigh Village, near Kenilworth, sent two dozen wonderfully fine fruits of Williams' Bon Chretien Pears grown on a wall; and Mr. H. Whateley, Market Grower, Kenilworth, sent a large basket of very fine Ignotum Tomatos.

The honorary exhibits were very numerous. Mr. F. Jenkins, Olbon, near Birmingham, sent thirty very fine Tuberous Begonias, doubles and singles; Messrs. Hewitt & Co., Solihull Nurseries, a very fine bank of herbaceous blooms, Begonias, Carnations, and Picotees, and many other things, a fine display. Messrs. Thomson & Co., Sparkhill Nurseries, also contributed a very fine bank of flowers and plants, including Carnation and Picotee blooms, with some of Benary's new varieties, some excellent floral arrangements and Violas in pots. Messrs. Sutton & Sons, Reading, sent cut hardy flowers and a fine lot of their new Gloxinias, First-class Certificates being awarded to Cyclops, Her Majesty, Admiration, and Duke of York, but other kinds are very fine also, and it was a beautiful display. Mr. Henry Eckford set up a fine lot of new Sweet Peas, and First-class Certificates were awarded to H. M. Stanley, Lord Beaconsfield, Venus, Lady Penzance, Ovid, and Royal Robe; and a First-class Certificate was awarded to Messrs. Perkins & Sons, Coventry, for a very fine almost black Cactus Dahlia named "Matchless;" also First-class Certificates to Mr. Charles Turner, Slough, for seedling Cactus Dahlias, H. E. Milner, Sir Hugo, Blushing Bride, and Joseph Chamberlain, also Pompon Dahlia Little Lady; other seedlings of merit was also staged. Mr. Shaw, Kidderminster, and Messrs. Jones & Sons, Shrewsbury, both staged nice collections of Gladioli. Mr. Horton, Moseley, had a fine group, and Mr. Denning, florist, also contributed a fine group admirably set up.

STEAM AND HOT-WATER HEATING.

The comparative merits of steam and hot water for greenhouse heating is the subject of a recent bulletin issued from the horticultural division of the Cornell University Agricultural Experiment Station, and the writer, Mr. F. W. Card, states that the results obtained lead to the following conclusions which are true under these conditions, although some of them may not be true universally:—

1. The temperatures of steam pipes averaged higher than those of hot water pipes, throughout the entire circuit for the entire period of test.

2. The higher the inside temperature in steam pipes the less is the proportionate warming power of the pipes at a given point. The heat is distributed over a greater length of pipe, and as steam is ordinarily carried at a higher temperature than hot water, it has a distinct advantage for heating long runs.

3. When no pressure is indicated by the steam gauge, the difference between the temperatures of the riser and the return is greater with steam than with hot water.

4. Under pressure, the difference is less with steam than with hot water.

5. There is less loss of heat in the steam risers than in the hot water risers, and this means that more heat, in the steam system, is carried to the farther end of the house and more is spent in the returns as bottom heat.

6. This relation is more uniform in the steam risers than in the hot water risers, giving much more even results with steam than with hot water.

7. When the fires are operative, the fluctuation in the temperature of the risers at any given point is much greater with hot water than with steam.

8. An increase in steam pressure raises the temperature of the entire circuit, but the temperature does not rise uniformly with the pressure.

9. The first application of the pressure increases the temperature of the returns much more that that of the risers.

10. Steam is better than hot water for long and crooked circuits.

11. Pressure is of great utility in increasing the rapidity of circulation of steam, and in forcing it through long circuits and over obstacles.

12. Unfavourable conditions can be more readily overcome with steam than with hot water.

13. Hot water consumed more coal than steam, and was at the same time less efficient. This result would probably be modified in a shorter and straighter circuit, with greater fall.

14. Under the conditions here present, steam is more economical than hot water, and more satisfactory in every way; and this result is not modified to any extent by the style of heaters used.

GARDENING MISCELLANY.

GARDENERS' WAGES.

Apropos of your sensible remarks on the wages and status of gardeners in last week's Gardening World, I may say that I was lately one of 500 applicants for a fairly good berth that was going in a midland county; and in the circumstance of the number of applicants being so large, I discovered one reason, at least, why employers hold gardeners so cheap. The fact is there are too many gardeners *and* gardeners, and especially of the latter.—*X.*

LILIUM LEICHTLINII.

The Lily alluded to on p. 822 of your issue for August 27th as L. Leichtlinii is really L. Batemannæ, a totally different species. The fact that bulbs of L. Batemannæ are sometimes imported from Japan as L. Leichtlinii, and disposed of under that name may be answerable for the mistake. The blooms of L. Leichtlinii are yellow, spotted with red, while in shape they are somewhat like the Tiger Lily. L. Batemannæ, on the other hand, exactly answers the description on the above-mentioned page.—*Lilium.* [We are indebted to our correspondent for this correction, and thank him for his kindness though he writes anonymously. The fact is our notes were made somewhat hurriedly from plants flowering in a bed at Kew, and we had not time to check the accuracy of the Kew name, hence the error. We had our suspicions at the time, but not having seen L. Batemannæ for some years failed at once to notice the mistake; but admitting that the bulbs had been received from Japan under the name of L. Leichtlinii, the plants had been in flower for some time, and the name should have been corrected by the responsible authorities. It is possible that many others besides ourselves have been misled in the same way, for L. Batemannæ is by no means common in British gardens.—Ed.]

JUDGING AT FLOWER SHOWS.

We have been much struck with the importance of the suggestion you embody in your article of August 27th under the above heading. If the occasion of our Great National Co-operative Flower Show at the Crystal Palace in August would be a convenient opportunity for such a meeting, we should be glad to make arrangements next year to facilitate a first gathering of the kind, and think we might be able to fit it in with our other meetings so as to avoid any expense falling upon the gentlemen attending. The large variety of exhibits we have at the Palace would be at the service of the meeting for reference in illustration of any points which may arise in discussion.—*Edward Owen Greening, Hon. Sec. National Co-operative Flower Show, Deptford, S.E.*

HARDINESS OF ADIANTUM CUNEATUM.

It may be of some interest to mention that in April, 1891, at the annual potting of our Ferns, as an experiment I planted out one root of Adiantum cuneatum on the northern side of a shrubbery border. The soil consisted of gravel and sand with some particles of peat. The plant grew and flourished during the summer, and as winter approached I intended to cover the crowns up, but failed to do so until frost and snow came, when I concluded it was too late to do so, and everyone knows what a trying winter we had. About May this year I was passing the spot and was surprised to see young fronds appearing. And now, September 6th, there is a nice tuft of pale green fronds, and the plant is looking quite happy. I may say that there is a very strong current of air passing through the shrubs continually. —*John Davies, The Gardens, Woodheath, Chislehurst.*

ROSA POMIFERA.

We frequently hear of the ornamental character of Rosa rugosa when in fruit, but the European Rosa pomifera sparingly naturalised in this country is hardly ever spoken of, and more seldom seen. There is a handsome bush of it now laden with fruit on the rockery at Kew. The hips are large and elliptic or urn-shaped with a short neck, and as they mature they become yellow, deepening later on to a bright crimson red. Although considerably below the dimensions of the fruit of the now well known R. rugosa, they are brighter in colour and exceed those of any of the truly native British Roses.

THE CANADIAN GOLDEN ROD.

If anything were to tell in favour of Solidago canadensis it would be the fact that years ago, when the value of hardy plants was better recognised, it was widely cultivated, even in some of the more remote parts of Britain, in cottage gardens. Notwithstanding the numerous species of Golden Rod which have been introduced from time to time, perhaps none of them have been more popular. The flowers are golden yellow, and although the heads are small individually they are produced in short, dense, spreading, one-sided panicles in such profusion as to well merit the title of Golden Rod. The main stems grow 3 ft. to 4 ft. high, and come into bloom comparatively early, a fact which enables the plant to be grown and flowered to perfection in various parts of the country. It forms a telling plant in the herbaceous border and should be planted in the third or fourth line from the front.

ORCHID NOTES AND GLEANINGS.

The undermentioned Orchids amongst others were exhibited at the International Horticultural Exhibition, Earl's Court, on the 26th and 27th ult., by Messrs. F. Sander & Co., St. Albans, when each was accorded a First-class Certificate.

Cattleya Parthenia nobilis.

The sepals of this interesting variety are white or palest blush. The petals are of a faint lilac with a white centre; the tube of the lip is lilac, and the lamina of a deep purple. The contrast of colours is striking and chaste.

Lælia amanda.

The sepals and petals in this case are of the palest lilac with deeper lines along the veins. The lip on the contrary is pale purple, with darker veins forming a network upon the lamina.

Aërides Lawrenciæ.

The flowers of this Aërides resemble those of A quinquevulnerum greatly magnified. The sepals and petals are white with a large purple blotch at the apex of each. The whole of the middle lobe of the lip is purple, the rest being white. The stout and somewhat curved conical spur is yellow at the tip.

Odontoglossum Wattianum.

The sepals and petals of this odontoglot are oblong-lanceolate, and heavily blotched with brown on a yellow ground. The long-clawed lip is spotted with purple on white at the base, and has a large purple blotch on a creamy lamina.

Renanthera matutina.

Seldom has this species been flowered in this country, but is all grace and beauty when seen. The linear leaves are of moderate length and arranged in two ranks upon upright stems. The slender, arching racemes are many flowered, bearing blooms of fair average proportions, somewhat smaller than those of R. coccinea The linear sepals and petals are bright red fading to yellow with age, and more or less spotted with crimson. The lip is remarkably small.

Vanda Hookeriana.

The terete leaves of this species recall those of V. teres, but the flowers are very different. The lateral sepals are white, but the upper one and the petals palest purple. The lip is spotted and marked with deep purple on a pale purple or a white ground. The lateral lobes are deep purple.

Odontoglossum Roezlii Sander's var.

As is now pretty well known this type is included amongst the Miltonias. The sepals and petals are white as usual, but the blotch at the base of the latter is intensified to a blackish purple. The lip has a pale yellow blotch at the base, but is otherwise pure white.

Lælia elegans Schroderæ.

The sepals and petals of this variety are blush, and the lip similar with a rich purple lamina; three purple lines extend from the latter to the base of the tube.

Lælia Gravesiæ.

The parents of this bigeneric hybrid were Cattleya crispa superba and Lælia præstans, the former being the seed bearer. The sepals and petals are of the palest lilac, the latter being somewhat revolute at the sides, a character derived from the seed parent, in which it is always strongly marked. The lip has an intensely purple wavy lamina and a white tube. The pseudo-bulbs are only 3 in. or 4 in. high, and flowering for the first time.

Lælia elegans Schroderiana.

Contrary to the last-named, the sepals in this case are of a deep, dull purple, while the petals are several shades darker. The lip is of an intense crimson-purple with a nearly white tube, lined or veined with purple. The sharp contrast of colours is very striking.

Odontoglossum Schroderianum.

This is closely allied if not identical with the Miltonias, and has oblong, brown sepals and petals with yellow tips and a few yellow lines across them. The petals have a white spot at the base. The flattish lip on the contrary is purple at the base and white on the upper half. The pseudo-bulbs bear three or four ligulate leaves at the base and two terminal ones.

Cypripedium tortile.

The plant as shown bore two flowers on peduncles about 8 in. high. The upper petal is small, ovate, and white with deep purple veins. The longish petals are brownish purple. The yellow lip is lined with green. On the whole it seems closely allied to C. Philippinense.

Cattleya Schofieldiana Waddesdon var.

The sepals and petals of this variety are oblong, yellow, faintly tinted with green, and slightly spotted with brown. The lateral lobes of the lip are buff, and the transverse, white lamina spotted with purple; the claw is yellow. The variety belongs to the same class as C. guttata.

Cypripedium Maynardii marmoratum.

The upper sepal of this hybrid is revolute at the sides, white, suffused with purple, and having a dark-coloured midrib. The petals are green at the base, finely dotted, and brown on the upper three-fourths of their length. The lip is also of a deep brown.

Pachystoma Thompsoniana.

The sepals and petals of this beautiful but by no means common Orchid are pure white The lip is three-lobed with five deep purple ridges on the middle lobe and white lines between them; the lateral lobes are green and spotted with purple. The pseudo-bulbs are small, the lanceolate leaves neat, and altogether the species is a very pretty object but not very easy to manage. It should be grown in a pan or basket. The plant was exhibited by Messrs. B. S. Williams & Son, Upper Holloway.

SOCIETIES.

Royal Horticultural, *Sept. 6th.*—As far as flowers were concerned Orchids were one of the strongest features of the meeting on Tuesday last. Hardy flowers were also plentiful, including herbaceous subjects and Gladioli, and several large collections of fruit were also noticeable. A Silver-Gilt Flora Medal was awarded to Messrs. F. Sander & Co., St. Albans, for a large group of Orchids, including a fine bank of Vanda Sanderiana, Cattleya Oweniana, and C. speciosissima Sanderiana, as well as the Swan Orchid (Cycnoches chlorochilum), and others were also very noteworthy. A Silver Flora Medal was awarded to W. E. B. Farnham, Esq., Loughborough, for a beautiful group of Orchids, consisting chiefly of Dendrobium formosum giganteum and D. Phalænopsis Schroderiana, the latter showing a great amount of variety. A fine spike of Phaius maculata-grandifolius was exhibited by Baron Henry Schroder (gardener, Mr. H. Ballantine), The Dell, Egham. The name expresses the parentage of the hybrid. Lælio-Cattleya Proserpine, Sophro-Cattleya Veitchi, and Cypripedium H. Ballantine, all hybrids, were shown by Messrs. J. Veitch & Sons, Chelsea.

Some cut flowers of Orchids, including Cattleya Schofieldiana Stand Hall var., Lælia Turneri superbissima, and Cattleya Amesiana, were shown by Thos. Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, Manchester. A Silver Banksian Medal was awarded to Messrs. Pitcher & Manda, Hextable, Swanley, for a group of Orchids, consisting largely of Cypripediums backed up with tall, long sprayed plants of Odontoglossum incurvum, giving the whole a very graceful appearance. A smaller group was shown by Mr. P. McArthur, The London Nursery, 4, Maida Vale, including Cattleya Leopoldii, C. Harrisoniæ, Odontoglossum vexillarium rubellum, and some Stapelias which excited a great amount of curiosity. A Cultural Commendation was awarded to Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking, for a large basket of Habenaria militaris, the scarlet lip of which attracted a great deal of attention. The plants were graded as to height, and appeared very choice in every way. Some finely flowered plants of Vanda Kimballiana and Cypripedium Parishi were shown by Messrs. H. Low & Co., Clapton. Four very fine varieties of Cattleya Aclandiæ and Aerides Augustianum were exhibited by Messrs. Linden, L'Horticulture Internationale, Brussels. A large plant of Peristeria elata was exhibited by Stanley G. Lutwyche, Esq. (gardener, Mr. May), Oakfield, Beckenham. A Cultural Commendation was awarded to the Rev. E. Handley (gardener, Mr. S. Kerslake), Bath, for some well grown pieces of Dendrobium Phalænopsis Schroderiana.

A Silver Banksian Medal was awarded to Messrs. Pitcher & Manda, for a choice collection of herbaceous cut flowers. Amongst them Lilium auratum vittatum rubrum, L. Batemannæ, Gladioli, and Sunflowers were very conspicuous. A Silver Banksian Medal was awarded to Messrs. H. Low & Co., for a beautiful group of Lilium Wallichianum superbum, with a long tube and yellow throat. A basket of Clerodendron trichotomum grown in the open ground, also Bignonia grandiflora, and some Retinosporas were exhibited by Messrs. J. Veitch & Sons. A collection of perennial Sunflowers was brought up from the society's gardens at Chiswick. Some well-grown Cockscombs, and some double Begonias were shown by Messrs. H. Cannell & Sons, Swanley. A Bronze Flora Medal was awarded to Messrs. Wm. Cutbush & Son, Highgate, for a large collection of Sunflowers, Solidagos, Geums, Pyrethrums, and other herbaceous plants. A large stand of Cactus Dahlias was exhibited by Messrs. Keynes, Williams & Co., Salisbury. A Bronze Banksian Medal was awarded to Mr. R. Dean, Ranelagh Road. Ealing, for a collection of cut flowers of annuals mostly of choice varieties of China Asters, Marigolds, both French and African, Helichrysums, and varieties of Anemone Japonica. A Silver Flora Medal was awarded to Messrs. Kelway & Son, Langport, Somerset, for a large collection of Gladioli, including several new kinds. Canna Star of '91 was shown by Mr. C. L. Allen, Floral Park, New York. A seedling Tacsonia named T. Smythiana was exhibited by Mr. Wm. Smythe, Basing Park Gardens, Hants. A Passionflower named Woodhatch Hybrid was shown by T. B. Haywood, Esq. (gardener, Mr. C. J. Salter), Woodhatch Lodge, Reigate.

At a meeting of the Fruit Committee, a Silver Gilt Banksian Medal was awarded to Messrs. J. Veitch & Sons, for a large collection of Apples, Pears, Plums, Figs, Gooseberries and Raspberries. Amongst Apples were fine samples of Lord Suffield, Grenadier, Warner's King, Frogmore Prolific and Worcester Pearmain. A large collection of Runner Beans was brought up from the Society's gardens at Chiswick, including all the newest as well as the leading types in cultivation. The coloured ones are striking or even pretty but not likely to become popular. A Silver Gilt Banksian Medal was awarded to Messrs. Geo. Bunyard & Co., Maidstone, for a showy and neatly set up collection of Apples, Pears, Peaches, Damsons, ornamental Crabs and autumn Raspberries, Many of the finer Apples were set up in baskets neatly inserted amongst wood wool so as to prevent them from touching one another. A Silver Knightian Medal was awarded to Mr. W. H. Divers, gardener to J. T. Hopwood, Esq., Ketton Hall, Stamford, for three boxes of Nectarines and five boxes of Peaches, all of large size. A similar award was made to Lord Foley (gardener, Mr. J. Miller), Ruxley Lodge, Esher, for a collection of Melons, Peaches, Nectarines, Grapes, Figs and Apples. A Cultural Commendation was awarded to J. Bucknall, Esq. (gardener, Mr. W. Wright), Langley Court, Beckenham, for a dozen fruits of the Sea Eagle Peach, of great size. A dish of Pond's seedling Plum and another of Veitch's Success Pea was shown by Mr. G. Wythes, gardener to the Duke of Northumberland, Syon House, Brentford. Several varieties of ornamental Crabs were exhibited by Messrs. J. Cheal & Sons, Crawley. A dish of a Tomato named Ponderosa was shown by Mr. R. Owen, Castle Hill, Maidenhead. A brace of Melons was shown by Mr. W. Palmer, Conden Villas, Junction Road, Andover. Some Apples were shown by Mr. Cooper, Brighton, by Mr. J. Bowerman, the Gardens, Hackwood Park, Basingstoke, and by Mr. R. Dean, Ranelagh Road, Ealing; the latter also showed a fine bunch of Tomato the Conference bearing ten ripe fruits. Mr. E. Burnand, Woodcote Road, Wallington, also showed a dish of Tomatos.

WHAT TO DO IN THE GARDEN.

Gloxinias.—All the worthless and inferior varieties may be weeded out as they finish flowering. It is useless to retain them when so many reallyfine things can be obtained from a packet of a good strain of seed. The good ones will prove serviceable for the first batch of flowering plants to be started early next year. They should not be rapidly dried off, but kept in a frame or pit in a sunny place and watered until they die down.

Eucharis.—Plants that have recently flowered should be encouraged to make all the growth possible, to render them fit to flower strongly at another time. Those that have finished their growth may be kept cooler and drier for a few weeks, after which if excited by genial warmth and moisture they will flower during the two last months of the year.

Hippeastrum aulicum.—Being strictly an autumn or winter flowering species this will now be making its growth, which it should be encouraged to do by gentle warmth and careful watering. Its huge crimson flowers are of a highly ornamental character.

Richardias.—If the plants are still in the open ground they may be potted up, and the growth they will make during this and the next month will enable them to get thoroughly established before winter.

Bouvardias.—Old plants relegated to frames or the open ground in summer may now be lifted and potted up, or if a Melon pit from which the fruit has been cut is at command they may be planted out in the soil in which the Melons were grown, kept close, and syringed for a few days till their roots have taken fresh hold of the soil. After this free ventilation may be given. Treated in this manner they will continue growing all the winter and spring, supplying a large quantity of flowers.

Chrysanthemums.—The rough and boisterous winds which we have experienced lately has in some instances done damage to Chrysanthemums and other plants in pots which were not properly secured. It behoves the cultivator therefore to be on his guard, and properly secure his plants, which are now getting tall and liable to be broken down.

Vineries.—Give recently planted Vineries plenty of ventilation, and encourage ripening of the wood of the Vines by a little warmth in the pipes night and morning, turning off the heat early in the afternoon. If the ripening of the bunches of Gros Colman, Lady Downs, Alicante, and similar thick-skinned kinds is not completed they should be assisted with fire heat, for the better they ripen now the better they will keep during winter. Muscats, if not thoroughly ripened, should be kept at a temperature of 70° by night with a good rise by day.

Apricots.—Should late growths appear on the trees after this time they should be pinched off and growth discouraged, as they can neither ripen properly now nor bear fruit well next season. With the heavy crops that have just been gathered from the trees, there should, however, be little inclination to make much of a second growth.

Auriculas.—Where the pot plants have been kept on a cool northern aspect during the summer, they may be retained there till the end of the month in the southern part of England to prevent exciting them into growth, otherwise some of them will throw up their flower stalks, greatly to their disadvantage.

Hollyhocks.—Remove decaying blooms if it is intended to save seed, otherwise the latter will in many cases get rotted. Cuttings may still be rooted if necessary. Insert them in boxes of light sandy soil, and stand the boxes on a spent forcing bed till they have emitted roots, after which they may be potted off singly.

Pinks.—Ground should be got ready to plant out the rooted pipings about the end of the month, or, at least, not later than the first week of October. Those intended for forcing purposes should be potted about the same time, so that all will have a chance of getting established before the end of the growing season.

The Carnation: its History, Properties, and Management, with a descriptive list of the best varieties in cultivation. By E. S. Dodwell. Third edition, with supplementary chapter on the yellow ground. London: Gardening World Office, 1, Clement's Inn, Strand, W.C. 1s. 6d; post free, 1s. 7d.—[Advt.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "THE EDITOR" or "THE PUBLISHER," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa, London."*

FRUITS TO NAME.—*C. H.*: 1, Gloria Mundi; 2, Red Astrachan; 3, not known; 4, Cellini; 5, Stirling Castle; 6, Dutch Codlin.

COURONNE D'EPINES.—*A. J. D.*: This is the French popular name for Medicago Echinus, the plant known in England as Crown of Thorns. It is also known as Calvary Clover. You do not give us any description of your plant, but if you have got the right thing, each leaf should consist of three leaflets like a Clover, and having a purple blotch on each. The fruits are round, flattened, and spiny. The latter should be sown in the open ground in April, and being an annual the plant should flower and fruit the same season without any special attention beyond keeping it clear of weeds and other plants. Save and gather the fruits in autumn for sowing next spring. If you have it in a pot you can preserve it in a cold frame or greenhouse till fruit is produced.

FINE-FOLIAGED BEGONIAS.—*M. E. C.*: They are so nearly hardy that you would have no difficulty in growing them in your dwelling house all the year round provided you keep them on the dry side in winter and take them away from the window at nights during severe frost. They will most likely lose the most of their leaves during the winter, but that will be a matter of small consequence provided the crowns and the short, fleshy stems are sound. It would be an advantage to place them in a frame in spring and keep them close for a time to induce them to make a good start, after which you may take them indoors and they will grow away vigorously.

ANTIRRHINUMS IN WINTER.—*J. Carter*: Your soil is probably heavy, clayey, wet, or too rich. Under those conditions you cannot but expect heavy annual losses, if the whole of your plants are not killed in the open air. When self sown in the crevices of old walls, they come through the winter easily. The best plan you could adopt is to winter your seedlings in boxes in a cold frame, and the cuttings, that should be taken off at once if not already done, in pots placed under the same protection. Your object should be to keep them as dry as possible at the roots without keeping the soil in a dusty condition so as to kill the roots. The tops should also be kept dry and vigorous by means of plenty of ventilation at all favourable times during the winter months, so as to prevent damping, as in the case of other subjects which are liable to suffer under the same conditions.

COMMUNICATIONS RECEIVED.—B. & S.—W. H. W.—J. B. W.—(next week)—C. E.—X = M. McL.—J. S.—T. W.—C. B. W.—M.—R. B.—J. A.—H. J. V.—W. G. E. S.

TRADE CATALOGUES RECEIVED.

CHAS. TOOPE & SON, Stepney Square, Stepney Green, E.—Heating Appliances.

BARR & SON, King Street, Covent Garden, W.C.—Special list of Daffodils, and Dutch and other Spring Flowering Bulbs.

DOBBIE & CO, Rothesay, N.B.—Dutch Bulbs, Roses, Pansies, Violas, &c.

LONDON SEED TRADE.

September 6th, 1892.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, E.C., report supplies of English Trifolium incarnatum exhausted. There is still a moderate quantity of French grown which sells freely at rates current last week. Winter Tares very scarce and much dearer.

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COVENT GARDEN MARKET.

September 7th,

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d
Grapes ... per lb.	0 6	1 6	Pine apples.		
Kent Filberts	0 8	0 9	—St. Michael's, each	2 6	6 0
„ Cobs	0 8		Apples...per ½ sieve	1 0	3 6
Peaches ... per dozen	2 0	6 0	Plums...per ½ sieve	1 3	2 6
Melons ... each	1 0	1 6			

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d
ArtichokesGlobe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, perlb.	0 6		Lettuces ...per dozen	1 6	2 0
Beet ... per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages ... per doz.	1 6	2 6	Onions ...per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Cauliflowers, Eng.dz.	3 0	6 0	Radishes ... per dozen	1 6	
Celery ...per bundle	2 6		Smallsalading, punnet	0 4	
Cucumbers ...each	0 4	0 9	Spinach, per strike	1 6	
Endive, French, doz.	2 6	3 0	Tomatos ... per lb.	0 6	0 9
Herbs ...per bunch	0 2	0 6	Turnips ...per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d
Asters ...per doz.	4 0	6 0	Fuchsia, ...per doz	3 0	6 0
Balsams ...per doz.	3 0	6 0	Heliotrope, per doz.	4 0	6 0
Begonias ...per doz.	6 0	12 0	Lilium Harrisii, doz.	12 0	24 0
Cyperus ...per doz.	4 0	12 0	Lilium lancifolium	12 0	24 0
Dracæna term., doz.	24 0	36 0	Lilium Auratum	18 0	36 0
Dracæna viridis, doz.	9 0	18 0	Marguerites, per doz.	6 0	12 0
Evergreens, invar. doz	6 0	24 0	Mignonette, per doz.	4 0	6 0
Ferns, invar., per doz.	4 0	18 0	Palms in variety, each	2 6	10 0
Ferns, small, per 100	6 0	10 0	Palms, Specimen	15 0	63 0
Foliage Plants, doz.	12 0	60 0	Pelargoniums, per doz.	6 0	12 0
Chrysanthemum, doz.	4 0	9 0	—scarlet ...per doz.	2 0	4 0
— large, doz.	12 0	30 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d		s. d.	s. d
Arum Lilies, 12 blms.	2 0	4 0	Myosotis or Forget-me-not, doz. bnchs.	2 0	4 0
Asters ...doz. bun.	2 0	6 0	Pelargoniums, 12 sps.	0 6	0 9
Bouvardias, per bun.	0 6	1 0	—scarlet ...12 bchs.	3 0	4 0
Carnations, 12 blooms	1 0	3 0	Primula, double, bun.	0 6	0 9
Carnations, doz. bun.	4 0	6 0	Pansies, doz. bchs	1 0	2 0
Chrysanthemum, dz bn	3 0	6 0	Pyrethrum doz bnchs	2 0	4 0
— ...doz. blooms	1 0	3 0	Orchid Bloom in var. per bloom, from	0 2	0 8
Cornflower doz bnchs	1 6	3 0	Roses, doz bunches	2 0	6 0
Eucharis ...per doz.	1 0	3 0	Roses, yellow, dozen	2 0	4 0
Gardenias 12 blooms	1 6	3 0	— Red ... doz. blms.	1 0	2 0
Gladioli ...doz. buns.	6 0	12 0	— Saffrano ...per doz.	1 0	1 6
— ... doz. spikes	1 0	2 0	— Tea ... per dozen	0 6	2 0
Heliotropes, 12 sprays	0 3	0 6	Stephanotis, dz. sps.	2 0	4 0
Lilium Harrisii, doz. blooms	1 6	3 0	Stocks ...doz. bun.	3 0	4 0
Liliums var., dz. blms.	1 0	3 0	Sweet Peas, dz. bns.	1 0	3 0
Maidenhair Fern, 12bs.	4 0	6 0	Sweet Sultan, dz. bn.	2 0	4 0
Marguerites, 12 bun.	2 0	4 0	Tuberoses, per doz	0 3	0 6
Mignonette ... 12 bun.	1 0	3 0			

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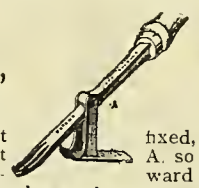

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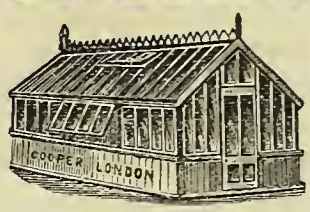

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12 ft.	8 ft.	8 ft.	5 ft. to eaves	6 0 0	8 [illegible] 0
15 ft.	10 ft.	8 ft. 6	6 ft. to eaves	8 10 0	12 0 0
20 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	12 0 0	16 0 0
25 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	17 0 0	22 0 0
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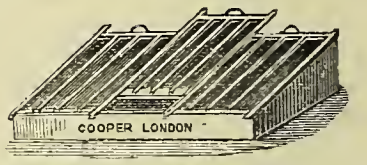

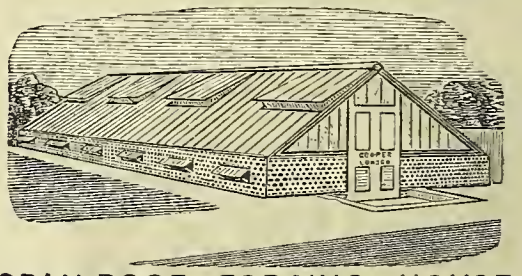

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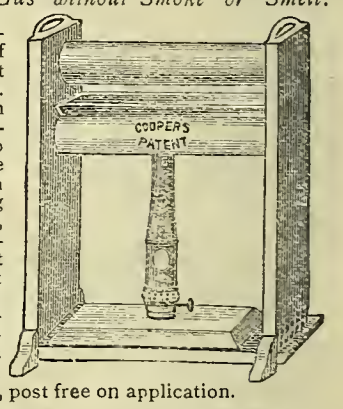

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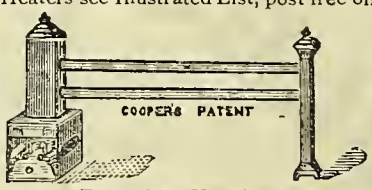

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'Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Sept. 19.—Trade Sale of Bulbs at Protheroe & Morris' Rooms, (and every day in the week.)
Bulb Sale at Stevens' Rooms.
TUESDAY, Sept. 20.—Royal Horticultural Society: Committee Meetings at Drill Hall.
Trade Sale at Roberts Bros.' Nursery, East Grinstead, by Protheroe & Morris
Clearance Sale of Orchids at 213, Park Road, Clapham, S.W., by Protheroe & Morris (3 days).
WEDNESDAY, Sept. 21.—Bulb Sale at Stevens' Rooms.
THURSDAY, Sept. 22.—Sale of Plants from Belgium at Protheroe & Morris' Rooms.
Bulb Sale at Stevens' Rooms.
FRIDAY, Sept. 23.—Sale of Orchids at Protheroe & Morris Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.
SATURDAY, SEPT. 17th, 1892.

THE INTERNATIONAL HORTICULTURAL EXHIBITIONS.—There can be no doubt whatever that owing to the splendid enterprise shown by the Executive at Earl's Court, the best Flower and Fruit Shows seen in London for a long time have been held there this season. The recent Fruit Show was one of the best we have seen in the Metropolis for a long period and the Show of Dahlias, Gladioli, &c., held there last week eclipsed all others of its kind held in London also.

There are two other shows yet to take place, and it will be no matter for surprise if the Hardy Fruit Show of October 5th, and following days, especially if the promised Potato Exhibition is joined with it, will prove to be a bumper. Naturally seeing the great success which has attended these Shows, not only ourselves but horticulturists of all classes are eagerly asking, How about next year? That this large and attractively planted area now forming the scene of these exhibitions could be better or more worthily utilised than is the case this year it is hard to believe. London, after all, has so few of these places or gardens where it is possible to enjoy the evenings of summer in the same delightful way that is possible at Earl's Court.

All reasonable people have praised the Exhibition, and especially the Flower Shows, and it seems a pity now that such an admirable use for this place has been hit

upon, it should be allowed to fall through. Of course the Wild West attraction cannot be furnished next year, but it is certain that there are plenty of capable caterers for the public enjoyment as well as Buffalo Bill. However, we are most concerned with the Flower and Fruit Shows, and should like to see the series continued.

FROZEN FLOWERS.—Although the frozen Chrysanthemums which were examined at the recent show of the National Chrysanthemum Society were, from the florists' point of view, of no special merit, and may be said to have been a good way below the fine average of home-grown flowers, yet the experiment was amply justified because it has proved that frozen flowers may be sent immense distances, may be kept so frozen over long periods of time, and will still exhibit the blooms in just the same condition as when first gathered, so long as they continue in the frozen state.

We pointed out some time since that whilst the process never could be applied for the exportation from here or the colonies of flowers for sale, it was possible to utilise it for the sending of sample blooms almost anywhere. That assertion has been proved to be correct, and just as we have been enabled to discern what may be regarded as average Chrysanthemum quality in New Zealand, so may our antipodial friends gather the most correct conceptions of what is high-class exhibition quality at home, if we send them out a similar frozen consignment. None the less we must not assume that the New Zealanders are behind us materially in cultural ability.

The only thing probable is that they have not yet reached to our height in exhibition ideals, but they will assuredly do so soon. We started in the race long before they did, and have had to guide us the teachings of the old florists who preached the doctrine of quality, form, beauty, and excellence, in relation to other flowers, teaching which has helped us so much to develop the Chrysanthemum, and made our home-grown flowers to be at once the finest and most beautiful in the world.

DANIELS COME TO JUDGMENT.—Reading a protest found in the columns of our estimable contemporary *The Garden*, from a couple of American visitors to Kew Gardens, with respect to the pruning of trees there apparently so largely practised, we were singularly reminded of the Biblical quotation:—"The Queen of the South shall rise up in the judgment with this generation and shall condemn it: for she came from the uttermost parts of the earth to hear the wisdom of Solomon; and, behold, a greater than Solomon is here." Putting the wise men from the far west in the place of the Southern Queen we find these estimable gentlemen who came to sit literally at the feet of the Solomons at Kew, actually rising up in judgment to condemn them, and if not greater than Solomon at least setting up to be severe critics.

We are not going to condemn the Kew practices or to justify them. Mr. Thistleton Dyer or Mr. Nicholson can do the latter far better, because they can give reasons for the pruning practice which has evoked the indignation of our American visitors. We do remember that in his lecture on trees in the public parks, given not long since at the James Street Drill Hall, Mr. Dyer declared that pyramidal height and form, and not cabbage-headed outlines, was the proper thing to aim for in trees, as tending to promote greater beauty as well as deeper root-hold in the soil.

It may be that it was in the endeavour to bring the Kew trees up to this ideal the depreciated pruning was being carried out, but without doubt there is much in the complaint that trees are not allowed to display their natural forms under such treatment. However, we look for the Kew rejoinder with some interest, as however lightly home made objections or protests may have been regarded, it is impossible that this temperate American protest can with honour or courtesy be disregarded.

DAHLIAS.—These beautiful autumn flowers have been having a somewhat gay time of it in and about the Metropolis just recently, and three shows in succession chiefly or largely devoted to Dahlias, has indeed been a remarkable event. We are yet promised a very fine Dahlia display at the James Street Drill Hall on the 18th, so that one more opportunity will be offered to see these flowers in their beauty, all being well. It has sometimes happened that mid October flowers have proved to be wonderfully good.

So far as all the great show and fancy sections are concerned it has perhaps occurred to some persons that they are now about as good as they can be; at any rate, even if now and then certificates of merit be granted, it is difficult to show that the new flowers are real improvements on the old ones. The Pompon section and the Cactus forms are perhaps the most widely popular of all Dahlias. We see nothing new or specially attractive in the singles, and their fugitive character when cut materially militates against their usefulness.

Perhaps the best favoured of all just now are the real Cactus varieties, not the big bold bad Dahlia, seen under the term decorative: flat-pointed petals, and more bold than beautiful. It is the real long twisted or fluted pointed petals of the true Cactus forms which are so much admired and which all but a few obstinate judges think so beautiful. There are great possibilities before the raisers of true Cactus Dahlias.

Mr. John Buchanan, late gardener at Newmore, Alness, Ross-shire, has been engaged as gardener at Edmonstone House, Liberton, Edinburgh.

The Stott Distributor of Insecticides was awarded a Certificate of Merit at the late Convention, at Washington, of the Society of American Florists.

United Horticultural Benefit and Provident Society.—We are informed that the annual dinner of this society will take place on Wednesday, October 5th, at 6 p.m., at the Cannon Street Hotel. Mr. John Fraser, of Lea Bridge, has kindly consented to preside on the occasion.

Crewe and District Chrysanthemum Society.—The third exhibition of this society will be held in the Town Hall, Crewe, on Saturday, November 5th.

"L'Illustration Horticole."—The plants illustrated in the August issue of this monthly publication are Peperomia metallica and Dichorisandra augustifolia, two of the fine new plants exhibited by MM. Linden at the last Temple Show.

"Lindenia."—The August number of this Belgian monthly contains coloured illustrations of Zygopetalum (Warscewiczella) Lindeni, Z. graminifolium, Grammangis Ellisi, and Dendrobium nobile Cooksonianum.

The Reaumur Thermometer, marking eighty degrees, which up to the present has, except in scientific researches, been in general use throughout Germany, is to be replaced, says the Berlin Correspondent of the *Daily News*, by the Celsius centigrade thermometer. A Ministerial decree orders the introduction of the centrigrade thermometer in hospitals, lunatic asylums, bathing places, schools, and institutions for the training of midwives and for clinical purposes.

Messrs. Protheroe & Morris, who for some time past have experienced difficulties in conducting other than horticultural sales, in consequence of having only one room at their disposal, which has almost exclusively been used in the autumn and winter months for the sales of horticultural produce, have just opened a new and spacious room at the rear of their well-known room in Cheapside. The new room is placed like their old one on the ground floor, and will shortly be lit up with the electric light. They propose to increase still further the sales of Dutch flower roots, which last year averaged twelve tons weekly. The sales of Orchids will take place two days per week, excepting where a private collection has to be disposed of; and it is also intended to extend the sales of imported and other Lilies, and of other plants generally. The principal object, however, in acquiring the new premises is to offer facilities for conducting other sales, some of which can be held periodically throughout the year.

Aberdeen Public Parks.—At a meeting of the Links and Parks Committee of the Aberdeen Town Council on Friday, the 9th inst., it was unanimously agreed to increase the salaries of Mr. Walker, gardener at the Victoria Park, and Mr. Harper, gardener at the Duthie Park, to £130 per annum. At present Mr. Walker receives £110 and Mr. Harper £100, but the commitee considered that the duties and responsibilities were equal and thus resolved to make the salaries alike. The estimated expenditure for the maintenance of the Aberdeen public parks for the current year has been fixed at £2,160, showing an increase of £278 as compared with last year.

The Jersey Potato Crop.—The Potato crop in Jersey has not this year, says the *Mark Lane Express*, been so profitable to the growers as it was last year. With the exception of 1891, the past season's produce has been the largest exported, but it has not been the second greatest in value. The output was only 478 tons less, but the cash received for the whole crop was £111,106 5s. 10d. under last year's figures—a most serious drop. It is noticeable that earlier consignments than usual fetched high prices, as much as £52 per ton, and the values ran generally higher until the 18th of June, when they fell off rapidly, and to a greater extent than usual. In the season 1891 no Potatos were sold at less than £5 per ton, but this year the later consignments dropped to £2 1s. 2d. This fact alone explains the less remunerative character of the crop.

Scottish Horticultural Association.—A meeting of the Scottish Horticultural Association was held on the 6th inst., at No. 5, St. Andrew Square, Edinburgh, Mr. Robert Morrison, vice-president in the chair. Mr. J. W. M'Hattie, Newbattle Abbey, Dalkeith, read a paper on "Fig Culture." Having first briefly remarked on the evidences of Fig cultivation amongst the ancients, and having described the introduction of the fruit into this country in 1648, Mr. M'Hattie, speaking with the knowledge of the practical fruit-grower, proceeded to give a number of valuable suggestions as to the best methods of propagating the Fig, and mentioned a number of the varieties that best rewarded the grower. The fresh fruit of the Fig, he said, was not so much used in this country as it ought to be. It was amongst the most delicate of all fruits, and there was none more wholesome. Moreover, there was no fruit which gave such satisfaction to its owner as did the Fig. Amongst the exhibits afterwards shown to the meeting were several seedling Figs grown by Messrs. Dicksons & Co. in their Pilrig Park Nurseries, which were stated to weigh 4 oz. each; a double seedling Begonia by Mr. J. Daigleish, Rowantree, Eskbank; and a few blooms by Messrs. Herd Brothers, Penrith, of their new Carnation, Mrs. Hamlet Riley.

Cleome speciosa.—The larger and more showy flowered species of Cleome generally require greenhouse treatment to bring them to perfection; but that under notice may be considered an exception, inasmuch as, if raised in a cold frame along with half hardy annuals and planted at the same time as the latter in the open ground, it will grow to a height of 2 ft. to 3 ft. and flower to perfection. The flowers consist of four long-stalked purple petals, fading to rose with age and spreading. On casual observation they would remind one of the irregular flowers of a red Dictamnus, though structurally they are very different. The leaves are digitate with seven to nine long finger-like leaflets. Both clumps of this species are capable of producing a striking effect.

AMATEURS AND THE R.H.S.

In your issue of the 3rd inst. your leading article on the recent Chiswick Conferences and the deplorable exhibits of Begonias, Fruit, &c., contains the following, "So great a failure has proved to be the offering of prizes to amateur growers at the various meetings," to which I am constrained to take exception, inasmuch as it casts an unfair reflection upon a body of Horticulturists who little deserve it.

To those of your readers who are acquainted with the ways of the R.H.S. it perhaps was not surprising, but to the many who are not familiar with that society's working it must have been read with something akin to astonishment. For my part I do not think one need look very far to find the cause for so feeble a response, there being but little doubt that it is all brought about by the unfortunate fact that the R.H.S. only divide the horticultural world into two parts, viz.: 1, The trade, 2, Amateurs, thus bringing under the latter heading all that great army of light, learning, and skill collectively known as Gentlemen's Gardeners, with whom therefore the bona fide amateur has to compete if he exhibits at all.

Can it be wondered at that the amateur proper, subjected to such onerous handicapping, keeps out of the show tent? I think it would be much more wonderful were he to put in an appearance, though frequently he could do so and come out with flying colours. Only last month at the meeting of the National Amateur Gardeners' Association, when but one prize was offered for 6 Begonias in pots (3 doubles and 3 singles), there were quite a number of exhibitors and keen competition, and what is more to the point, any one of these exhibits might have been termed "grand" by comparison with the solitary example at Chiswick.

I know it is quite the fashion in certain quarters to scout the idea of the bona fide amateur being worth consideration, but pray do not throw the blame for the Chiswick failure on to their shoulders, when obviously they were practically shut out by those who are now complaining of their absence. Rather let the authorities of the R.H.S. and others whom it may concern take a lesson from experience, and for the future recognise and encourage, instead of discourage, the amateur gardener. Deal liberally with the Trade by all means, for they richly deserve it, as it goes without saying that "they make the show," also stir up to action and by a generous schedule of prizes encourage the Gentlemen's Gardener to render his aid to the society, and lastly put out the kindly, helping, leading hand to the poor amateur who no doubt will, when he has become accustomed to the new order of things, render a good account of himself and justify the fullest recognition.—*H. A. Needs, Heath View, Horsell, Woking.*

THE ELEVATION OF GARDENING AS A PROFESSION.

While we must all agree as to the desirability of such elevation, we probably differ materially as to the best means of attaining such a result. Unquestionably there is much room for self-improvement in the rank and file, even in the way of acquiring an ordinary education, and such improvement lies with the gardener himself. In this, as in all other cases, virtue is its own reward, the increased knowledge opening up fresh channels of enjoyment and interest far beyond the mere joys of a pipe and its inevitable accompaniment, so that it is surely worth prosecuting for this result alone. Increased knowledge unlocks the gate to a larger sphere of usefulness; it is the "open sesame" of the horticultural world.

Truly, horticulture is an exhaustless subject, and were there only greater facilites for acquiring a scientific as well as practical knowledge of it, we would have a race of gardeners in the rising generation who would force up wages, and make positions for themselves. I consider one of the very best things a young gardener can do is to spend a year in a good nursery, where his scope of observation will be very much enlarged, and his knowledge of the nomenclature of plants much increased. Here also he can have facilities for attending evening classes in town; he should strive to attain besides the three R's, a knowledge of drawing, which is as rare as it is desirable among gardeners. Of course he should study botany, and if he is fortunate enough to be near a town where, as in some, he can attend a course of lectures on horticulture he should be a happy man.

My own drawing career came to an abrupt close in consequence of the remarks passed by my master on my first study from still life. I remember he characterised it as "a thing a child might draw on a slate"; hence the conclusion that any talent I possessed in that line was decidedly dormant. Armed with such qualifications, a young gardener should be indeed well equipped against such evils as low wages and servile conditions; but will the employer recognise that this man is worth more than a mere cabbage gardener? For one thing, in order to displace the inferior man, he must be able to prove that he will be the better investment; that because of his superior knowledge his skill will be greater, and will produce greater results. That once demonstrated, I have no fear for the status of the gardener. A man who can show his employer that it is cheaper to pay him more wages because of the better returns from his labour is in the right track to raise himself and his fellows.

He must not disdain manual labour because of his scientific lore, but rather glory in the fact that, rightly understood, all labour is holy and ennobling. May we not hope for such results in the near future? But what of my old friend, the gardener of to-day, whose spelling is somewhat shaky, who has "little of Latin and less of Greek," whose kindly face gleams athwart my memory? Alack and alas! that we must leave him where we found him!—*C. Macquarie, Chicago.*

PLANTS RECENTLY CERTIFICATED.

The plants certificated at the meeting of the Royal Horticultural Society on the 6th inst., were chiefly florists' flowers and Orchids.

Canna Star of 91.—The stems of this Canna are dwarf, and the lanceolate moderate sized leaves of a light glaucous green. The flowers are large with broad, obovate, bright scarlet segments lightly flushed with yellow, especially along the veins. The plants shown had been grown at the society's gardens, Chiswick, where they had been sent by Mr. C. L. Allen, Floral Park, New York, and an Award of Merit was accorded the variety.

Gladioli.

Numa.—The flowers of this variety are large and white, flushed with lilac, and striped from the edge inwards with broad crimson lines. The two lower segments are smaller and paler, with a creamy blotch on the centre.

Poetess.—This is somewhat similar in type to the last, but paler in colour, being white, flushed with flesh, and lined with pink at the edges. The lower segment is yellow with a crimson blotch on the centre, and the throat is also of the latter hue. Both were exhibited by Messrs. Kelway & Son, Langport, Somerset, and received Awards of Merit.

Dahlias.

Bertha Mawley.—The blooms of this Cactus Dahlia vary from medium to large size, and are of a brilliant red flushed with scarlet or crimson in the centre, but showing a tint of violet towards the tips of the florets which are long, pointed, and revolute at the edges.

Mrs. Barham.—The florets of this variety are oblong, pointed, nearly flat, rosy-pink, and yellow at the base and in the centre. The blooms are of medium size, and of that type which would be reckoned a Cactus variety, but it is really on the border land between a truly Cactus type and a decorative variety.

Kaiserin.—This more nearly reaches the true ideal of a Cactus Dahlia, having long pointed and clear or soft yellow florets. The blooms are of medium size, and the variety is likely to become popular as the best of its colour, at least for the time being.

Countess of Radnor.—The heads of this Cactus Dahlia are of medium to large size, with long pointed, more or less twisted florets, richly overlaid with lilac-purple on a yellow ground, the latter appearing more distinctly towards the base of the florets, especially in the centre of the flower. All the four Dahlias received Awards of Merit when shown by Messrs. Keynes, Williams & Co., Salisbury.

The following subjects were exhibited at the International Horticultural Exhibition, Earl's Court, on the 9th and 10th inst., and each received a First-class Certificate.

Helianthus multiflorus Bouquet d'Or.—This may be reckoned one of the best, if not the very best, of the three double forms of this Sunflower we now possess. The heads are of large size, golden yellow, and perfectly double or full, with rather narrow and closely arranged florets without any outer ray. H. m. plenus, the old double form, is characterised by having a smaller centre with a distinct ray of longer florets surrounding the head. The third double form, namely H. m. grandiplenus, otherwise known as Soleil d'Or comes nearest the variety under notice, but the head is made up of fewer and rather broader florets. All three were shown by Mr. T. S. Ware, and the Certificate was awarded to Bouquet d'Or.

Dahlias.

Sir Roger.—One of the prettiest of the new varieties of Cactus Dahlias is that here named. The bloom is of medium size, very neat, of a striking orange-scarlet, with long-pointed, ascending florets.

Robert Cannell.—The blooms of this beautiful Cactus Dahlia are of medium size or above it with long, rich purple florets shaded with scarlet and tinted with violet at the tips. Both varieties were exhibited by Messrs. H. Cannell & Sons, Swanley.

Dazzler.—This is a fancy Dahlia of very large size, distinctly splashed here and there, and thinly mottled with crimson on a clear yellow ground.

Virginale.—The heads of this show variety are soft lilac deepening to a pale purple, but always soft and delicate, with the younger centre always the paler.

Niobe.—The neatness of this beautiful Dahlia is due to the way in which the florets are compressed or flattened vertically. The heads are large, dark crimson and therefore belong to the show type.

Miss Violet Morgan,—Heads of this Cactus variety, small or medium sized, soft salmon-pink overlying the tips of the florets, which are otherwise yellow, as well as the younger ones in the centre.

Avalanche.—The florets of this Cactus variety are of considerable length, pointed, recurved, and narrow owing to the way in which they are incurved at the sides. This latter character is unusually developed, and in most varieties the edges are revolute, instead of being involute. The head is of medium to large size, and white or ultimately becoming blush.

Countess of Pembroke.—The florets of this Dahlia are ovate, acute, slightly concave, and of a uniform bright lilac-purple. The heads are of medium to large size, and more strictly a decorative than a Cactus variety, but very pretty on account of their decided colour.

Daphne.—The heads of this Cactus variety are small or medium sized with long ascending florets, suddenly pointed, and of a bright rose-pink shaded with yellow in the centre.

Madge.—This is a Pompon of average size, neat and bright red tipped with white.

Little Frank.—The heads of this Pompon are very neat and of a soft yellow, shaded with flesh or pink at the tips of the florets after they are fully expanded, but more decidedly yellow in the centre.

Bacchus.—The blooms of this Pompon are very neat and of a bright red or scarlet.

Ceres.—This is of large size for a Pompon, or at least above the average, but neat, of a soft primrose yellow and pretty All of the above eleven Dahlias, from Dazzler to Ceres inclusive, were exhibited by Messrs. Keynes, Williams & Co., Salisbury, besides Kaiserin, Bertha, Mawley and Countess of Radnor, previously described.

Winifred.—Here we have a Pompon of very small size, neat, pretty and pure white or slightly tinted with lilac on the tips of the younger florets.

Tommy Keith.—The florets of this Pompon variety are crimson tipped with white, the crimson being the more prominent in the early stages of the bloom and the white ultimately. This and the previous variety were shown by Mr. J. T. West, gardener to W. Keith, Esq., Cornwalls, Brentwood.

Florence Woodland.—The small blooms of this pretty Pompon are clear yellow, margined with bright red or crimson round the outer edge.

Delicata.—In this we have a Cactus variety of great beauty, but of medium size or above it, and delicate in hue as the name indicates. The long pointed florets are slightly recurved at the margins towards the tip and of a delicate pink flushed with white, while the centre is flushed with pale yellow.

Like the previous variety it was exhibited by Mr. T. S. Ware, Tottenham.

MARJORY.—This is a Pompon of average size, very neat and of a bright scarlet. It was exhibited by Mr. M. V. Seale, Sevenoaks.

BOULE D'OR.—A little above the average size this is very neat and of a clear yellow.

AMBER.—A small and pretty Pompon, of an amber yellow with a golden-amber centre.

GIPSY QUEEN.—Similar in size to the last, this Pompon is a maroon-crimson, distinct and neat in form.

BLUSHING BRIDE.—The heads of this variety are large and white with somewhat concave florets. It may be designated a decorative type.

H. E. MILNER.—Although belonging to the same section as the last, the florets of this new sort are ovate, flat, and of a beautiful lilac-pink overlying yellow, and sometimes almost yellow with a thin shade of lilac, and red on the back. This and the previous four described were exhibited by Mr. C. Turner, Slough.

GWENDOLINE.—The heads of this show variety are of medium to large size, very neat, compact, and of a dark crimson. It was exhibited by Mr. J. R. Tranter, Henley-on-Thames.

GLADIOLI.

MRS. JOHN WILLS.—The flowers of this variety are of large size and white with a reddish-purple or crimson line on the middle segment, which is flushed with purple near the base. The throat is crimson.

HETTY DEAN.—The large white flowers of this variety have an acutely arrow-shaped, reddish-purple blotch on the lower segment and a purple throat.

MRS. PETER BLAIR.—A fine spike of this was shown bearing ten open flowers of large size and numerous buds. The ground colour is salmon, irregularly splashed with scarlet, and having a pointed white blotch edged with pale violet on the lower segment.

IRENE HARKNESS.—In this case also ten of the large flowers were open crowding one another. They are salmon, striped with scarlet towards the margin, and having a purple blotch on the lower segment. All the four were exhibited by Messrs. J. Burrell & Co., Howe House, Cambridge.

AUTUMN FLOWERS AT EARL'S COURT.

THE exhibition at the International Horticultural Exhibition, Earl's Court, on the 9th and 10th inst., consisted very largely of hardy flowers or of those that can be grown in the open air during the summer months, including Dahlias, Gladioli, Sunflowers, Michaelmas Daisies, and hardy herbaceous plants in general, and in large numbers.

The first award for a collection of stove and greenhouse flowers in bunches was awarded to Mr. A. Gibson, gardener to T. F. Burnaby Atkins, Esq., Sevenoaks, who had magnificent stuff in great variety, including Dipladenias, Allamandas, Anthuriums, Clerodendrons, Pancratiums, etc. The second prize went to Mr. J. Prewett, Hammersmith, whose bunches and flowers were rather smaller. An extra prize was awarded to Mr. J T. Hoar, Twickenham. The Gladioli, numbering altogether 312 spikes, were a decided feature of the exhibition. The first prize in the nurserymen's class was awarded to Messrs. J. Burrell & Co., Howe House, Cambridge, who had by far the largest and finest collection, and received in addition to the prize a Silver-gilt Medal. They had a small group of the Lemoinei strain, and amongst the large-flowered types such grand things as Grand Mogul, Mrs. John Wills, Hetty Dean, Mrs. Peter Blair, and Irene Harkness. The second prize went to Messrs. Harkness & Sons, Bedale, Yorks. The first prize for a collection in the amateurs' class was awarded to E. B. Lindsell, Esq., Bearton, Hitchin, Herts, who had a smaller but fine lot. The first award for 60 show and fancy Dahlias was taken by Messrs. Keynes, Williams & Co., in a keen competition. Some of their finer blooms were Duke of Fife, Gloire de Lyon, Alice Emily, Buttercup, Arthur Ocock and Hercules. Mr. C. Turner, Slough, was second, showing John Standish, Maud Fellows, Harry Keith, Glowworm, Queen of the Belgians, and other fine things. Mr. Geo. Humphries, Kington Langley, Chippenham, was a good third. The first award for 24 show Dahlias in the nurserymen's class went to Mr. S. Mortimer, Rowledge, Farnham, who had fine blooms of Antagonist, Maud Fellows, John Hickling and others; Mr. John Walker, Thame, Oxon, was second; Messrs. Saltmarsh & Son, Chelmsford, came in third; and Messrs. Harkness & Sons, Bedale, Yorks, was fourth, all showing well. In the amateurs' class for 24 show and fancy varieties, Mr. Thos. Hobbs, Easton, Bristol, took the first award. He was followed by Mr. J. T. West, gardener to W. Keith, Esq., Cornwalls, Brentwood; Mr. Arthur Ocock, gardener to Mrs. McIntosh, Havering Park, Romford, was third; and to show the keenness of the competition, Mr. Sidney Cooper, Hamlet, Chippenham, and Mr. Geo. Boothroyde, Red Hill, Hants, were placed equal fourth. Mr. Sidney Cooper took the leading place for 12 varieties, and was followed by Mr. J. T. West and Mr. T. Vagg, gardener to Jas. Theobald, Esq., M.P., The Bedfords, Havering, respectively. For a collection of Dahlias (any types) arranged for effect, Messrs. Keynes, Williams & Co., led off with their flowers arranged in convex or semiconical masses facing the beholder, with a groundwork in front. Messrs. J. Cheal & Sons, Crawley, were second, having a large mound in the centre surmounted with a large crown, all covered with Dahlias. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, was third with an extensive and bold collection, having a semi-conical mound in the centre, and one at either end. In the open class for 18 bunches of Cactus or decorative Dahlias, Mr. C. Turner led off with a fine lot; Messrs. Keynes, Williams & Co. were second with several new varieties that received certificates; and Messrs. J. Cheal & Sons came in third. Mr. C. Turner again led in the open class for 24 bunches of Pompon Dahlias, showing some pretty varieties; Messrs. Keynes, Williams & Co. kept the same position; and Mr. M. V. Seale, Sevenoaks, took the third place. Messrs. Saltmarsh & Son had the best quilled Asters, while Mr. Sidney Cooper was a good second; Mr. J. Walker was third. The latter came to the front with French Asters all neatly incurved with exception of an outer ray of florets which set them off neatly; Messrs. Saltmarsh & Son were second; while Mr. S. Cooper was third. Mr. E. Vince, gardener to the London Cemetery Co., Highgate, had the best collection of Chrysanthemums in pots; and Mr. Norman Davis, Camberwell, was second. The first prize for a collection of Sunflowers was awarded to Mr. G. H. Sage, Ham House, Richmond; Messrs. J. Burrell & Co. were second; and Messrs. Paul & Son, Cheshunt, came in third. A second prize for Michaelmas Daisies was awarded to Mr. G. H. Sage. In the amateurs' class for dessert Plums, Mr. W. Carr, gardener to Mrs. S. Clarke, Croydon Lodge, took the first place; Mr. Peter Blair, Trentham Gardens, was second; and Mr. J. McIndoe, gardener to Sir J. W. Pease, Bart., Hutton Hall, Guisborough, took the third place. He came to the front, however, for cooking Plums; Mr. W. Carr was second; and Mr. G. H. Sage was third. Mr. J. McIndoe was the only exhibitor of Apricots; taking the first prize.

A few classes were reserved for the Covent Garden Show, and the undermentioned classes were open to florists only. The first award for a hand bouquet was taken by Mr. J. R. Chard, Stoke Newington; Mrs. Seale, Sevenoaks, was second; and Miss Baines, South Kensington, was third. Mr. J. R. Chard was again first for a floral design showing an anchor of Tuberoses, Eucharis, &c. He was followed by Miss Baines; and Mr. A. Lake, High Street, Kensington, was third. Mr. J. R. Chard again led for a vase of flowers; Miss L. Hudson, Acton, was second, using somewhat similar flowers; and Mr. M. V. Seale was third.

The miscellaneous exhibits were very numerous and varied. Messrs. Wills & Seegar, Onslow Crescent, South Kensington, had a large group of tall Palms at one end of the building in the western gardens. A Gold Medal was awarded to Messrs. H. Lane & Son, Berkhamstead, for six large pot vines in the main building; they also had a Silver-gilt Medal for a collection of Apples, Filberts, and Plums, many of the latter shown on branches as they had been grown. A Gold Medal was also awarded to Messrs. E. D. Shuttleworth & Co., Albert Nurseries, Peckham Rye, for a large group of Palms with dwarfer Cycads, Dracænas, and Coleus in front, and little groups of Lilium speciosum and L. auratum for centres. A Silver-gilt Medal was awarded to Messrs. B. S. Williams & Son, Upper Holloway, for a showy group of well-coloured Crotons, Dracænas, Aralias, Sarracenias, etc. Messrs. J. Laing & Sons, Forest Hill, had a large collection of Sunflowers, Phloxes, Asters, Violas, Dahlias, Anemones, and other hardy flowers, as well as Begonia blooms and Apples. A Silver-gilt Medal was awarded. A similar award was made to Messrs. Chas. Lee & Son, Hammersmith, for a large collection of trees and shrubs—green, golden, and variegated—as well as a collection of herbaceous plants of the leading kinds. Messrs. H. Cannell & Sons, Swanley, had a showy collection of Cactus, decorative, and Pompon Dahlias, receiving a Silver-gilt Medal. A similar award was made to Messrs. Paul & Son for a large collection of Dahlias, Roses, and herbaceous plants. Messrs. Jarman & Co., Chard, Somerset, exhibited Dahlias, Roses, Phloxes, etc., set up on a groundwork of moss (Silver Medal). Twelve trays of fancy and other Pansies were shown by Mr. H. Wrede, Lüneburg, Germany (Silver Medal). Mr. S. Mortimer had some stands of Dahlias (Silver Medal). Mr. J. Walker had a similar exhibit (Silver Medal). Messrs. Cutbush & Son, Highgate, exhibited Sunflowers, Phloxes, Coreopsis, Michaelmas Daisies, and other autumn flowers in quantity (Silver Medal). Mr. J. R. Chard had a dinner table laid out for ten persons with flowers and and fruit (Silver Medal). Mr. E. F. Such, Maidenhead, had a collection of herbaceous cut flowers (Silver Medal). Mr. Geo. Garner, gardener to Mrs. Braddyll, Amberwood, Christchurch, had Grapes, Melons, and Apples (Silver Medal). Mr. R. Nicholas, gardener to the Earl of Fortescue, South Molton, Devon, showed nine Pineapples (Silver Medal). Dahlias were shown by Mr. Arthur Rawlings, Romford, Essex, and by Mr. J. T. West (Silver Medal in each case). Messrs. Pitcher & Manda, Hextable, Swanley, showed Sunflowers, Lilies, Asters, and other herbaceous plants (Silver Medal). Six dishes of Peaches were shown by Mr. W. Carr (Silver Medal). Show and fancy Dahlias were exhibited by Mr. C. Turner (Silver Medal). Mr. G. Humphries also had some stands of Dahlias (Bronze Medal). Mr. W. Salmon, West Norwood, showed Dahlias, China Asters in pots, and other annuals (Bronze Medal). Mr. J. McIndoe had four dishes of Peaches (Bronze Medal). Mr. W. Wells, Earlswood, Surrey, showed a collection of Chrysanthemums — early flowering and Japanese (Bronze Medal). Mr. W. Welsford, South Lambeth, had a collection of Sunflowers, Asters, Dahlias, etc. (Bronze Medal). Mr. R. Dean, Ranelagh Road, Ealing, showed a collection of nineteen varieties of Runner Beans, including Tender and True, Fillbasket, Jubilee, Speckled Butter, Flageolet Wax, and other leading kinds (Bronze Medal). An extra prize was awarded to Miss M. Hodgkins, Didsbury, Manchester, for a collection of skeletonised leaves and fruits.

AN AMERICAN GLADIOLUS FARM.

I HAD felt that my visit to the States would not be complete until I had seen the famous Gladiolus farm of Mr. C. H. Allen at Floral Park, New York; and now that I have been there I can say that I enjoyed a delightful treat—acre after acre of Gladioli all ablaze of colour. Mr. Allen kindly escorted me over his farm, pointing out the various leading varieties, and the most marked peculiarities of each. His own seedlings were pointed out with special pleasure, and he has been extremely successful, having some 800,000 babies for next year's planting.

At the time of my visit some forty acres of Gladioli were in bloom, and the following were a few of the best. Yellows: Isaac Buchanan and Martha Washington; white: Shakespeare and La Candeur; pink: Madame Monneret and Eugene Scribe; scarlet: General Phil. Sheridan and Meyerbeer; and last but not least the old Brenchelyensis, which for brilliancy and every other good quality is still invincible.

Among other good things, I noticed 25,000 Pæonies looking very strong and well; also a very fine display of Tiger and other Lilies. There were also five acres of Dahlias in bloom, but time and space forbids me to go into detail. I must, however, add a few words about the Cannas, of which Mr. Allen has a grand stock. They are great favourites in America, and amongst the stock at Floral Park, Madame Crozy leads the way, and very good are Star of 91 and Alphonse Bouvier; while among the tall growers Montonii was the most noticeable. Mr. Allen also has some very fine houses full of Chrysanthemums and Cyclamens.—*Visitor.*

THE FLORA OF GREAT BRITAIN.

Lovers of rural England are aware that changes are taking place in the fauna and flora of the country. In too many cases these changes possess a melancholy interest, for they savour of extinction. Birds and other animals have forsaken haunts which were once familiar to them, and plants of divers species have been exterminated in localities where they were once known to abound. Many and varied are the causes which have been in operation, but whilst some of them were inevitable, others it is equally certain are preventible. For five years a committee of the British Association has been collecting information as to the disappearance of native plants from their local habitats, and year after year it has reported the same story of suppression or extermination. This year it is the west of Scotland which has been the special area of observation, and about fifty species of native plants are recorded as having disappeared from places which not long since were included amongst their regular haunts. The graceful Meadow Rue has vanished from a spot on the banks of the Clyde owing to some unascertained cause. The Celery-leaved Crowfoot has disappeared from a locality in Dumbartonshire, owing to the reclamation of a marsh. The superb Mountain Globe Flower has become extinct at a place in Ayrshire. The quaint Yellow-horned Poppy has been swept away by summer visitors on the coast of Argyllshire, between Dunoon and Toward. The burnet-leaved Sweetbriar has been washed away by a high tide at Seamill, on the coast of Ayrshire. The island of Cumbrae, Buteshire, has been almost entirely bereft of its Primroses by fair depredators who should know better, "being carried off in basket loads by lady visitors." The very rare smooth Gromwell is rapidly disappearing from the Argyll shore," being probably all gathered by collectors and summer visitors."

At Stevenston, Ayrshire, the Viper's Bugloss, with its many-coloured flowers, has fallen a victim to drifting sand. At Cambuslang, Lanarkshire, the exigencies of a new railway have led to the extinction of the Lesser Skullcap. The fragrant Sweet-gale, or Bog-myrtle, has forsaken West Kilbride, Ayrshire, after the draining of a bog. At Kilwinning, in the same county, the quaint Bird's-nest Orchid has been rooted out by school-children, whilst that sweet Orchid, the Helleborine, has been cleared out of the Isle of Arran for removal to gardens, where, in ungenial environments, it will probably perish. At Gourock Burn, Ayrshire, the Daffodil has met with a similar fate. At Crosbie Glen, another locality in Ayrshire, the native Snowdrop was threatened in like manner, but luckily the proprietor intervened. Of Ferns, the Black Spleenwort, the Sea Spleenwort, the Green Spleenwort, and the Maidenhair Spleenwort are being cleared out of the Western Isles and the Argyllshire hills, their roots being offered for sale in large numbers in the streets of Glasgow. Near Paisley the Ceterach has fallen a victim to a Fern-dealer. At Portincross Woods and at Hindog Glen, in Ayrshire, the Hart's-tongue has almost disappeared. In the Island of Cumbrae the same Fern was growing abundantly fifty years ago, whilst now it is difficult to find a single specimen. "In summer the lady visitors were seldom seen leaving the island without a basket of Ferns, a practice carried on year after year, till now, when the Ferns are nearly exhausted, the gathering mania is passing from Ferns to Primroses," as intimated above. The Royal Fern, Osmunda regalis, is vanishing, or has gone, from numbers of localities in the Isle of Arran, "having been carried away by cartload and boatload."

The Fir Club-Moss is disappearing from Mons, Ayrshire, owing to drainage, and from the Western Isles on account of the demand for sale in Glasgow. Cases such as these can unfortunately be paralleled in all districts of our island, and our towns are not, as a rule, so noted for their loveliness that we can afford to sacrifice without a protest any part of the wild Britain that still remains. The rarer a species happens to be, the greater is the mania amongst so-called "collectors" to exterminate it. At the present time the beautiful coral-seeded Pæony has been driven to its last foothold of British soil in one of the islands of the Bristol Channel. Those who know where the Snake's-Heads dot the greensward in Oxfordshire, where the lovely Pasque flower revels in the soil of the Cotswold Hills in Gloucestershire, where the Lily of the Valley sheds its fragrance upon the air in the deep woods of Kent, or where the lurid Asarabacca lurks in the lanes of Wiltshire, render the best service by keeping their discoveries to themselves.—*Prof. Fream, in the "Morning Post."*

CALIFORNIAN FRUIT TRADE.

As much interest is being taken in the experiment of sending fresh Californian fruit to the London market, some of which has already made its way into the shops, I thought it might interest your readers to learn something about the way the thing is done, and having just received the enclosed cuttings from English friends engaged in this industry and living in the heart of the California fruit district, I send them on for your information.—*W. G. E. S., Acton, W.*

"Five carloads of fresh California fruit arrived in New York yesterday, July 26th, in transit for Europe. The shipment consists of 1,000 boxes of Peaches, Plums, and Apricots, and 500 boxes of Pears. The cars in which the fruit is transported across the continent were built on the refrigerator plan expressly for this service, and the White Star Steamship Company has had four of its steamships fitted up, each with a 200-ton space, on the same refrigerator plan. If the experiment is successful there will be a weekly exportation of California fruit for the Liverpool market. The company which is undertaking this enterprise declares that the improved refrigerator plan will enable the people of England to get California fruit as ripe, fresh, and good as can the people of Chicago or New York. Considering the decayed state in which California and southern fruit is arriving in New York in the present hot wave, if the first shipment reaches Liverpool in good condition, the system will be amply tested, and Britishers may consider themselves in rare luck.

"The main difficulty in shipping our fine fruits across the continent unquestionably comes from the cars in which it is shipped. The car, when iced, carries too much dead weight, and the methods of ventilation have not yet reached perfection.

"These defects will shortly be removed. Some of the brightest minds in California are busily engaged in solving the problem of equable and low temperature as well as good ventilation and dry air. The latter is a *sine qua non*, and has not been attained. But it soon will be, and a gigantic fortune awaits the lucky and patient investigator. When, with dry air and the proper low temperature, we can have a car with only one-half the extra dead weight to be carried, the problem is solved, and markets will be opened up for California fresh fruits."—*New Haven Paladium.*

California Fruit in New York.

"This bringing of fruits across the continent is essentially an end of the century idea. The magnitude of the enterprise is not imagined by the ordinary man. Notwithstanding the fact that the California crop is very late this year, and is less than half its normal size, nearly 10,000 packages of Peaches, Bartlett Pears, Prunes and Tragedy Plums reach New York every day from the Golden State.

"Every night two special trains leave Sacramento at midnight for the fastest freight run ever planned in this country or any other. From Sacramento to Ogden, 900 miles, over roadbeds peculiar to the far, far west, is passed in forty-two hours; thence over the Union Pacific to Chicago the 1400 mile journey is rattled off in eighty hours. The third stage of the route, from Chicago to New York, is about 1,000 miles long, and is done in precisely thirty-six hours, making a total for the jaunt across the continent of 158 hours, or six days and fourteen hours. Not very long ago that would have been phenomenal time for a passenger train to make.

"The refrigerator cars which make up these trains have been especially designed for this remarkable traffic. Four thousand pounds of ice are packed about the ends and top of each one at Sacramento. This lasts until Chicago is reached, where the supply is quickly renewed. It is seldom seriously exhausted when the train pulls into New York. The longest train on record started for New York last week and consisted of twenty-seven cars.

"Mr. E. L. Goodcell, a young Yale man who has built up this enormous business alone, speaks with unbounded enthusiasm of its future. 'Within a few years,' he says, 'the California average will be so large that the crop will be ample to supply the entire people of the United States.'"—*New York Press.*

THE VEGETABLE GARDEN.

Notes on Peas.

The season for Peas is now nearly over, in fact with the exception of private establishments we may say quite over. We are still gathering good dishes of Ne Plus Ultra, some from the late sowings made in the end of June and beginning of July, and others from the sowings that gave us good crops in July. These, if well watered and in fairly good soil, make a second growth, and give some very good dishes when Peas are useful and scarce. This is a good point in favour of Ne Plus Ultra. A new Pea which seems to be specially adapted for late sowing is Veitch's Success, which was shown at the last meeting of the Royal Horticultural Society by Mr. Wythes, of Syon House, and was awarded a First-class Certificate. This is a long podded variety, very full of Peas of a dark green colour, and what is of most importance they are of good flavour, in fact the nearest approach to the flavour of Ne Plus Ultra of any new Pea I have seen this season.

New Peas we have seen in plenty, with fine pods full of large green Peas, but I am sorry to say very few of them possess the flavour they must have if they are to supersede our old and well-tried varieties. One very good point in most of the new varieties is their dwarfness, one or two of the best I have seen being about 2½ to 3 ft. in height; this is a great point in many gardens where a lot of Peas are grown. The question of getting Pea sticks is a difficulty, but however short they may be they will never make a very large place for themselves in our gardens unless they possess the greatest of all points for home use, which is good flavour.—*G. H. S.*

Pea Veitch's Success.

Ne Plus Ultra was one of the parents of this Pea, after which it takes, but the pods are longer, more curved, and the stems only 2 ft. to 3 ft. high, a fact of great importance, as it enables the grower to sow two or three lines of it, instead of one of Ne Plus Ultra, which grows 6 ft. to 8 ft. high. The new variety also, like the parent, continues growing and bearing in succession for a month at a time. The pod is long, narrow, flattened, of a dark glaucous green, and is well filled with six to eight seeds. It was sown early in June. A First-class Certificate was awarded it when shown by Mr. Geo. Wythes, Syon House, at a meeting of the Fruit Committee of the Royal Horticultural Society, on the 6th inst.

THE HAMPTON COURT VINE.

Although this octogenarian Vine is far from being the best or even largest of the giant Vines of the country, yet is it by reason of the fact that it is found at so popular a place of public resort as is Hampton Court, by far the best known. What is very easy to see however in relation to the old tree is that unless some very drastic form of treatment is devised it will soon become a mere curiosity, and be no longer a fruit producer. The bunches taken off this year perhaps averaged half a pound each, but of the berries one third seemed to be so red or shanked that the scissors had to be employed largely, and thus the bunches were reduced to almost contemptible dimensions.

Practically as Grapes go they represented a sample of the market value of 6d. the pound. It is not generally known that the Vine and some of the surrounding gardens are under the control of Mr. Thomas, of the Royal Gardens, Frogmore, and presumably under the Board of Green Cloth, whilst all the public gardens are under the Board of Works and the garden superintendent. That is such a ridiculous arrangement that we are not surprised to learn it is proposed to place the Vine and entire gardens under Mr. Graham now. But the Vine will need some severe handling all the same, for the wood is a thicket of long gaunt main branches and thin pipy laterals.

Dealing with the roots is out of the question, they are goodness knows where, perhaps feeding on Thames mud. The only course open seems to be to sacrifice the fruit crop for one year, to cut hard back or clean out the bulk of the branches and compel the Vine to form entirely new rods. That course would perhaps bring about material recuperation, and would add something to the life and usefulness of what is undoubtedly a very interesting old veteran. —*A. D.*

FLORICULTURE.

Violas from Rothesay.

A BOX of Violas and bedding Pansies has reached us from Messrs. Dobbie & Co., Rothesay. The cool and moister climate of Scotland enables the flowers of this class of plants to be seen in their finest form, but the cool weather of the last six weeks or two months in the south has favoured them highly, and where they have been grown under suitable conditions, the flowers are as large as those from the north and as richly coloured. Several of the varieties sent were choice old favourites, but others are new and will be sent out next spring for the first time.

Amongst the older kinds were York and Lancaster and Columbine, which although Pansies are notable for their continuous blooming character, as they are now as profuse with us as at any time of the year. Those who like parti-coloured flowers should not omit them from their collection. Newer varieties of mixed colours are Rosine, rosy purple with blush upper petals; Sunrise, deep purple with rosy upper petals and measuring nearly 2½ in. across; and Edina, of similar size but intense violet, with deep lavender upper petals in the way of Queen of Scots, but altogether darker. Peter Barr is a very pretty variety with a broad pale dull purple border all round a clear yellow centre in the way of Columbine as to arrangement, but the colours are entirely different. It is to be sent out in the spring of 1893, and so is Rob Roy, which has already taken two certificates. It is altogether larger and bolder than Vernon Lee but of the same strain. The three lower petals are of a deep golden yellow and the mahogany blotches on the upper petals nearly cover them.

Annie King is not exactly a self, but very nearly so, and delicate lilac, darker on the upper petals, with a golden-brown blotch on the base of the lip, and some short violet rays at the base of the three lower petals. The large soft rosy flowers of William Niel are freely and continuously produced all through the season, and mark out the variety as the best of this colour. A fine flower also is Ravenswood, of an intense maroon purple shaded with violet round the eye. An attractive golden-yellow variety is Rothes. Usually it is rayless, but like the well-known Countess of Hopetoun it sometimes shows three or four faint rays on the lip under certain conditions. We hope it will prove an easy one to grow, but require a longer acquaintance with it. Of the freedom and vigour of Goldfinch we have no doubt. It is one of the types sometimes spoken of as procumbent. The brassy and purple edgings on a yellow ground are peculiar and attractive. The flowers attain their fullest size under English skies, and like Violetta the variety is of true Viola type. The last named is deliciously fragrant, a quality that is prevalent to a certain extent in several of the others.

THE PREVENTION OF POTATO DISEASE.

ALTHOUGH the present season has not been very promising for experiments as to the value of the "Bouillie Bordelaise" as a preventive for Potato disease, owing to the general absence of that malady, up to the present there are indications that one experiment at least is likely to show a striking confirmation of those which for six years past have been conducted by Dr. Aimé Girard on behalf of the French Government. We have already announced in *The Times* that at Bromley (Kent) Messrs. James Carter & Co., the well-known seedsmen, had put apart an acre of Potatos for the purpose of an experiment, the acre being planted in ten long rows of as many different varieties, and so planted as to allow of division into four quarter acres. In order that the experiment might be conducted on exactly the same lines as M. Girard's, their direction was intrusted to the care of the agricultural correspondent of *The Times*, who obtained exactly the same sulphate of copper (97 per cent. of purity) as that used by the French Government, while the applications were made of the same strength and applied as nearly as possible on the same dates. The Potatos were planted on April 8th in drills 36 in. apart, the plant proving a good one and fairly even.

For the purposes of the experiment the plot was divided into four quarter acres, the first and third being dressed with the Bouillie Bordelaise on July 11th and August 2nd, and the second and fourth being left undressed. Early this month it was clear that disease had appeared in the undressed portions, and on September 6th one root was dug from the centre of each row in the first three sections, and with results that, should the whole experiment support them, will conclusively prove that (when properly applied) the mixture is clearly a preventative of this dreaded malady. In the following table the results are given of the state of each root dug in each row of two dressed sections and one undressed section:—

Row.	Quarter acre No. 1. Dressed.	Quarter acre No. 2. Not dressed.	Quarter acre No. 3. Dressed.	Quarter acre No. 4. Not dressed.
1. Myatt's	Two tubers slightly diseased	All diseased	Al sound	Not yet examined.
2. Snowdrops	All sound	,,	,,	
3. Beauty of Hebron ...	,,	,,	,,	
4. White Elephant ...	,,	,,	,,	
5. King of the Russets	,,	Slightly diseased	,,	
6. Cosmopolitan ...	,,	,,	,,	
7. Magnum Bonum	,,	Very slightly diseased	,,	
8. The Bruce...	,,	All sound ...	,,	
9. Carters' Surprise ...	,,	,,	,,	
10. Imperator...	,,	,,	,,	

The above shows that in the dressed sections only two diseased tubers were found in the twenty roots dug, and those were in the one root of Myatt's Ashleaf, a sort peculiarly liable to disease. On the other hand, of the ten roots dug in the section not dressed, in four cases all the produce was found to be diseased, in two cases slightly diseased, in one case very slightly diseased, and in only three cases (new and vigorous sorts, it should be noticed) were the produce found to be all sound. In other words, 90 per cent. in one of the dressed sections was found to be all sound and good produce, and 100 per cent. in the other dressed section; in the case of the undressed section only 30 per cent. were sound. This is a greater success than has attended even M. Girard's experiments, and is most noteworthy.

It should be added that the experiment has been solely devoted to one object—the prevention (and not the cure) of Potato disease.—*From "The Times," Sept.* 12.

FLOWER SHOW CARDS.

A FEW words in one of your leading articles last week leads me to send you copies of the cards in use here, and I think that if the views of exhibitors could be ascertained they would vote unanimously for clear distinctive cards on which the names and addresses of the exhibitors were legibly written so as to be easily read, and for all such cards to be filled up and placed against the productions before the public are admitted. It is too often the case that exhibitors' names are written on the cards in pencil and in a slovenly manner.

If the exhibits are not very numerous I fill in a card with the name of each exhibitor and particulars of the class, leaving the assistants who follow to place the adhesive strips of first prize, second prize, third prize, fourth prize, or extra prize in the space left for them. Where the exhibits are very numerous as in the cottagers' classes especially, only the necessary prize cards are filled up first, second, third, fourth, extras, &c., and a gummed prize slip fastened to each, the judges taking these and placing them to the successful exhibits, simply writing on each the exhibitor's number, of which I enclose you a copy. Each exhibitor is furnished with one of these for each exhibit on the morning of the show, with instructions to see that every exhibit of his has a number attached. These and his exhibition pass is handed to him in an envelope, so that he may have them safely.

I do not believe in trumpery small cards, and feel that if an exhibit is worthy of a prize it is also worthy of a respectable prize card being placed upon it. Allusion was made in your leading article to the larger cards hiding the exhibits. Well this is the fault of the stagers or the committee in not providing sufficient tabling. In managing an exhibition I always insist upon the use of green baize to hide the underneath part of the staging and exhibitors' impedimenta, and covering about a foot wide of the front of the top of the stage. For fruit I like the top also covered with baize, and this should be kept in stock for general use, and other shows not possessing it should hire it.

Fruit and vegetables, or anything in dishes, should have sufficient space for the cards to lie in front, not on the exhibits, and cut flowers, collections of fruit or vegetables should have a space of 9 in. to 12 in. in front of tabling for the cards to lie upon. Overcrowded stages never look well and ought to be avoided, and in justice to all exhibitors their produce should be well displayed, and the prize cards also. For plants, a few neat deal sticks should be provided by all managements for groups, specimens, etc., so that the pointed end could be pushed into the ground, and the card in a slit at the top. Good staging is a great essential in all exhibitions, the avoidance of crowding, a consideration for the general effect, and a breaking up of long banks of Ferns and ornamental plants by the introduction of groups of colour. Never mind following the schedule implicitly in order, but take care that the exhibits in each class are not too far away from each other so as to give the judges as little trouble as possible. A thorough cleaning up of tents whilst the judging is going on should be seen to, and packages and boxes kept out of sight, and any finishing touches put in, and any empty spaces filled as far as possible. Almost all our leading exhibitions are still disfigured by collections of vegetables being staged in large round nursery packing baskets. They are very unsightly, and every committee should prohibit their use. Staging nicely on the ordinary tabling would even be much better.—*W. D.*

CHRYSANTHEMUMS FROM THE ANTIPODES.

WHAT has been talked of for some time past is now an accomplished fact. More than a month ago the consignment of frozen Chrysanthemums sent by Mr. John Earland, Wellington, New Zealand, arrived in the Thames, but it was resolved to keep them till the September show of the National Chrysanthemum Society, and accordingly they were stored just as they arrived in a cool chamber at Blackfriars belonging to the shipping company which brought them from their distant home at the antipodes. They had been placed in meat cans, and the latter, after having been filled with water and the water converted to a solid block of ice, were packed in sawdust for the journey. In this guise they made their appearance at the Royal Aquarium on the 7th inst., and were exposed to the public both on that and the following day.

As related by an Ipswich paper a much-coveted bloom named Lady Bell was secured after earnest entreaty by Mr. Fison for the museum of that town, where it was made the subject of a lecture by Dr. Taylor. We hope it is true, as stated by our contemporary, that hundreds of pounds' worth of orders were booked for Chrysanthemums of the varieties brought before the British public by this new venture, but beg leave to doubt it. Of this we are certain, that a great many visitors to the Aquarium made a point of seeing the new comers in their icy prison. A certain section of the public, not being versed in vegetable physiology, wondered why the flowers were not utterly destroyed, seeing that Chrysanthemums at best are easily injured by a little frost. The mischief done only becomes visible after thawing, and so it was in this case.

Eight blooms were sent of six varieties, two of them being duplicates. Evidently two of the best had been selected as that number is necessary to secure a First-class Certificate from the National Chrysanthemum Society. One of these was Zealandia, a large, incurved, light purple variety, with broad florets as far as we could see it, but probably the flowers had been preserved just as they had grown and without any attempt at dressing them for exhibition purposes. The companion flower to this was discoloured and nearly white through some cause or other. A pale yellow, incurved Japanese variety named Tarawera was also certificated.

Three of the best of the others were commended, which was all that could be done in the case of sin-

gle blooms. These were I. J. Kerslake, an incurved Japanese sort which appeared to be white; Lady Bell, a creamy white of the same type as the last; and Rimutaka, a very large deep purple incurved variety. A pale purple and spreading or reflexed Japanese sort named Tonjariro, was considered too small to merit commendation, at all events in the form it was seen. Evidently it was not fully expanded. In addition to the above a Silver-gilt Medal was awarded the exhibit.

It cannot be denied that the extra award was given as much as a recompense for the novelty of the method of treatment to preserve the blooms in a recognisable condition for a lengthy journey, as well as the enterprise displayed in undertaking the task. It is impossible to foresee the advantages that will accrue to Chrysanthemum growers and the industry in flowers generally should this new departure become a regular means of transmitting choice and perishable garden subjects to and from distant lands for the purpose of approbation. It would mean economy, even if a higher price was paid for the varieties selected, for then we should be saved the trouble of buying large numbers of varieties and growing them ourselves for a year more or less in order to prove their merit. It is disappointing to buy new varieties by hundreds, and after all find the greater number of them practically worthless.

The scheme is mooted of freezing a few of the fine varieties we already possess and sending them to New Zealand by way of reciprocity, and to show our distant friends what their best varieties have to compete with in this country. It is to be hoped at all events that the new departure will not be allowed to drop into oblivion before its utility has been fairly tested.

DOUBLE PÆONIES.

There are double varieties of several species of Pæony in cultivation, uamely of P. officinalis, P. tenuifolia, P. Moutan, and P. albiflora, but the number of fine doubles of the latter that has been raised within the last few years is something wonderful. No other species has been improved to such an extent, and P. Moutan is the only one which approaches it. Not only the size, but the form of the flower has been greatly improved. The latter fact is well shown by the accompanying illustration representing one of the newer types, but which, however, fails to convey an idea of some of the large, modern types. The illustration was taken from one of Messrs. J. Veitch & Sons' plants, and to them we are indebted for the use of it. The season for planting has again come round, and good roots if transplanted now will be in a position to flower in June next. Good growth can be made if planting is deferred till spring, but the plants cannot be expected to be in a position to flower well, as the drought of summer is upon them before they can get properly established.

Double-flowered Pæony.

CHICAGO EXHIBITION.

Horticultural Department.

The large rockery in the centre of the dome of the Horticultural Building is rapidly approaching completion, and will form a most pleasing and picturesque object. California will exhibit two Date Palms, 25 ft. high, presented by a citizen of Santa Barbara. An exhibit of edible plants, fruits, roots, and nuts will be shown from the northern part of the State, for the supply of which a contract for 100 dollars has been accepted. Salangelic acid is being used in preserving fruit specimens, as it retains the natural colour of the fruit. A lady of Los Angeles intends exhibiting a Pampas Plume Palace, which should be very attractive. M. L. La Rue will probably be appointed chief of the bureau of viticulture.

Concessions have been granted to a Colorado firm to create and maintain an exhibition of Colorado's wild flowers, and to a Colorado lady for a similar pressed wild flower exhibit. Canada anticipates making a very fine fruit exhibit, as is usual with that country. Instructions have been prepared by Chief Samuels for intending exhibitors of Herbariums. M. Andre, said by the French Commission to be the greatest landscape gardener of Europe, has been selected to take charge of the decoration of the grounds round the women's building and the part of the grounds assigned to France. The French florists are both anxious and willing to furnish all the plants for the exhibit. Contributions of plants that have outgrown their houses or the loan of fine specimens are being asked for by the Chief of the Horticultural Department at Washington.

A Florida association wish to exhibit a large collection of Cocoanut Palms, Mangoes, and many other tropical fruits in a bearing condition. Such an exhibit will be most instructive and attractive. A very complete collection of the indigenous woods of Illinois will be shown in the forestry department. Each specimen will have its leaf and fruit painted on the polished surface of the section; Illinois is especially rich in trees. There will be an exhibition of florists' sundries, ample room having been set aside for the purpose.

Greenhouses will be on exhibition, each of different style and by a different builder, to afford scope for comparison. The floral display on the wooded island will transform it into a spot of inconceivable beauty. The object of the rockwork, 60 ft. high, and 80 ft. in diameter at the base, is for the proper display of exhibits under the dome in the horticultural building, so as they shall not be dwarfed by the gigantic structure. The floral displays will begin with Roses in June, Gladioli in August, and Chrysanthemums following.

Europeans have applied for more space by one-half than American florists. There is no doubt they have acted well for their own interests, as the advertisement obtained will be unequalled. In the Government building will be placed a two-story structure constructed from one California Redwood tree; it will be surrounded by a glass dome, it is 23 ft. in diameter and 30 ft. long, and perfect in all respects. It is being cut into segments which are to be numbered, so that it may look when erected like a solid section. The top had to be cut 54 ft. from the ground from scaffoldings erected, and was attended with much danger. A road, two miles long, had to be made in order to convey it to a point where waggons could reach it. It will cost the Government several thousands of dollars to place it in its position here.

A poet has suggested that the Columbine be adopted as the national flower, that much-vexed question being still unsettled. He points out its appropriate popular name, suggestive of Columbia, "the pride of the ocean, &c.;" its botanical name, suggestive of the American Eagle; its colours, red,

white, and blue, those of the national flag. The analogy is followed by pointing out the five points of the corolla resembling the stars on the flag, its form representing the Phrygian Cap of Liberty and the horn of plenty, symbol of the Exposition. Altogether he seems to make out a clear case for the Aquilegia, and may have his efforts crowned with the success by the Exposition's adoption of his client.—*C. Macquarie, Chicago.*

NATIONAL CHRYSANTHEMUM SOCIETY.

The early exhibition of Chrysanthemums, Dahlias, and Gladioli was held in the Royal Aquarium, Westminster, on the 7th and 8th inst. Beyond the collections of cut flowers, chiefly Pompons with a sprinkling of early-flowering Japanese kinds and the groups of pot plants, the exhibits of Chrysanthemums were not numerous, and presented nothing special over former years if we except the exhibit from New Zealand, a decidedly novel feature which created a considerable amount of interest amongst the visitors to the show. Eight blooms of six varieties had been frozen in solid blocks of ice and sent all the way from Wellington, New Zealand, by Mr. John Earland. Each bloom had been frozen separately in a 5 lb. meat tin left open at the top so that the blooms could be seen through the ice. Two varieties, of which there were duplicates, received First-class Certificates, and three others were commended. A Silver-gilt Medal was awarded the exhibit. Dahlias were plentiful and in fine condition, as were Gladioli. The number of growers of the latter showy class of plants seems to be increasing.

In the open classes the premier award for a group of Chrysanthemums was taken by Mr. E. Vince, gardener to the London Cemetery Co., Highgate Cemetery, N., who made a fairly good display with Madame Desgranges and George Wermig, with a line of dwarf Pompons in front. Mr. Norman Davis, Camberwell, had the same leading varieties with the Pompons more mixed with the larger flowering kinds, and was second. The first prize for six trained plants in pots went to Mr. H. Neary, gardener to the Rev. R. W. Powell, Holy Innocents' Vicarage, Hornsey, N. His varieties were Madame Desgranges, Mrs. Hawkins, Mrs. Burrell, and Madame Leon Lassle, the latter being a Pompon. Mr. Robert Owen, Castle Hill, Maidenhead, took the leading award for a collection of cut Chrysanthemums in a competition of four good exhibits. Amongst the larger flowered varieties he had were Mrs. Burrell, yellow; M. Gustave Grunerwald, pink; and some promising bronzy-yellow and creamy-white seedlings. Pompons were both numerous and tastefully set up in bunches in zinc bottles. Mr. E. F. Such, Maidenhead, was second with a collection consisting mostly of Pompons neatly set up in glass jam jars. Mr. W. Wells, 8, High Street, Redhill, had also a good collection set up in glass vessels. He had some fine early blooms of La Cherub, bright yellow, and Louis Bœhmer, both Japanese kinds, as well as the incurved M. R. Bahuant, and came in third. For twelve blooms of Madame Desgranges, Mr. T. L. Turk, gardener to T. Boney, Esq., Cholmely Lodge, Highgate, took the first prize with fine samples. Mr. John Wright, gardener to the Hon. Society, Middle Temple, was second. Mr. T. L. Turk was the only exhibitor of twelve blooms of G. Wermig, and which were good. Mr. H. Neary had the best twelve Pompons, three of each neatly arranged in triangles of three. Miss C. Debenham, St. Peter's, St. Albans, was a good second, and Mr. Norman Davis came in third. Mr. W. Beech, gardener to L. Seligman, Esq., Hereford House, South Kensington, had the best six bunches of Madame C. Desgranges, three flowers in each; Mr. John Wright was second. Mr. W. Beach was first for a similar stand of G. Wermig. Mr. W. Wedekind, 13, Warlock Road, Paddington, took the Bronze Medal in the amateurs' classes for six blooms of Madame C. Desgranges or its sports, one of which he showed.

In the open class for Gladioli, the largest and finest collection came from Messrs. J. Burrell & Co., Howe House, Cambridge. The spikes and flowers were generally larger than most of the other exhibits. W. Herbert Fowler, Esq., Claremont, Taunton, was second with a very creditable collection. He was also second in the amateurs' class for twelve spikes, showing amongst others a fine white variety named Mont Blanc. E. B. Lindsell, Esq., Bearton, Hitchin, Herts, was first, showing Bicolor, Crepuscle, and Africain, three grand sorts.

Dahlias were plentiful and good in all the sections in spite of the boisterous weather that has prevailed lately. Messrs. Keynes, Williams & Co., Salisbury, carried off the first award for sixty blooms, showing fine samples of Duchess of Albany, Mr. Glascock, Miss Cannell, Eclipse, Queen of the Belgians, and the handsome white Gloire de Lyon. Mr. F. W. Seale, Sevenoaks, was second with large, fresh, and neat blooms. Messrs. W. Heath & Son, Cheltenham, were a good third. Messrs. Keynes, Williams & Co. again came to the front with thirty-six blooms, showing Thos. Hobbs, Mrs. J. Downie, &c. Mr. Arthur Rawlings, Romford, Essex, was a good second; and Mr. F. W. Seale was third with smaller but neat blooms. The first prize for twenty-four blooms went to Mr. Geo. Humphries, Kington Langley, Chippenham; Mr. S. Mortimer, Rowledge, Farnham, took the second place, and Messrs. Saltmarsh & Son, Chelmsford, came in third. Mr. G. Humphries, Messrs. Saltmarsh & Son, and Mr. S. Mortimer took the prizes for twelve blooms in the order named. In the amateurs' and gardeners' classes for twenty-four and eighteen blooms, Mr. J. T. West, gardener to W. Keith, Esq., Cornwalls, Brentwood, and Mr. Arthur Ocock, gardener to Mrs. McIntosh, Havering Park, Romford, took the first and second prizes in each case. Mr. Thos. Vagg, gardener to Jas. Theobald, Esq., M.P., The Bedfords, Havering, Romford, had the best twelve blooms, and was followed by J. G. Fowler, Esq., Glebelands, South Woodford, Essex. A fine display was produced by the Pompon Dahlias, but in the class for twenty-four bunches, Messrs. J. Cheal & Sons, Crawley, were the only competitors, showing a fine lot. Mr. G. Humphries had the best twelve bunches, and was followed by Mr. F. W. Seale and Messrs. J. Burrell & Co., respectively. In the gardeners' class for six bunches, Mr. J. T. West and Mr. C. Osman, South Metropolitan District Schools, respectively, took the prizes. Single varieties were also well shown, and it is surprising that such showy subjects should not be more popular with growers and the public generally. The first award for twenty-four bunches was made to Messrs. J. Cheal & Sons, who showed in great variety and in good quality. Mr. F. W. Seale was a good second. Mr. T. W. Girdlestone, Sunningdale, Berks, was deservedly awarded the first prize for twelve bunches; and Mr. Geo. Humphries and Mr. C. Osman were second and third with good exhibits. Mr. E. Mawley, Rosebank, Berkhamstead, and Mr. C. Osman, respectively, took the prizes for six bunches. Cactus and decorative varieties also constituted a strong feature of the show. The three prizes for twelve bunches, six blooms in each, were taken by Messrs. J. Cheal & Sons, Mr. T. W. Seale, and Messrs. J. Burrell & Co., respectively. In the gardeners' class for six bunches, three blooms in each, the first prize was taken by Mr. W. Hopkins, Cross Hands, Pilming, Bristol; and the second by Mr J. T. West.

Miscellaneous exhibits were fairly numerous and assisted the show considerably. A large square table at the west end of the building was filled with hardy cut flowers in great numbers by Messrs. J. Laing & Sons, Forest Hill. They included such things as Phloxes, Asters, Tritoma nobilis, Delphiniums, Œnothera albicaulis, Clematis Davidiana and Romneya Coulteri smelling of Musk and Roses. They also showed Apples. A group of Chrysanthemums including Madame Eulalie Morel, W. H. Lincoln, Vice-President Hardy, Vicomtesse d'Avène, and Madame Gerard flowering from the crown buds was shown by Messrs. Reid & Bornemann, Sydenham. The group in front was partly made up of Begonias, Coleus and Lobelia splendens Victoriæ. Messrs. Pitcher & Manda, Hextable, Swanley, showed a fine collection of herbaceous plants including choice varieties of Lilium auratum, L. Batemannæ, Phloxes, Asters and Gladioli. They also showed a seedling Chrysanthemum of a soft bronzy yellow, belonging to the Japanese class and very promising. Mr. E. F. Such also had a collection of herbaceous plants, and a larger one was shown by Messrs. Wm. Cutbush & Son, Highgate. Twenty dishes of Runner Beans, different varieties, and a collection of Annuals were shown by Mr. R. Dean, Ealing. Messrs. H. Cannell & Sons, Swanley, had some Cockscombs and Begonia flowers. Pompon and Cactus Dahlias were shown by Mr. C. Turner. Messrs. Collins Bros. & Gabriel, 39, Waterloo Road, had a box of Tomato Collins' Challenger; and Mr. J. R. Chard, Stoke Newington, showed some table decorations.

SCOTTISH NOTES.

Royal Caledonian Horticultural Society's Show.—This annual autumn exhibition, held on Wednesday and Thursday of last week, was one of the best that has been held in the Waverley Market for several years. The entries were 350 more than have ever been received at an ordinary show; and despite the wet summer the exhibits in general were shown in a state of great perfection. Fruit, as usual, at this show occupied the position of honour in the catalogue. For a prize offered by the Edinburgh Corporation for the best collection of twelve dishes of fruit, Mr. William M'Kelvie, gardener to the Dowager Duchess of Roxburgh, Broxmouth Park, was placed first, and he also carried off the award for the best eight dishes. In the larger collection the Grapes, Melons, Figs, and Peaches were splendid; and the standard of the other kinds of fruit shown by him was also high. In the former class Mr. T. Boyd, Callendar Park, Falkirk, was 2nd; and Mr. Hunter, of Lambton, 3rd; and in the latter these positions were occupied respectively by Mr. Smith, Oxenford Castle, and Mr. Hunter, and Mr. McIntyre, The Glen, who were placed equal—3rd. For a collection of hardy fruits, twelve dishes, Mr. L. Dow, Newbyth, came in 1st, beating Mr. Day, Galloway House, Garlieston, and Mr. McIntyre; and Mr. Hunter secured the premier award for a collection of fruits grown in orchard houses. The Grape classes brought out a grand lot of fruit, fully as fine in quality as those shown last year. For the best six bunches, Mr. John Boyd, Callendar Park, secured the "blue ribbon" with two bunches of Black Hamburgh, two of Black Alicante, and two of Madresfield Court. They were shown in grand order. The bunches and berries were large and in perfect bloom. Mr. William Murray, Park Hall, Polmont, was second, and the International champion of last year, Mr. Alexander Kirk, Alloa, had to be content with third honours. Mr. Kirk lost some points with two bunches of white Grapes which were in his exhibit. His blacks were perfect, as was seen also in the single bunch competitions for Gros Colmar and Black Hamburgh, in which he secured the first prize. The prize for the best four bunches went to Mr. John Leslie, Pitcullen House, Perth, the second to Mr. Murray, Park Hall; and equal thirds were taken by Mr. Green, Yester, and Mr. Kirk. For two bunches of Muscats, Mr. M'Kelvie was 1st, Mr. Matteson, Currie, coming in 2nd, and Mr. Day, Galloway House, 3rd; and in the corresponding class for Black Hamburghs, the awards went to Mr. Murray, Mr. G. Mackinnon, Melville Castle, and Mr. Boyd. In the single bunch classes the premier awards were won as follows:—Muscat of Alexandria, Mr. John Coldwell, Langholm; Black Hamburgh, Mr. A. Kirk; Alicante, Mr. W. J. Green; Alnwick Seedling, Mr. David Murray; Gros Colmar, Mr. A. Kirk; Lady Downes, Mr. T. Boyd; finest flavoured Black, Mr. M'Kelvie; finest flavoured White, Mr. William Pirie. Mr. George Mackinnon was 1st for the finest bloom. The hardy fruit classes were also well contested, and among the winners of premiums were almost all the well known exhibitors in this department of the garden.

For the best table of plants, Mr. John M'Intyre, gardener to Mrs. Pease, Darlington, was first, and the same exhibitor also secured a prize given by the Corporation for the best 6 stove or greenhouse plants in flower, Mr. G. Wood, gardener, Oswald House, being second in the former competition; and Mr. A. Chrichton, Southfield, Liberton, occupied a similar position in the latter. Ferns were shown in good condition; there was a showy row of tall Fuchsias on one of the tables, and the Orchids were a remarkably fine lot. Orchid fanciers were very much taken up with a plant of Cypripedium Chamberlainianum in flower, the first seen in Scotland, and which was shown by Mr. Macdonald, of the Athol Hydropathic, Pitlochry. For Roses Messrs. Cocker & Sons, Aberdeen, carried all before them, being first for the best 36, the best 18, and the best 12 blooms. Large in size, the blooms were also symmetrical in form and brilliant in colour. To the Messrs. Cocker fell also the chief Dahlia awards,

and their stand of over 200 varieties of hardy herbaceous flowers was greatly admired. Messrs. D. & W Croall, Dundee, were very good seconds in the Rose classes, and the Messrs. Smith, of Stranraer, showed some six dozen grand blooms of Mrs. John Laing, for which they awarded a certificate. For single Dahlias Messrs. R. B. Laird & Sons were first with a very brilliant collection. This firm also secured highest honours for 12 trusses of stove or greenhouse flowers and 24 trusses of Chrysanthemums. Messrs. T. Methven & Sons had a beautiful table, on which Liliums, Crotons, and Dracænas were conspicuous; also a charming display on a second table of Begonias, whose fine colours were greatly admired. Messrs. Dicksons & Co., Waterloo Place, had a varied table of fruits and flowers and fine foliaged plants from their nurseries; and Mr. David W. Thomson a nice group of ornamental plants. Messrs. W. & J. Birkenhead, Sale, near Manchester, contributed a capital table of Ferns; Mr. John Forbes, Hawick, Hollyhocks, Begonias, Pinks, and herbaceous plants; Messrs. James Dickson & Sons, Inverleith Row, Conifers in tubs; Messrs. Storrie, Dundee, a well-filled table of herbaceous flowers; Messrs. Laing & Mather, a charming collection of Carnations of various kinds; Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, about 100 varieties of Begonias; and Messrs. J. & A. Glass, George Street, a table on which examples of Araucaria excelsa and tall Palms were conspicuous.

The Glasgow and West of Scotland Horticultural Society has, we are glad to learn, taken on a new lease of life, and on the 7th inst. held its annual autumn show, which for extent and quality has never been surpassed. As on former occasions when the society's shows have been held in St. Andrew's Halls, the vegetables were set out in the Kent Hall, and the cut flowers in the Berkeley Hall, whilst the exhibits of fruit, pot plants, and decorative table displays were arranged in the main hall. One of the chief attractions in the main hall were the specimen tables set for dessert. In this competition, Mr. David Cross, Glasgow, who entered last year for the first time and carried off the first prize, again secured the leading award. In the nursery classes the awards were widely distributed. Mr. Campbell, Blantyre, an old exhibitor, was placed 1st in each of the three competitions for Dahlias and Carnations. Messrs. Cocker & Son, Aberdeen, repeated their success of last year in the class for Roses; and Messrs. J. & R. Thyne, Kelvinside, with the best coloured and most varied exhibit, carried off the first prize for a collection of stove and greenhouse plants to fill a space of 18 ft. by 6 ft. Mr. John Sutherland, Lenzie, was first for plants for table decoration; and the chief premiums of Gladioli and Pansies fell respectively to Mr. George Mair, Prestwick, and Mr. A. Irvine Tighnabruaich.

In the classes restricted to gardeners and amateurs Mr. H. M'Ginlay received the principal award for pot plants, whilst for collections of fruit and vegetables the chief prizes went respectively to Mr. James M'Connachie, gardener at Cameron House, Alexandria, and Mr. D. M'Bean, gardener at Craigends, Johnstone. Cut flowers were an exceptionally fine show, and the first places in the Pansy competitions fell to Mr. A. S. Glass, Dalmellington, who stood second last year. The amateur sections were largely contested. The show was specially rich in collections of plants sent for exhibition. One of particular note was a bank of tuberous-rooted Begonias, in beautiful bloom, from the Hale Farm Nurseries of Mr. T. S. Ware, Tottenham, London, and this exhibit received from the judges a card of the highest merit. Messrs. Smith & Simons, Kennishead Nurseries, had forward a very choice collection of foliage and flowering plants; and First-class Certificates were given to a seedling Viola shown in a collection of flowers by Messrs. Dobbie & Co., nurserymen, Rothesay, and to a seedling Pansy exhibited by Mr. John Smellie, Busby. Some beautiful Orchids were shown by Mr. J. Sutherland, Lenzie, along with a collection of stove and greenhouse plants.

All the arrangements in connection with the show were excellently carried out under the superintendence of the new secretary and treasurer, Mr. Charles Macdonald Williamson.

The Carnation: its History, Properties, and Management, with a descriptive list of the best varieties in cultivation. By E. S. Dodwell. Third edition, with supplementary chapter on the yellow ground. London: Gardening World Office, 1, Clement's Inn, Strand, W.C. 1s. 6d.; post free, 1s. 7d.—[Advt.

Gardening Miscellany.

BEGONIAS.

I was sorry to see in your paper that the exhibition of Begonias at the recent Chiswick Conference was not a success. I had thought of exhibiting myself, but after being defeated at one of our large northern shows by taller plants and older varieties in larger pots than I staged myself, I thought I had best keep my plants at home, especially as travelling does so much damage to them. For my part I think that dwarf erect flowering plants with the foliage well down to the pots, and displaying plenty of blooms, large in size and of good form and colour, are more what is wanted. Are not 7 in. or 8 in. pots large enough? My own experience tells me that they are, as I can get dwarfer and more compact plants in them by using liquid manure than I can in larger ones. Every judge at flower shows who has to deal with Begonias should read your valuable book on this flower. I grow little else but Begonias and the best Zonal Pelargoniums in the summer, and there is nothing equal to them for making a display. I have Begonias also growing out-of-doors, and they do well. The Begonia is, as you say, "The flower of the future." I send you a few blooms, but they are running out now, and not so large as they were some time ago. The two singles are from home sown seed, and several of the doubles also, but you will recognise Rosebud, Rose Laing, Duchess of Teck, Duchess of Fife, and Mrs. French.—*Chris. Leeson, Melton Road, Wrawby, Brigg.*

FRUITING OF COBEA SCANDENS VARIEGATA.

The note on the fruiting of Cobea scandens variegata recalls a large specimen that some twenty-five years ago was in the Greenhouse No. 4 at Kew. It used every year to bear a quantity of fruit and ripen seeds, but though numerous attempts were made by various people to raise young plants in this way they never succeeded. The seed germinated readily enough, but the seedlings always perished before the second pair of leaves were fully developed. The plant in question has now been done away with for many years.—*P.*

HELENIUM TENUIFOLIUM.

The leaves of this species are channelled, carinate, and very small as the specific name indicates. The yellow flower heads are also small as might be expected, seeing that the plant only grows about 9 in. or 10 in. high, and therefore suitable either for the front line of the herbaceous border or the rockery. The neatness of it, however, may be a recommendation to those who like variety and whose space is limited. The florets are broad and three toothed, like those of other species of Helenium. The plant may be propagated from seeds or cuttings.

HELIANTHUS MULTIFLORUS PLENUS MAJUS.

The stems of this variety grow about 4 ft. high, and are therefore taller than those of the type, which usually do not succeed 2½ ft. or 3 ft. The flower heads are large and bright yellow with a golden disc. For ordinary garden decoration few plants are more effective for late summer and autumn than the Sunflowers, whether single or double, but to be seen at their best they should be grown in clumps or masses of a kind as they are in the gardens of the Royal Horticultural Society at Chiswick, where some of the best of them have a bed to themselves. Then again to allow the plants to occupy the same position without shifting or disturbance for a number of years, means bad cultivation, for the plants and flowers dwindle in size by crowding and exhaustion of the soil. Herbaceous plants, and particularly those of a strong growing nature, enjoy liberal treatment, and young crowns should be planted at least every two years in rich, well-prepared soil.

PRUNUS MARITIMA.

There were plenty of trees of the seaside Plum in British gardens in Loudon's days, but none of them had ever set fruit. In its native country it inhabits the sandy soil of the sea coast from New Jersey to Carolina, where the fruits attain the size of a pigeon's egg and are good to eat. A tree in the pleasure grounds at Kew has this year produced a considerable quantity of fruit, whether it ripens or not. A large number of them have, however, dropped from some cause or other, while about an inch in length and getting red. When properly matured they are dark purple. The soil in which the tree is grown is of a light sandy nature, and should suit it unless it requires to be in the vicinity of the sea. Many truly seaside plants do not succeed well inland while others do. The tree blooms in April and May, bearing white flowers.

VENIDIUM FUGAX.

This South African Composite finds its way into gardens under various synonyms. Although perennial it may be grown and flowered as an annual from seeds, coming into bloom in July and lasting till October. It produces the finest effect however in the warmer months of the year, as like most of the Cape plants it enjoys plenty of bright sunshine. The stems are procumbent and, like the under side of the leaves, are more or less cottony. The large flower heads have golden yellow rays that fade to yellow at the base, forming a pale zone round a brown disc.

CYCLAMEN NEAPOLITANUM.

As the cooler days of September come round, the first signs of life from the old corms of this species are the flowers which arise somewhat in advance of the slightly lobed and beautifully marbelled foliage. The flowers of the typical form are pink with a white edge and a bifid purple blotch at the base. The auricles of the flowers are also white. The species has become naturalised in some parts of the south of England, and is more often spoken of under the name of C. hederæfolium than C. neapolitanum, although that may also be met with. There are several varieties differing chiefly in colour in cultivation, and there seems no reason why it should not submit to considerable improvement under the hands of enthusiastic growers. It may be seen upon the rockery in the gardens of the Royal Horticultural Society at Chiswick.

ERODIUM GUTTATUM.

The dwarf perennial species of Erodium are generally very interesting and pretty owing to the neatness of their flowers and the finely cut foliage. That under notice is a native of Spain and is very dwarf, with three times divided leaves just surmounted by the flowers, which are borne on peduncles about 3 in. or 4 in. long. They are white, with a purple blotch at the base of the two upper petals, which have purple veins radiating from the blotch. Generally speaking it may be compared with E. macradenium or E. trichomanæfolium, but the habit is much less dense than the latter. It may be seen on the rockery at Kew.

QUEER JUDGING.

A correspondent sends us the following cutting from the *Haddington Advertiser*. The incident took place at the recent Haddington show:—The Silver Medal for the ten sorts of vegetables has been made the subject of a protest, and that the decision of the judges should have been disputed in this instance is not at all wonderful, in fact, their action is somewhat inexplicable. In a competition for ten vegetables, they give the first prize to a basket of fourteen, and the second prize to a basket of eleven. On their attention being called to the matter they transposed their award to a basket containing the proper number of vegetables and had the prize list altered. Then they discovered that there was Parsley in the ten basket and that made eleven specimens, and they disqualified this basket also, and reverted to their original awards. It now remains to be decided whether or not Parsley is an exhibit or a garnishing, and under what circumstances these judges can award a Silver Medal to a basket not according to specification. Truly it seems that the ten basket, if the Parsley be not counted, should have the medal or else there should be no medal awarded at all. This is a matter that should receive the earliest and earnest attention of the society.

PLANTS CERTIFICATED IN HOLLAND.

At the meetings of the Floral Committee of the Dutch Horticultural and Botanical Society, held in August, the committee awarded First-class Certificates to Messrs. E. H. Krelage & Son, Haarlem, for Gladiolus hybr. nanceianus A. de la Devansaye, W. Watson, Pro-

fessor Lambin, Rosamunda, President Chandon, and A. van der Heede; Gladiolus hybr. Lemoinei J. H. Krelage, la France, Nuée bleu, Charles Joly, Poison d'or, Telemaque, Amiral Gewais, Keteleer, Vercingetoise, Crozy fils, l'Esperance, and Vondel; to Mr. J. C. De Lange, Rotterdam, for Cactus Dahlia Black Prince, and Canna hybr. Viruly Verbrugge; to Mr. J. Smits, Naarden, for Rosa indica (Thea) Papa Gontier; to Mr. C. G. Van Tubergen, Jr., Haarlem, for Crinum Powellii album, and Achimenes Phoebus; to Messrs Groenewegen & Co., Amsterdam, for Fuchsia Beauty of Exeter, Reseda odorata var. alba, and Centaurea cyanus fl. pleno; to Messrs. De Graaff Brotters, Leiden, for Delphinium sulphureum; and to Mr. J. Th. Van Den Berg, Jr., Jutfaas, for Gladiolus hybr. nanceianus var.

MR. BALFOUR ON GARDENING.

Speaking at the opening of the recent exhibition of the East Lothian Society at Haddington, the Right Hon. A. J. Balfour, M.P., said:—"I understand from those who have had more opportunity of judging of these matters than I have that this is the best show that has ever taken place in Haddington. And I can well believe it, for, though I have not yet had time to make a complete survey of all the tables and all the exhibits in the various classes, I have seen enough to convince me that, at all events, if this is not the best show, shows that have occurred on previous occasions must indeed have been extremely successful. The association is an old one, and I believe it dates back for nearly fifty years. Yet it is only of recent years—only, I think, within the last two or three years—that a revival of interest has occurred, which has brought up the exhibition to the present state of perfection in which we see it. Much of this is due, ladies and gentlemen, to the co-operation of professional gardeners. They have shown great public spirit and patriotism, in my opinion, in bringing the fruits of their efforts for our benefit, and taking their share in the competitions. Yet I think you will all agree with me that the chief interest of the show necessarily centres, not so much in the flowers, fruits, and vegetables which are the result of professional labour, as in the table immediately before me, which, I believe, represents the cottagers' and the farm servants' work in the county. This is a new feature of these exhibitions. It evidently has been a success—you have only got to use your eyes to see that it is a success—but my hope is that, as from year to year this exhibition goes on, so the efforts made by the cottagers and farm servants in the various parts of the county may make their portion of the exhibition more and more prominent, more and more successful. I unfortunately belong to a profession which absolutely excludes its members from taking any part in gardening operations, beyond that which consists in admiring the flowers in August and September. The arrangements of the British Parliament make it perfectly impossible for a member to spend the spring and early summer anywhere but at Westminster. I do not know whether we shall ever see reform in that matter, but, at all events, as things are at present, I confess that I have to preach that which I am not able to practice. And in encouraging, so far as my voice is capable of encouraging, all those whose privilege it is to live in country life to cultivate—as one of the highest and best pleasures of a country life—gardening in all its branches, I have to speak as one who, although he can acknowledge the results of other men's labours, is not able to share them. And yet, ladies and gentlemen, it seems to me that even in my experience of the last ten years, I see a marked improvement in the character and in the amount of cottage gardening in different parts of the country. I see that an interest is taken not merely in the useful cultivation of vegetables, but in the cultivation of flowers of all kinds by farm-servants and by cottagers, which never was thought of a generation ago. We labour, of course, in the Lothians under some difficulties in this respect, owing to the fact that according to our customs—customs on which I think there is a great deal to be said—it is a very common practice for farm-servants to change the farm, from time to time, on which they work; and the result of that necessarily is that they labour under somewhat exceptional difficulties in taking an interest in gardening operations, which may at any time be interfered with by a removal of the kind of which I speak. Yet it is satisfactory to note that this difficulty, considerable though it may be, is being successfully surmounted, and that by the efforts, partly of great central associations like this, under which we are all taking part, and partly from the influence of the small local associations, a keen interest is being aroused in every class of the community, in cultivating this, one of the most innocent and one of the most admirable of the pleasure which a country life is capable of affording."

ROSE GROWING NEAR LARGE TOWNS.

At the last meeting of the Preston and Fulwood Horticultural Society, the paper read was on the popular subject above indicated, and the reader was Mr. S. H. Stott, a very successful amateur grower, but perhaps better known in the horticultural world as the inventor of the exceedingly useful "Stott Distributor," and the valuable insecticide known as "Killmright." Mr. Stott added a considerable amount of force to his observations by exhibiting cut blooms of some three dozen distinct varieties in admirable condition. Proceeding to deal with the subject of his text, he remarked that his illustrations were not altogether satisfactory, but if he had charge of the weather office they would have been different. Still, what with incessant rain and gales of wind, he was satisfied in having produced the flowers he exhibited. It was the height of cheek for an amateur to attempt to educate professional gardeners on any subject, but yet he considered that Roses as a rule were better grown by amateurs than gardeners. The reason for this was that the gardener had to keep up a constant supply of vegetables, fruit, and flowers both in and out of season, whilst the Rose grower made the growing of the queen of flowers a special hobby. A perfect novice, after one or two years' experience, could grow Roses which would be effective for a few hours, but this was not what was required from an exhibition point of view or satisfactory to a gardener or his employer. What must be secured was colour and substance, and how to attain this object he would endeavour to explain.

In Rose growing, as in all other horticultural work, they were placed at a serious disadvantage compared with their southern friends. Although Aberdeen and Bedale kept well to the front, they had no long chimneys belching up volumes of smoke and poisonous matter. At the late Royal Show at Warwick he was digusted with his own laborious attempts to keep Roses in perfect health. There he saw them clothed with the most luxuriant foliage and covered with clusters of bloom, and felt Rose growing near large towns to compete with such a climate and atmosphere, for both professional and amateur, unfairly handicapped. Yet with care, forethought, and perseverance the southerner might meet with more than his match. He proposed, in dealing with his subject, to divide it under different heads as follows:—Situation, drainage, selection, stocks, planting, manuring, pruning, disbudding, feeding, pests and their extermination, and protection. In the cultivation of the queen of flowers the choicest spot ought to be selected. They could either grow in beds on the lawn, which he thought the best, especially as the rage for carpet bedding seems to have exhausted itself, or in special borders either in the kitchen or flower garden. Whichever plan might be decided upon, he would advise them to plant 18 in. to 2 ft. apart. If they had unlimited space he preferred planting 2 ft. apart, as it allowed more air and light to be admitted. As much sunshine as possible from dawn to dusk must be secured. No flower resisted coddling more than the Rose, but her most bitter enemy was cruel wind from east, north, and west, and to check their scorching blasts ramparts of evergreen or privet must be planted to ensure success. Otherwise when the gale sprung up, like it did a few nights ago, they would find their beautiful foliage scorched to death. The gale had repeated itself about this time of the year for several summers, when everything looked so encouraging for the autumnal bloom. As to drainage a word was scarcely required as to the importance of doing that effectually. On a gravelly subsoil it was of little importance, but as a clay subsoil suited the Rose best if well drained, those who were so fortunate as to have a clay subsoil must see that the drainage was thorough and effectual.

Selection.

In a limited number of varieties they could secure charming varieties of colour, from pure white to the deepest maroon, and beyond this the character and beauty of formation. He would not mention the cultivation of "Teas," because he was convinced that so far north and with such a cruel atmosphere they would not thrive. We had had severe frosts in late spring and even in summer, for on the morning of the 10th of August this year he registered 3° of frost. Of Teas, although much hardier than they used to think them, the bulk were cut to the ground line in spring, and only recovered in time to give them a splendid crop of buds in the autumn which cold and wet never allowed to mature into decent flowers. Madame Lombard and Anna Olivier seemed to be able to resist all adversities, but as he said he would leave Teas out of the question he would confine himself to hybrid perpetuals, and in doing so would only name the varieties that in all seasons did well, and which he found gave the largest percentage of good flowers. They were as follows:—Red of various shades: Alfred Colomb, Countess of Oxford, Dr. Andry, Marie Baumann, Dupuy Jamain, Madame Victor Verdier, Marie Rudy, Sénateur Vaisse, Ulrich Brunner. Dark crimson: A. K. Williams, Charles Lefebvre, Duke of Wellington, Fisher Holmes, General Jacqueminot, Prince Camille de Rohan, Prince Arthur, Victor Hugo, and Louis Van Houtte. Light crimson: Beauty of Waltham and Earl of Pembroke. Rose and deep rose: Alphonse Soupert, Marquisse de Castellane, Heinrich Schultheis, and Marie Verdier. Pale rose and pink: Eugene Verdier, La France, Madame Gabriel Luizet, Marie Finger, Mrs. John Laing, and Pride of Waltham. White, or very light and yellow: Baroness Rothschild, Captain Christy, Comtesse de Serenye, Duchesse de Valombrosa, and Mérveille de Lyon. He would be asked why he had left out such grand varieties as Duchess of Bedford, Duke of Edinburgh, Her Majesty, Horace Vernet, Countess of Rosebery, Pierre Notting, etc. He replied for the best of reasons, that they did not bloom freely, and were weak growers, rarely satisfactory. Of the other newer varieties which were still in the trial beds his opinion was not matured, and he therefore omitted them from the list. The Roses without exception that everyone should grow were Mrs. John Laing, General Jacqueminot, La France, Victor Hugo, and Captain Christy.

Stocks and Soils.

On this subject there were the most varied opinions. Some growers adopted exclusively the Manetti, while others said they used the stock which suited the variety best. Others used entirely the seedling Brier and Brier cutting. He found that his plants on the latter were much more robust. Although they did not bloom quite so freely in the summer, the wealth of bloom in the autumn more than compensated for this. For hybrid perpetuals he considered that they could not have the soil too strong. His beds were originally all top sod, and to this each winter he gave a slight dressing of clay, which fell with the frost, and being worked into the ground in spring the trees seemed to thoroughly enjoy their quarters. Had he the convenience to burn the clay he would give the trees much heavier doses. He was quite satisfied this treatment would surprise the believer in leaf soil, sand, and light soil.

Planting and Manuring, &c.

After securing the trees the first thing to be done is to work the soil where it was intended to plant as soon as the ground was at liberty. If the weather was dry when the plants arrived plant immediately, and have prepared some nice top sod, and to each barrow load of this add one gallon of bone meal and the same quantity of charcoal. Dig a hole for each plant about 18 inches deep, place a little of the prepared composition at the bottom, then plant the tree to the same depth it had previously grown, covering the roots. At the first appearance of frost, and when the ground was just crisp mulch to the depth of three or four inches with good farm-yard manure. Pruning was the most important business they had to consider. In cut backs first take out bodily all unripe and weak shoots, reducing strong growers to four or five shoots, and those of slender growth to two or three. This could be done any time from February to March. About the end of March, if

severe frost seemed to have left us, cut the strong growers back to the fourth eye and the tender growers to the second. A fortnight after pruning go over the beds and give each plant a trowel full of slaked lime. This would repay the trouble and would set free all the ammonia in the manure not previously absorbed at the roots. As the young shoots began to grow it was necessary to keep them well tied to the sticks. Use weak liquid manure for feeding. Keep a watchful eye on suckers, for if neg lected they would soon ruin the best of plants. A suitable insecticide sprayed over the trees would clear away small caterpillars, which disfigured the foliage and skeletonised the leaves. As to protection he advised a full supply of zinc protectors. These would last a lifetime fixed to sticks two or three feet long. Each protector should be about five inches diameter. A useful discussion followed, and the meeting was also rendered the more interesting and instructive by the exhibition of a number of seasonable flowers and vegetables.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

THE COOL HOUSE.—The wet weather experienced here since writing my last calendar has enabled us to get everything in readiness for repotting the Odontoglossums, and no time will be lost in getting those that require it attended to, so as to give them every chance to get established in the new compost before the weather gets cold and we shall be obliged to use fire heat at night to keep the temperature from falling below 50°. As I write the temperature outside is very low indeed for the first week in September, the thermometer standing at 37° last night, Sunday, or only 5° above freezing point.

The compost used by us, and in which we have grown the beautiful O. crispum most successfully for a number of years, is two parts of the best fibrous peat and one part of fresh sphagnum moss, added to which should be some coarse silver sand and potsherds broken up small. But good peat cannot always be procured at any price, and when such is the case we have to make the best of an inferior article, as we are doing now. We shall, however, we hope, successfully overcome this difficulty by using less peat and more moss, and by varying our usual mode of potting (which is to insert a tuft of moss here and there between the peat as the potting proceeds) by placing a thin layer of peat first and finishing off with a layer of fresh moss completely covering the peat.

We always make it a practice with all plants to be repotted, to allow them to get moderately dry at the roots before doing so. This may not seem at first sight to be of much importance, but we have found that if repotted when the roots are in a sodden state they invariably die and the new growth is weakened. The old material should be carefully removed without damaging any of the roots. Any old, decayed bulbs or roots are cut away, and the plant potted in a suitable sized pot according to the quantity of roots and the general condition of the plant, but do not over-pot. The pots should be thoroughly clean, together with the crocks, with which they should be filled to within 2 in. of the rims, beginning with a large crock over the hole and finishing off with smaller ones. We do not favour high potting for Odontoglossums; if the plant when finished is about an inch above the pot it will be quite sufficient. This allows the compost to be pressed more firmly about the plants, which they like.

Of course it must not be assumed that we pot all our Odontoglossums now, for some are in bloom and some just showing spikes and to re-pot these now would be madness. These were done last spring, and will go round again till next spring. The best stage in our opinion in which to pot Odontoglossums is when the growth is about 6 in. high, and just ready to push out new roots; all those in this stage or near it may be done with advantage, but those beyond it would be better left until spring unless they are in a very bad state, in which case we would not delay repotting a single day. They will require very little water for a fortnight other than just enough to keep the sphagnum fresh, unless the compost when used is rather dry.

TEMPERATURES.—The East India House should not be allowed to go below 70° at night, Cattleya House 60° at night, Cool House should not go below 50°, with a good circulation of air in all departments by leaving the bottom ventilators open.—*C.*

AMONGST the numerous Orchids shown at the meeting of the Royal Horticultural Society on the 6th inst., the undermentioned were considered worthy of awards.

Lælia Turneri superbissima.

THE sepals are of the palest purple, tinted with pale green. The oblanceolate or spathulate petals are wavy at the edges and of a pale, dull purple. The tube of the lip externally is of the palest purple bordering on white; the lamina is the most conspicuous part of the flower, and is oblate, emarginate, toothed at the edges and of an intense purple, the latter colour running down the tube with a broad band. The side lobes have a deep purple blotch on a paler ground, while the side portions extending to the base of the tube are yellow. It was exhibited by Thos. Statter, Esq. (gardener, Mr. Robert Johnson), Stand Hall, Manchester, and received an Award of Merit.

Cattleya speciosissima Sanderiana.

THE pseudo-bulbs of this Cattleya are fusiform, slightly ribbed, and 3 in. to 6 in. long, bearing a solitary, oblong, terminal leaf. The sepals are oblong and pure white, as are the petals, which are broadly ovate and spreading above the middle. The lip is bifid, dentate at the edges, and white with a pale yellow blotch extending across the throat and running down the tube with an arm. Altogether it is a handsome white Cattleya. It was shown by Messrs. F. Sander & Co., for W. R. Lee, Esq. (gardener, Mr. T. Billington), Beech Lawn, Audenshaw, Manchester, and was awarded a First-class Certificate.

Cattleya Oweniana.

THE sepals and petals of this bold Cattleya are creamy-white, with the palest flush of pink at the tips. The lamina of the lip is a bold feature of the flower, and is of an intense maroon-crimson reticulated with gold from the throat for some distance down upon the lamina. It belongs to the same group as C. Dowiana, the beautiful varieties of which are now getting numerous. It received a First-class Certificate when shown by Messrs. F. Sander & Co.

Aerides Augustianum.

IN this we have a moderately tall growing species with the flower stalks about 18 in. long, bearing a close raceme of flowers 6 in. long. The latter are moderate in size, with a shining waxy appearance. The sepals and petals are oblong and white, flushed with the palest rosy-lilac. The lip is darker and three lobed; the middle lobe is spreading, long clawed, and reflexed at the sides, and of a warm rosy-lilac. The spur is straight, directed backwards from the lip, and of the same hue. An Award of Merit was accorded it when shown by Messrs. Linden.

Sophro-Cattleya Veitchi.

THE male parent of this bigeneric hybrid was Lælia (Lælio-Cattleya) elegans var., and the seed parent, Sophronitis grandiflora. The plant consists of six tiny pseudo-bulbs, the result perhaps of as many years' growth, as they are all successively larger from the first to the flowering one. The oblong, channelled and keeled leaves are produced singly or in pairs at the top of the pseudo-bulbs. The flowers are similar in size to those of Sophro-Cattleya Batemanniæ, and have oblong, red sepals with a soft flush of scarlet. The petals are elliptic and red, with deeper veins and a flush of scarlet in the centre. The lip is three-lobed; the tube is flushed and veined with deep red on a yellow ground, and internally the yellow is more evident flushed with red along the centre and veined with the same hue on the sides; the lamina is ovate, obtuse, and rich purple. The lip is white, with a purple line around the stigma. A First-class Certificate was awarded it when shown by Messrs. J. Veitch & Sons, Chelsea.

Varieties of Cattleya Eldorado.

A LANCASHIRE correspondent, an amateur Orchid grower who signs himself "W.," sends us a box of blooms of Cattleya Eldorado, with several of its finest and most striking varieties. The type may be recognised by its soft rosy-lilac sepals and petals, as well as the large rich orange blotch in the throat surrounded with a white zone, and that again by the rosy-lilac lamina fading towards the margin with a ich purple blotch in the centre. Virginalis is a beautiful pure white variety with exception of the orange blotch in the throat. The plant carried nine blooms of uniformly large size, and must have been magnificent when at its best. The variety Splendens is also a grand one, having an intense purple lamina to the lip and the petals also of a relatively warm colour. The flower sent as C. E. rosea was small and pale in colour, but the plant producing it was also weak and will no doubt produce finer flowers when established. Two large blooms accompanying the rest might be compared to rosea, but they were not absolutely identical, in fact, they were of a beautiful and delicate flesh colour, with a small deep purple spot on the middle of the lamina and the usual large orange blotch in the throat. C. E. carnea would be a very appropriate name for it, as the flowers are both delicate in hue and handsome.

Dendrobium formosum giganteum.

ONLY those who can grow this species well, know what a grand thing it is and what it is capable of doing. A spike bearing five huge blooms has been sent us by Mr. Thompson, gardener to — Steel, Esq, Philiphaugh, Selkirk. The flowers were in fine condition and pure white showing off by contrast the large rich orange blotch reaching from the disc of the lip down into the tube, where it terminates in two red bands. Like all of the others of this type it requires a considerable amount of heat to grow it to perfection. The young shoots sometimes fare badly if they commence to grow late in autumn or early winter when the cold and poor light prevents them from attaining anything like their proper dimensions. There seems to have been nothing the matter with the Philiphaugh specimens judging from the flowers. Accompanying them were some flowers of the richly-coloured Miltonia spectabilis Moulliana and Cypripediums of the C. grande type. One of the flowers of the latter was notable for the absence of the upper sepal, and the petals uniting in one piece had taken its place. The staminode was very small and almost wanting.

WHAT TO DO IN THE GARDEN.

Bouvardias.— Old cut-back specimens which were planted out in a frame or in the open ground for the summer should now be lifted and potted up, or, what is even better, planted in the bed of a Melon pit if such is at command. Water down the soil, syringe the plants, and shade them for a few days if necessary till the roots make a fresh start. If treated thus they will supply cut flowers all the winter if kept growing in a genial atmosphere.

Salvias.—Those who grow their stock of Salvias for winter flowering in the open ground will find it convenient to lift them at once and pot them up, for the longer nights and the great abundance of moisture are now causing a rank and unnecessary growth which might well be avoided for indoor work. Lift the plants with good balls, and put them in the smallest sized pots that will conveniently hold them without being too confined, and keep close for a few days to prevent flagging.

Lilies in Pots.—Plants that have flowered in pots should be placed in the open air in some sheltered place after the flowers drop to gradually ripen and plump up their bulbs. The soil in which they are grown should be kept in a medium position as to moisture till the foliage and stems gradually decay.

Schizostylis coccinea.—If planted out of doors in cool or somewhat peaty soil this makes better and stronger growth than if the plants are kept in pots in a half starved condition. The matted roots enable the plants to be lifted with a good ball, so that they can readily be potted up without feeling the injury. They also produce stronger spikes of bloom when treated in this way during the autumn and early winter months.

Peaches.—Succession houses of Peaches should be treated like the early one by removing the top lights and leaving all the others as well as the doors open to thoroughly mature the wood. A thorough syringing now and again with the garden engine will keep the foliage clean and healthy. The borders should get a thorough soaking with clean water when they get at all dry.

Melons.—The aim at this period of the year should be to get solid and substantial growth in preference to thin and rapidly grown stems. With this end in view, a little top air should be put on early in the day even if it is necessary to keep up the temperature by a greater amount of fire heat. As soon as the sun

breaks out strong the hot water should be turned off to prevent an excessively high temperature.

Cucumbers.—What has been said of Melons applies also to Cucumbers. There is less liability of Cucumbers being attacked in winter by the diseases that often beset them in summer. It must not be forgotten, however, that the present and until severe or foggy weather sets in is the best time to lay the foundation of a strong and vigorous plant, not in winter.

French Beans.—The first batch of this useful vegetable if sown when recommended in a previous calendar will now be making rapid growth. They may be stimulated by having a top dressing of rich material, filling up the pots to the rim. Growth should not be unduly hastened by keeping the plants close, for judicious ventilation encourages the building up of good stocky growth, from which alone a good crop can be obtained.

Cauliflowers.—The first batch of these may be planted in their permanent positions if the cultivator possesses a stock of handlights for their protection. If the latter are 18 in. square half-a-dozen plants may be put into them in case of deaths occurring in winter, and then thinned out to three about the end of February or the beginning of March according to the state of the weather. The thinnings may be transplanted elsewhere. The more forward of the plants will come into use during May.

Lettuce.—Young plants intended for early spring use may be treated much in the same way as Cauliflowers, but planted closer together, say about 6 in. either way. Others may be planted in a warm border or at the foot of a south aspect wall.

Lamb's Lettuce.—This vegetable which, of course is not a Lettuce at all, is quite hardy, but should always be grown upon a warm border in order to promote growth during the winter months. The plants should now be thinned out to 2 in. or 3 in. apart to enable the remainder to grow strong.

QUESTIONS AND ANSWERS.

*** *Correspondents are requested, in order to avoid delay, to address all communications to* "THE EDITOR" *or* "THE PUBLISHER," *and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed* "*Bambusa, London.*"

MARKET WEIGHTS AND MEASURES.—*Pinkie*: A half sieve is a measure averaging 12½ in. in diameter and 6 in. in depth, and contains 3½ Imperial gallons. A half sieve of Currants should contain twenty quarts. A bunch of Carrots consists of thirty-six to forty; and of Onions from one to two dozen according to size. A bundle of Celery would be a dozen. There is no fixed standard for "bunches," "bundles," and "hands," all depending upon size and season, and the custom of the various markets.

BAY LAUREL.—*T. G.*: We take it for granted that you mean Laurus nobilis and not the Cherry Laurel, the two being often confounded under the name of Bay Laurel. The latter may be propagated by seeds or by layers, the latter method being the most convenient as seeds are not always obtainable. Young shoots coming up from the base of the plants are the most suitable. Where this is grown for flavouring purposes the plants are often cut back with the view of encouraging young growth, while at other times the stems get killed down by frost, with the same result By layering these shoots some time during the course of autumn, there will be less danger of their getting destroyed should the coming winter prove severe. Make a slanting cut half through the shoot, peg them down and cover with three or four inches of soil.

HARDY CISTUS.—*A. Longmore*: Many of the reputedly hardy species of Cistus are liable to be injured or even killed outright in severe winters. In our experience we have found C. ladaniferus, C. laurifolius, C. incanus, and C. corbariensis to be the hardiest, as they come through the ordeal of most winters even when planted in fully exposed places. The shelter of a wall would enable others to pull through, but the above should suffice for the present for trial in your locality. Covering up can only be permitted in a modified degree, by means of a few evergreen branches stuck in the ground over or amongst them. If a close covering of any sort is used the evergreen foliage must suffer by being kept in the dark for weeks together, unless you so arrange it that the covering may be removed in all but very severe weather.

CERTIFICATED GARDENER.—*A. D.*: There is at present no means of your becoming a "Certificated Gardener," for the simple reason that there is no recognised organisation which now grants certificates. The Society of Arts and the Royal Horticultural Society used to do so, but have long since given up the practice. Nevertheless you cannot do better than make the best use of the books you have.

CLIANTHUS DAMPIERI.—*J. Macdonald*: The flowers are very fine indeed, and there are more of them in the racemes than are usually seen. The usual average is 5—6, yours number 6—8 and indicate unusually successful cultivation. There is a white ground variety margined with red, and with the usual black blotch, but we have not seen it for a long time. Try some of the larger seed houses. So few succeed in flowering this plant well that we should be glad if you would give us a few particulars as to your mode of cultivation.

COMMUNICATIONS RECEIVED.—R. M.—J. C. & Co.—J. B. (next week)—C. H. (next week)—W. C.—J. M.—O.—W. C.—F. K.—E. S.—J. W., Long Island.

TRADE CATALOGUES RECEIVED.

GEORGE PHIPPEN, Reading.—Dutch Bulbs and Miscellaneous Roots.

H. CANNELL & SONS, Swanley, Kent.—Dutch Bulbs, New and Rare Plants, etc.

THOMAS S. WARE, Tottenham, N.—Autumn Bulb Guide, and Catalogue of Plants for Autumn Planting.

GEO. CHAUNDY, William Street, New Marston, Oxford.—Carnations and Picotees.

E. H. KRELAGE & SON, Haarlem, Holland.—Bulbs for Autumn Planting.

BARR & SON, King Street, Covent Garden, W.C.—List of Daffodils.

LONDON SEED TRADE.

September 13th, 1892.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, E.C., report Winter Tares scarce, but owing to slow demand are not so firmly held as last week. Trifolium unchanged. Ryegrasses steady.

COVENT GARDEN MARKET.

September 14th,

FRUIT.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d
Grapes..... per lb.	0 6	1 6	Pine apples.		
Kent Filberts	0 8	0 9	—St. Michael's, each	2 6	6 0
,, Cobs.....	0 8		Apples...per ½ sieve	1 0	3 6
Peaches ... per dozen	2 0	6 0	Plums...per ½ sieve	1 3	2 6
Melons ... . each	1 0	1 6			

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d
ArticbokesGlobe doz.	3 0	6 0	Horse Radisb, bundle	2 0	4 0
Beans, Frencb, perlb.	0 6		Lettuces ...per dozen	1 6	2 0
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages ... per doz.	1 6	2 6	Onions.....per buncb	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per buncb	0 6	
Cauliflowers, Eng.dz.	3 0	6 0	Radishes... per dozen	1 6	
Celery.....per bundle	2 6		Smallsalading,punnet	0 4	
Cucumbers .....each	0 3	0 6	Spinach, per strike ...	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	0 9
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d
Asters .....per doz.	4 0	6 0	Fuchsia, ...per doz	3 0	6 0
Balsams .....per doz.	3 0	6 0	Heliotrope, per doz.	4 0	6 0
Begonias ...per doz.	6 0	12 0	Lilium Harrisii, doz.	12 0	24 0
Cyperus .....per doz.	4 0	12 0	Lilium lancifolium...	12 0	24 0
Dracæna term., doz.	24 0	36 0	Lilium Auratum.....	18 0	36 0
Dracæna viridis, doz.	9 0	18 0	Marguerites, per doz.	6 0	12 0
Evergreens, invar. doz	6 0	24 0	Mignonette, per doz.	4 0	6 0
Ferns, invar., per doz.	4 0	18 0	Palms in variety, eacb	2 6	10 0
Ferns, small, per 100	6 0	10 0	Palms, Specimen ...	15 0	63 0
Foliage Plants, doz.	12 0	60 0	Pelargoniums, perdoz.	6 0	12 0
Chrysanthemum, doz.	4 0	9 0	—scarlet .....per doz.	2 0	4 0
— large, doz.....	12 0	30 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s d		s. d.	s. d
Arum Lilies, 12 blms.	2 0	4 0	Myosotis or Forget-me-not, doz. bnchs.	2 0	4 0
Asters.....doz. bun.	2 0	6 0	Pelargoniums, 12 sps.	0 6	0 9
Bouvardias, per bun.	0 6	1 0	—scarlet.....12 bchs.	3 0	4 0
Carnations, 12 blooms	1 0	3 0	Primula, double, bun.	0 6	0 9
Carnations, doz. bun.	4 0	6 0	Pansies, doz. bchs ...	1 0	2 0
Cbrysanthemum, dz bn	3 0	6 0	Pyrethrum doz bnchs	2 0	4 0
— .....doz. blooms	1 0	3 0	Orcbid Bloom in var. per bloom, from	0 3	1 0
Cornflower doz bnchs	1 6	3 0	Roses, doz bunches	3 0	6 0
Eucharis ...per doz.	1 0	3 0	Roses, yellow, dozen	3 0	4 0
Gardenias 12 blooms	1 6	3 0	— Red..... doz. blms.	1 0	2 0
Gladioli...doz. buns.	6 0	12 0	— Saffrano...per doz.	1 0	2 0
—..... doz. spikes	1 0	2 0	— Tea ..... per dozen	0 6	2 0
Heliotropes, 12 sprays	0 3	0 6	Stephanotis, dz. sps.	2 6	4 0
Lilium Harrisii, doz. blooms	1 6	3 0	Stocks.....doz. bun.	3 0	4 0
Liliums var., dz. blms.	1 0	3 0	Sweet Peas, dz. bns.	1 0	3 0
MaidenhairFern, 12bs.	4 0	6 0	Sweet Sultan, dz. bn.	2 0	4 0
Marguerites, 12 bun.	1 0	3 0	Tuberoses, per doz	0 3	0 6
Mignonette... 12 bun.	2 0	4 0			

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FLOWER SHOWS, &c., 1892.

[*The Editor will be greatly obliged if Secretaries of societies will communicate to him the dates of their exhibitions as soon as fixed.*]

SEPTEMBER.

20.—Royal Horticultural Society: Committee Meetings at Drill Hall.
28.—National Chrysanthemum Society: Meeting of Floral Committee.

OCTOBER.

4.—Royal Horticultural Society: Committee Meetings at Drill Hall.
5.—Fruit Show at Earl's Court (3 days).
12.—National Chrysanthemum Society's Show at the Royal Aquarium (3 days).
18.—Royal Horticultural Society: Committee Meetings at Drill Hall.
25.—Fruit Show at Earl's Court (3 days).
26.—National Chrysanthemum Society: Meeting of Floral Committee.
27.—Alverstoke and Gosport Chrysanthemum Show (2 days).

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,, C,	,,	207	,, ..	,, 15s. 0d.
,, D,	,,	134	,, ..	,, 10s. 6d.
,, E,	,,	96	,, ..	,, 7s. 6d.
,, F,	,,	60	,, ..	,, 5s. 0d.

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For Index to Contents see page 57.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Sept. 26.—Bulb Sale at Protheroe & Morris' Rooms, (and every day in the week.)
Bulb Sale at Stevens' Rooms.
TUESDAY, Sept. 27.—Clearance Sale at the Pine Apple Nursery, Maida Vale, by Protheroe & Morris.
WEDNESDAY, Sept. 28.—National Chrysanthemum Society: Meeting of the Floral Committee.
Sale of Freehold Market Garden and Nursery at Henfield, by Protheroe & Morris.
Bulb Sale at Stevens' Rooms.
THURSDAY, Sept. 29.—Sale of Plants at Protheroe & Morris' Rooms.
Bulb Sale at Stevens' Rooms.
FRIDAY, Sept. 30.—Orchid Sale at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, SEPT. 24th, 1892.

THE INTERNATIONAL POTATO EXHIBITION.—Our readers who are interested in Potatos, and they must be legion, must have remarked with some satisfaction, although so very late, the advertised announcement made last week as to the issue of the schedule for this Potato Show, and justifying our previous statement. It does seem to be a fact that not only is everyone interested in Potatos, but all seem equally interested in a good Potato exhibition. The old International Potato Shows were always delightful gatherings and commanded the highest admiration.

It will be instructive to note how far the show of the present year, though necessarily evolved under adverse conditions, equals or excels those held at the Crystal Palace several years ago. In the interval there has been a great dispersal of famous growers and exhibitors, but there may be as good ones elsewhere, and who may feel encouraged to enter the lists because some former champions are now *hors de combat.* The offer of medals for the best collection and the best single dish as extra prizes should stimulate to unwonted competition. The duty of finding the best collection may not be a difficult one, but so far as a single

dish is concerned the matter may be of exceeding difficulty. However, there is no doubt but that these things will be satisfactorily surmounted.

Generally speaking we have a grand Potato season, and the crop is a splendid one. The Chiswick trials show too that raisers are still to the fore with many very fine varieties, some, indeed, of special excellence. We shall indeed be pleased if the result of the Earl's Court Potato Show should be a resuscitation of the International Potato Show, and if it can be so of vegetable exhibitions.

OCTOBER CHRYSANTHEMUMS.—We are gratified to learn from some of our more active Chrysanthemum raisers as well as growers, that there is good reason to hope that ere long we may possess a race of fine October flowering varieties, chiefly, of course, of the Japanese type, which will be duplicates of, and not less fine or beautiful than the November bloomers. It would not be possible to regard this as other than a boon, not only because under ordinary conditions it will lengthen the flowering season, but also because it will lead to some of the shows now crowded into November to be held in the preceding month, thus checking that pressure in the penultimate month of the year which is so very trying to all concerned.

No one can say that Chrysanthemums when they flower at their best are too early. So soon as Michaelmas is past we know that the doom of all tender flowers outdoors is pronounced, and then good flowers under glass become doubly welcome. To many, especially small growers, it is a matter of extreme difficulty to have blooms at their best in November, for damp is then so destructive. Flowers fully expanded in October are less subject to that evil.

Then when these early ones are over much more of room is given for the later ones, and the more of space, light and air they have the better chance there is of keeping them in good condition. There seems to be so many advantages to be derived from the obtaining of a fine race of October bloomers that such a result can hardly be other than warmly welcomed.

THE BEGONIA AS A BEDDER.—For outdoor uses the Begonia has become, if the term may be so applied, the champion decorative flower. It seems, too, as if it were in for a long life as such, or, as the Yankees say, has come to say. The Zonal Pelargonium has occupied the pride of place as a bedding plant for half a century, and will have a good innings yet. Still, it will have to bow down before the advancing force of the grand Begonia. That much is certain. We get in the Pelargonium, first a stout sturdy habit, which rather revels in moisture, and soon becomes under its influences demoralised. Then we have really wonderful blooms and variation in colours in Begonias that are indescribably beautiful. Still further as the season advances so does the Begonia seem to develop greater beauty, and the character found in June is continued till October.

In ordinary gardens the Begonia has become the chief floral feature. These, however, are mere trifles compared with the truly marvellous masses which such growers as Ware, Laing, Cannell and others present to us in their various nurseries, where they grow the seedlings in tens of thousands, and in such superb beauty as to make a visitor literally stagger with wonder. Once we have become satiated with Begonias it will be hard indeed to find any flower that will satisfy us.

At Forest Hill, for instance, there are two acres of ground absolutely crammed full of Begonias in luxuriant bloom, a sight of which the most enthusiastic florist could not have dreamt some ten or fifteen years ago. There is at present no probable finality in Begonias. The tether of the hybridist is yet a long one, and far more wonderful things than have been done may yet be accomplished. At present we strongly urge upon our readers to visit some of the Begonia nurseries, and see the immense stocks there in bloom. It will enable them better to understand the uses to which these flowers may be put.

ASTERS.—In spite of the charm which attaches to the Michaelmas Daisy, now found in so many varieties that it has become a most popular family amongst late blooming hardy flowers, the Aster of commerce is still without doubt the gloriously beautiful annual, which, in spite of some drawbacks has this season been as brilliant and as beautiful as ever. The finest displays of these flowers after all are to be seen in those out-of-the-way places where some 20,000 to 50,000 plants are grown for market sale.

These growers have a dwarf compact strain that is peculiarly suited for their purpose, and one that produces flowers of wondrous excellence. There seems to be absolutely no annual flower that gives us such extensive masses, such brilliant hues as these dwarf Asters do. If the blooms are not of exhibition size they are of not a worthless double in quality and form. It is really surprising to find how cheaply seed of such fine strains can be sold, but it is so. Asters are of all annuals amongst the best to lift from the ground into pots, and for that reason it is to be deplored that at our late summer and autumn shows it is not the rule to invite plants in pots rather than mere blooms, as a dozen even of the best flowers do not furnish much to look at, whilst half a dozen pots, or a dozen, each pot having three plants clumped into it, would produce a fine effect.

The dwarfer forms are displacing the taller ones in public estimation, and the medium-sized flowers of the Mignon section are far better than are the large flowers for cutting. Were it not for the securing of prizes at shows we should find these dwarfer sections more popular than they yet are. Showing them in pots as plants would render them most attractive.

Violas in the Phœnix Park, Dublin—Violas were largely planted last spring in the Phœnix Park, and all through the summer they have been gay and effective. Over 12,000 plants were put out, and they were all from the well-known growers, Messrs. Dobbie & Co., of Rothesay.

Chrysanthemum Shows.—The Finchley Chrysanthemum Show is announced for November 10th and 11th; and that of the Birkenhead and Wirral Society for November 10th and 11th also. The first Chrysanthemum and Fruit Show of the Waterloo, Seaforth and Crosby Horticultural Society will be held at Waterloo, near Liverpool, on Tuesday, November 8th.

New Carnivorous Plant.—As related by the *Bulletin d'Arboriculture*, a paragraph is going the round of the daily papers to the effect that a new Carnivorous plant has turned up at the World's Fair, Chicago, and will be publicly exposed on the first of April. It is called the frog-eater, comes originally from the tropics, and ought to be a near relation of the famous Electric plant. The flower distils a liquor which draws the frog, and when the latter has satisfied itself and wishes to withdraw, the flower shuts and two sharp spines, with which it is armed, transpierce and fix the unfortunate frog in its place. The flower recovers and can recommence its voracious work when the frog has been absorbed. Report does not state the number of flowers borne by a plant nor the number of times each flower feeds. It is only stated that a dozen living examples will be on view.

A New Golden Sage.—A golden-leaved variety of Sage named Salvia officinalis aurea has been put into commerce by Messrs. Dammann & Co., of San Giovanni, Teduccio, Naples. The leaves are of the most pure golden-yellow, thickly clothing a dwarf, compact, and closely branched plant scarcely a foot high. It is also very regular in growth, and does not in the least suffer from the influence of the sun's rays. When fully exposed it develops better, and the foliage acquires a more lively colour. It also differs from most or all other yellow foliaged, hardy plants by the compact tufts which it forms. Messrs. Dammann by repeated experiments have established the fact that to the present day it has not produced any flowers.

The Oldest Herbarium in the World is in the Egyptologist Museum at Cairo, and consists of an inconspicuous collection of dried portions of plants. These portions of plants and flowers were taken from wreaths and garlands in the coffins with mummies, where they were placed by the ancient Egyptians as death-offerings, and from edible plants which were set in earthern vessels on the floor of the sepulchre as the furniture of the last resting-place of their beloved ones. Many of these floral remains are so well preserved that after being treated with warm water they can be handled like modern herbarium specimens. The colours, too, are preserved in a remarkable way. The most important matter in connection with these plants is their age. The remains of funeral-food are found in tombs as far back as three thousand years before Christ.—*Garden and Forest.*

Green Dahlias.—Whenever any naturally variable flower is undertaken by the florist we are almost certain sooner or later to meet with anomalies and vagaries contrary to the natural order of things; and if some of them are occasionally met with in a state of nature, they are very exceptional compared with the same occurrences in gardens. As in the case of the green Rose, a green Dahlia has been cultivated for some years under the name of D. viridiflora, and is retained out of mere curiosity. The green head consists of the bracts only, which, right to the centre of the head, have assumed the same appearance as the bracts which normally cover the base of all Dahlias whether single or double. The florets are entirely absent as a rule, but occasionally a few of them make their appearance, and are dark crimson. The monstrosity has now been carried even farther, as was shown at the Drill Hall, on Tuesday last, by a specimen of a green Dahlia, the head of which had become elongated forming a stem of 4 in. to 6 in. long, bearing a dense array of green bracts like small green leaves, as if nature were undecided as to whether she intended to continue the ordinary leafy stem or to produce a flower head.

A Poisonous Leguminous Plant. — Amongst the numerous seeds, fruits, and products that are constantly being received at the Royal Gardens for identification were a few pods with bright red seeds, which were accompanied by the following account:—"I take the liberty of sending to you a few pods which I collected in Mexico. The leaves and seeds of this tree are said to be highly poisonous, and to produce tetanus in animals eating them. I have examined some of the seeds to find whether they contain strychnine, but have ascertained that that alkaloid is not present. I shall feel obliged if you could tell me if you know of this plant, and whether you could give me any information with respect to it. I understand that very large quantities of these seeds can be obtained in the mountains around Zacatecas, in Mexico." Upon examination these seeds proved to be those of the Sophora secundiflora, Lagasca, described by Professor Sargent as a small tree or tall shrub of Matagorda Bay, Texas, west to the mountains of New Mexico, forming dense thickets on the borders of streams, generally in low, rather moist soil. It has a heavy, hard, close-grained wood of an orange colour streaked with red. The seeds are said to contain an exceedingly poisonous alkaloid known as sophorine. The Indians in the neighbourhood of San Antonio use the seeds as an intoxicant, half a seed producing exhilaration followed by sleep lasting two or three days. A whole bean is said to be sufficient to kill a man.

AMATEURS & THE R.H.S.

Mr. H. A. Needs puts the saddle on the right horse in your last issue. His letter is very much to the point just at this moment. There is a deepening interest in horticulture all round, particularly among *bona fide* amateurs. Why should the R.H.S. not endeavour to foster and encourage it in a proper manner? If they had competitions (confined to amateurs) for a few things at some of their meetings the want of interest so often manifested would be, to some extent, removed. Such competitions need not cost much—a few medals or a few pounds in cash.

This naturally opens up the question of how the additional income to meet such expenditure is to be got. If one studies the constitution of the R H.S. it becomes very evident where a great improvement could be made. The half-guinea associateship is confined "to *bona fide* gardeners, or employees in a nursery, market garden, or seed establishment." Why is the poor *bona fide* amateur left out in the cold? I know hundreds of men who are not able to subscribe a guinea (Mr. Needs is not one of them), but who would gladly subscribe half-a-guinea (or why not five shillings?) to become associates with the right to exhibit and compete and visit Chiswick, etc. These men, however, would require to get some inducement offered them in the way of prizes at the shows, and I certainly think the revenue from their subscriptions would do far more than provide a fund for prize-money.

The *bona fide* amateur is the man who does not employ *regularly* a professional gardener. I say regularly because business men have often to employ a gardener in the spring months, and probably a day a week for the rest of the year to keep things in order, but they do the most of the gardening themselves for all that. People who employ professional service regularly should be kept in a class by themselves and the trade in another class. In like manner people who employ regularly professional gardeners should not be admissable as associates of the R.H.S. if a new departure, such as I have indicated, was made. These people are quite able, if they are willing, to pay one, two, or four guineas. Mr. Needs says, "deal liberally with the trade by all means, for they richly deserve it, as it goes without saying that they make the show." Yes, but who makes the trade?

If the R.H.S. does not soon move in the direction of making themselves and their shows more popular I think the best thing that could be done would be for the National Amateur Gardeners' Association, which has already done much good work, to get up one or two shows on a larger scale than they have ever yet attempted. This is an age of forward movements, and the R.H.S. cannot afford to lag behind the times, or it will very soon find itself once more stranded. I have only the *best* interests of the R.H.S. at heart, but there is too much formalism and red tapism about its officials and council.—*W. C.*

ON AN ILLINOIS PRAIRIE.

I open the door and step out into a wide expanse of level prairie land which now suggests nothing so much as a sea of "nodding Daffodils"; Golden Rod is everywhere, making a solid mass of yellow for several acres, relieved with but little greenery, while the background of grand old Willows look down in tacit tolerance of the intrusion of the palefaces on the land where erst the Indian hunted and fought, and whose boues may now moulder under our feet.

All over the side walks run Morning Glories, white, pink, and striped; Asters, white, yellow, and purple, are showing flower, and many distinctively American wild flowers peer up among the grass. All the year there have been masses of flower on the prairie, beginning with such quantities of fine Violets as I have never seen elsewhere, with occasionally a white or striped one, till one was lost in admiration of their abundance and beauty. Somehow I think flowers have a personality, some more than others, perhaps, and out here they seem exclusively patriotic, and excite no feelings of nostalgia in one's mind.

Could one see, ah, the Daisies or Bluebells of "our ain countree," things might be otherwise, but except for Violets and wild Roses, few British wild flowers are seen here. But they have a beauty all their own, these aggressive Americans, whether it is the dainty white so-called "Sweet Clover," perfuming the air all round, or the gigantic Sunflowers crowding the others to one side.

To see a plain, unbroken for miles by a tree or a house, alive with nodding, dancing flowers may well suggest endless fancies to a day-dreamer. Here Titania and Oberon may in sooth have transferred their citizenship, and hold their nightly revels on the green sward, undisturbed by a human foot. One can almost hear the fairy music as the wind blows over the prairie, breaking it into billowy waves of colour, while the dense growth of wild Strawberries underfoot is in evidence of provision for fairy banquets.

And the blue Illinois sky, surely blue as any vaunted Italian sky, flecked with fleecy clouds by day, and with strange sunset glories and Northern Lights by night, spreads a fitting canopy over all. You can hardly credit that you are so near this restless Chicago, for ever on the people's tongues, that you can almost hear the cable cars; such a Sabbath calm overhangs everything that were Miles Standish and his quaint contemporaries to appear yonder it would seem but the fitting picture for such a setting. —*C. Macquarie, Chicago.*

MINIATURE VIOLAS.

Violas are now so popular that it would be invidious on my part to point out in these pages any special feature of their usefulness. It is not, however, concerning the ordinary type that I intend to offer a few remarks, but to a new and distinct race that is fast gaining ground with the public. As a mark of distinction I have suggested the term "Miniature," and in the spring catalogues of next year they will be offered as "Miniature Violas."

Miniature Violas: 1, Violetta; 2, Mrs. Joseph Oliver; 3, Sister Frances; 4, Sister Sarah.

These flowers have been raised principally by Dr. Stuart, of Chirnside, and myself, and may be said to hold a position to the ordinary type similar to that between the Pompon and show Dahlia. The flowers are much smaller than the ordinary Violas, while the plants are of a distinct procumbent habit. The flowers which are borne on long footstalks are sweetly scented as Violets, or as it has already been remarked by a contemporary, "They are in perfume truly summer Violets."

As some of Dr. Stuart's seedlings are on trial at Chiswick, visitors to the Royal Horticultural Society's Gardens will have an opportunity of seeing them, but it must be borne in mind that all those sent by Dr. Stuart for trial are not of the "Miniature type." Sylvia, for instance, is a large-flowered variety, and others, although partaking somewhat after the original Violetta, are not admissible in the miniature class, owing to size of flower and the sub-erect habit of the plants. The distinguishing features of the miniature Violas are the dwarf procumbent habit of the plant—flowers small with a peculiar yellow blotch on the base of the lip are borne on long footstalks and deliciously fragrant. The flowers are also free from any ray or marking, a feature which ought to be enforced in all Violas; and I may here remark that if this important character had been strictly enforced the public would have been saved from so much rubbish that has been introduced of recent years.

Habit and floriferousness are perhaps the most important features in a bedding Viola, and when we can combine with these colour and fragrance their usefulness is greatly enhanced and in every way adapted for the garden. This new type of Viola is not brought before the public without a recommendation or trial. Flowers were submitted to our great Viola specialist, Mr. Wm. Dean, last year, and after seeing them again this year Mr. Dean has given them a character which at once places them in the front rank either as bedding or decorative plants. I have much pleasure in sending you a box of flowers, and will be pleased to hear if you can endorse what has already been said in their favour.—*George Steel, Heathorslaw, Cornhill-on-Tweed.*

[We are already confirmed admirers of the miniature race of Violas raised from Violetta, although we are equally convinced that they will not drive the finer types of the large-flowering race from the garden. The latter, however, want thinning out considerably, and the races of rayless Violas, whether large or small, will effectually accomplish the desirable change. The smallest flowered variety sent by our correspondent was Mrs. Joseph Oliver, but judging from the flowers alone, Sister Frances come more near our ideal, and its odour is delicious. The yellow blotch on the lip is greatly reduced in dimensions, while in Sister Sarah it is enlarged—Violetta holding an intermediate position. Maggie Steel and Mrs. Geo. Finlay show more yellow all over the flower, but we prefer the first-named. Ophir is a beautiful clear yellow, deepening to gold upon the lip with a narrow white margin, but we should like to see the whole flower intensified. Summer Cloud and Mrs. Stephens are beautifully chaste and refined flowers, the former being white with the upper petals clouded with bluish-lilac from the margin inwards. Mrs. Stephens we consider an improvement upon it, the upper petals being clouded all over and the three lower ones faintly so. A beautiful creamy flower is White Lady, but it is not happily named. Picotee is also sweet; its blue edge is better defined than when grown in the south. A beautiful soft lilac flower with a golden blotch on the lip, and named Jeannie Turnbull, should prove an excellent dwarf bedder. Our correspondent was using the pollen of the Violet and considers there is a trace of the blood of the Violet in the progeny, but it seems to us more like Violetta crossed with Viola cornuta Perfection. The flowers measure 1½ in. to 1¾ in. across, and seedlings with more intensified colours might be obtained from it.

Some of the larger flowered types accompanied the above, including Venus, a seedling from Ardwell Gem, with larger, rounder flowers, a shade or two darker in colour, but more of the Pansy blood in it. The habit, however, is said to be good. We were rather disappointed with Border Maid, of the same strain as Blue Cloud and Skylark, but having smaller flowers and a yellow ground instead of white. Although having the same relation to those varieties as Goldfinch does to Duchess of Fife, it is by no means so refined a flower. We rather like the warm purple of Maud on account of its distinctness, but the violet shading in the centre requires washing out.

Being in a position to give an illustration of the original type from which the race of pretty miniature Violas has been derived, and also three of the varieties raised by Mr. G. Steel, we may here give the characters by which they may be recognised. No. 1 is Violetta, the original type with pure white flowers excepting a yellow blotch on the lip, extending downwards from the eye. Mrs. Joseph Oliver (No. 2) is much smaller than the type, and the yellow blotch hardly extends beyond the eye. Sister Frances (No. 3) is a lovely flower of the same colour as the last-named, but larger with a yellow brow at the base of the two lateral petals, and is deliciously fragrant. Sister Sarah (No. 4) has a bright yellow lip margined with white. The principal veins are generally tinted with yellow towards the base, but indistinctly, and violet rays never occur in those four.—Ed.]

THE KINVER SEED FARMS.

TRADE ENTERPRISE AT WORDSLEY.

A DELIGHTFUL day spent at Kinver among beautiful flowers, rare specimens of garden vegetables, magnificent root and grain crops, and choice results of cross-fertilisation and high selection generally, naturally give scope for abundant reference to some floral gems that are novelties which came under observation, and a great many valuable strains of Potatos, Peas, Cabbages, and crops that are extensively grown in market gardens and kitchen gardens alike, as well as plants and vegetables, more exclusively belonging to the latter. All appeared to have among them specialities which could scarcely be overlooked by any attentive observer, anxious to inform the public of achievements in plant culture of high utility and real value, yet the reporter finds his notebook so full of references to them that only a selection can be made.

Messrs. Webb have long been famous for bringing out valuable new varieties of Peas. The persistent cross-fertilisation of all the best old and newest kinds, one with another, and rigorous selections afterwards, such as to ensure only the survival of the fittest, has resulted in several kinds having gained golden opinions from gardeners. Royal Standard, a blue wrinkled Marrow from Ne Plus Ultra and Telephone, is a grand main crop Pea, with remarkably fine, handsome pods, in fact a prodigious cropper. Yet not more so than the still newer Promotion, a second early Pea introduced for the first time in 1891, the vines of which are absolutely covered with pods. Talisman, only brought out this season, is a cross between Culverwell's Giant Marrow and Omega for main crop purposes with remarkably fine handsome pods, likely to be utilised largely for exhibition purposes. Another exceedingly heavy cropper having Culverwell's Giant Marrow for one of its parents will probably be brought into commerce next season. The other parent is Prince of Wales, and the new sort appears to have incorporated the good qualities of both parents. Prince of Wales has always been a great favourite with market gardeners, yet like every other variety it is liable to deteriorate or be made more perfect by high selection being neglected or constantly persevered in.

This will be seen by the following extract from a letter received a few days since by Messrs. Webb from Mr. E. H. Thornley, winner of one of the royal prizes for farms in Warwickshire, who for some years has been in the habit of supplying Leamington largely with green Peas. It is as follows:—"The sixteen bushels of the Prince of Wales' Pea I had from you as seed to produce Peas for picking turned out a very good and profitable crop. I am sorry to say some seed bearing the same name I had from another firm turned out anything but satisfactory." Messrs. Webb, among many other valuable sorts, have brought out Wordsley Wonder and Kinver Gem, both well-known as very early Peas; Stourbridge Marrow and Kinver Marrow, which are second early; and Chancellor and Electric Light, both of which enjoy a high reputation for the main crop. Moreover there are nearly a hundred varieties of Peas at present under trial at Kinver, leading to the hope that more new ones of intrinsic worth will ultimately be brought into commerce.

The successes of the Wordsley firm in Potatos are quite equal to what has been achieved with Peas. We have only to mention Webbs' Wordsley Pride, Renown, and Stourbridge Glory Potatos to recall to the minds of readers grand specimens seen at shows, and these three are placed in conjunction because they are general purpose Potatos as well as heavy croppers, much grown in the field by farmers as well as by gardeners. All are noted prize-winners, and Webbs' Epicure, Benefactor, Kinver Hill, Kinver Monarch, and several more have attained to high reputation. There are also others coming to the front among a large number of new ones undergoing trial that are likely to turn out well. Among these is a Beauty of Hebron seedling so early that its tubers have been found fit to dig a fortnight before any Ashleaf has been found sufficiently advanced for the purpose. Moreover its tubers are kidney shaped, large and of apparent high quality. In all probability this one will be introduced to commerce next season.

The new Broccoli Avalanche is quite a speciality on account of hardihood and early spring growth, and also for yielding snowy white close heads. Webbs' Perfection for the main crop has long been known, and so has the excellent late variety May Queen. Their Early Mammoth Cauliflower has won numerous leading prizes at shows, and so has their Emperor Cabbage, which yields such large and solid heads that a working man and his family might find enough and to spare in one of them for a dinner, and the hearts are not only weighty but of high class quality. Webbs' Matchless Brussels Sprouts and Perpetual Dwarf Green Curled Kale are also valuable specialities, as well as the Kinver Globe and Little Wonder Savoys. A remarkably lengthy, nice quality Runner Bean called Eclipse, the result of many years' selection, deserves high appreciation; and their new Tomato Regina is smooth looking, deep coloured and of rich flavour. Melons have been crossed as much as anything, and by continuous selection several notable new kinds derived, such as President, Pride of Stourbridge, Beauty of Wordsley, Queen Victoria and Woodfield.

Few require to be told that Lettuces have undergone marvellous transformations at the hands of cultivators. There are several excellent members both of the Cabbage and Cos tribes at Kinver, the newest being Magnet, belonging to the former, and the New Exhibition Cos, both very fine and handsome. The newest Radish is called Favourite, and it seems likely to justify the appellation. This is its first season, but a great many other good sorts have been brought out by Messrs. Webb. There are several specialities in Onions, Webbs' Monster White Tripoli and Red Globe Tripoli having often been prize-winners, and their Improved Banbury and Snowball are much liked. Cucumbers form a large section with Messrs. Webb, the new Stourbridge Gem, a cross between Telegraph and Prince of Wales, being at their head; and some notable varieties will be found therein of Celery, Beet, Artichoke, and Asparagus. Carrots have been improved as much as anything; and the firm which has established its reputation from John O'Groats to Land's End for perfecting magnificent roots of every variety valuable for agricultural purposes has certainly not omitted to provide choice garden Turnips for edible use. Climax is a fine purple top with yellow flesh of mild flavour, but Prizetaker has white flesh of sweet nice quality, and derives its name from its handsome appearance ensuring the winning of premiums at exhibitions.

If space permitted there are many other kinds of garden vegetables, salads, and herbs of an improved kind deserving of notice; but these trial grounds are well known to be famous for floral beauties, and Asters, Zinnias, Stocks, Hollyhocks, Chrysanthemums, and Marigolds are always in splendid form at Kinver at this time of the year, among which there are several new varieties deserving high appreciation. Webbs' Champion Dianthus was truly magnificent in display; Challenge Antirrhinum being also remarkably attractive; Eclipse Gaillardia, not merely showy but truly beautiful; Golden King Calliopsis, very charming; Imperial Canterbury Bell, a choice strain; Helichrysum of varied colours being exceedingly noteworthy. Webbs' Premier Single Dahlia has deservedly a place amongst specialities; and White Pearl Chrysanthemums afford abundant delicate foliage, forming a pleasing contrast to the Golden Cloud. Poppies, of which there are notable varieties, were going off in bloom, but not so the various members of the Helianthus family which made a great show, especially Webbs' Gigantic, whilst the Miniature is a lovely gem.

In one of Messrs. Webbs' warehouses at Wordsley we found that the winter bulb season had already commenced, the different bulbs being placed in their respective labelled compartments, that when orders come in there may be no delay in despatching them. Messrs. Webbs' Bulb Catalogue contains some striking references to as well as illustrations of fine kinds of Hyacinths, Iris, Tulips, Crocus, Sparaxis, Ixias, Anemones, Gloxinias, Liliums, Muscari, Narcissus, Begonias, Cyclamen, Ranunculus, Gladiolus, Tuberoses, etc., etc. Everything is systematically arranged, and all transactions subject to perfect order in these spacious warehouses, there being other rooms and compartments for garden and farm seeds of all kinds, samples of them having previously, however, been tested as regards their germinating power. No seeds or bulbs are sent out by the firm that have not been submitted to the strictest examination, and the machinery for cleaning seeds and seed corn is very perfect.

A ramble through Messrs. Webbs' warehouses would well repay any visitor. Two of the largest at Wordsley are 182 ft. long and 62 ft. wide, having six floors, each 13 ft. high. These, together with one 120 ft. by 50 ft., having the same number of floors, form the two sides of a square, and there is intercommunication between them by means of iron bridges. Each warehouse is also fitted with a lift, often put into action, and some very weighty as well as valuable goods consisting of wool and Hops, as well as seeds, seed corn, bulbs and Potatos are warehoused at different periods of the year. Messrs. Webb are Hop and wool merchants on a very large scale, and they have an immense milling business likewise, their spacious new flour mills being also at Wordsley, although not contiguous to their warehouses.

The clerks' offices are very spacious also, yet insufficiently large for present purposes. Messrs. Webbs' many colossal enterprises include one not named above, bone and special manures for all crops of the farm as well as the garden being manufactured by them at large works they have at Widnes, Lancs. They supply owners of gardens as well as occupiers of farms with plant food for everything having vegetable life from the Hyssop on the wall to the Cedar of Lebanon. Flowers bloom more profusely and crops of all kinds are grown more abundantly by employing artificial manures instead of natural ones, and this causes garden management to be much more cleanly as well as less laborious and costly. Messrs. Webb & Sons' artificial manure business, like their seed and bulb trade, has increased enormously during recent years. Thousands of farmers regard them as among their best friends, having been enabled for many years past by using their seeds to grow more productive and better crops than they could do before; and the supply of artificial manures by the same firm is universally regarded as a boon likewise, as farmers can make sure of having from Messrs. Webb a genuine article. The same arts of cross-fertilisation and high selection are carried on persistently for the perfection of farm roots and seed corn as for garden vegetables and flowers, which necessitates a large acreage of land to be occupied. Although considerable additions have been made to Messrs. Webbs' seed farms of late years, a fifth farm to the four previously occupied has been added within the last month, making the total area to be about 2,000 acres. This is very far from being sufficient to provide seeds for all Messrs. Webbs' customers and the total land, including that in other parts of England and the Continent required to serve this object amounts altogether to about 18,000 acres.—*X.*

CELOSIAS AND COCKSCOMBS.

THESE two summer blooming greenhouse flowers Mr. Mortimer succeeds in growing in remarkably fine form out on the breezy hills of the neighbourhood of Farnham, where he is located. The varieties of the former are, so far as colours are concerned, chiefly scarlet, crimson-carmine, orange-yellow, and nearly white, but with some other intermediate tints. The plants are all grown in what may be called large 36-size pots and in fairly good soil, but still not too rich. They are grown specially to produce seed, a result that is more likely to follow if culture be not too generous than when it is so.

The plants range from some 15 to 20 in. in height, and have both on main stems and side branches handsome fluffy spikes or plumes of flowers; when at their very best they are so beautiful that visitors have been constrained to ask whether the flowers are not artificially coloured. Seed is sown in March. In another house were just now ripening their seed a superb lot of Cockscombs. These, like the Celosias, are of Messrs. Sutton & Sons' finest strains, the combs very rich crimson and massive, the plants running at about 10 in. in height, also in 6-in. pots. These are of so perfect a type that they are quite easily grown, needing no manipulation in the way of letting down in the course of potting or be-heading, and re-rooting, as is sometimes practised. The facility with which Mr. Mortimer grows these plants with so little trouble shows that we have far finer strains now than existed thirty years ago.—*A. D.*

PHLOXES AT CHISWICK.

WITHIN relatively a few years past great improvement has been effected amongst the summer and autumn flowering Phloxes, but especially the latter. The improvement has consisted chiefly in the enlargement of the flowers and the dwarfing of the plants. The fragrance, however, characteristic of the old varieties has mostly disappeared from the newer sorts, as in the case of Roses, Carnations, and other subjects. The early or summer flowering varieties have been raised from Phlox glaberrima suffruticosa, sometimes grown under the name of P. carolina. The late varieties have been raised by hybridising P. maculata, better known in gardens as P. decussata and P. paniculata. A variety of the latter, namely, P. p. acuminata, has also been utilised. Of course the two species are very closely allied, and the progeny have been so intercrossed with one another that it is now no longer possible to distinguished which varieties belong to each original type.

The collection grown upon trial in the gardens of the Royal Horticultural Society, at Chiswick, this year has been very extensive. The bulk of the plants were sent by Mr. John Forbes, of Hawick, and smaller numbers from Messrs. Dicksons, Chester; Messrs. Paul & Son, Cheshunt; and Messrs. Vilmorin, Andrieu & Co., Paris. A considerable number of them when gone over by the Floral Committee received three marks, and others little inferior to them received two marks. Visitors to the gardens during the course of August, and who were provident enough to take notes, would have no difficulty in making a selection of varieties that in after years must take a lot to beat them whatever the improvements that may be effected. As to what are the best colours is often a matter of taste, but the difficulty vanishes when an inspection is made of the plants in bloom. Even now the quality of many of the varieties grown at Chiswick can be determined.

The flowers of Flambeau are large, scarlet, flushed with salmon, and certainly fine, but liable to fade when old. Those of Moliere are rose shaded with white around a dark eye. Burnouf is of an intense crimson red, and the plant only 18 in. high. Even dwarfer is Henri Mugur, having white flowers with a purple eye. Similarly dwarf is Sulphide, having white flowers streaked with purple. The stems of Granville grow 2 ft. high, and the flowers are white with the eye faintly flushed with purple. Fine also is Boule de Feu, carmine, with a crimson eye and only 18 in. high. Eugenie Danganvilliers is only 15 in. high, and soft mauve with a rayed white eye. It is very floriferous. The small white flowers of Countess of Mar have a dazzling purple eye and most attractive. One of the dwarfest types is Le Soliel about 12 in. high, with large soft rose flowers shaded with white round a pale purple eye.

Very branching and floriferous is Delicata, with small white flowers and a palest shading of purple round the eye. The rich purple of Eclaireur exhibits a striking contrast to many of the above, but the flowers ultimately become paler in the centre. Those of Enchantment are mauve purple, with a rayed white centre. The soft salmon-pink flowers of Wm. Robinson are very pleasing. A floriferous and pure white variety named Amazon with medium sized flowers should prove useful for cut flowers. Neptune grows only about 18 in. high, and has soft rose flowers with a purple eye. Somewhat similar, but altogether darker in colour, is Nain Bebe, about 15 in. high and very floriferous. The medium sized flowers of Long Champs are white with a deep purple eye, and those of Alex Matheson are soft salmon-pink. Amongst the endless shades of colour few are more distinct than the violet flowers shaded with white of Paul Bert. All the above were accorded three marks by the committee.

The flowers of Pantheon are large and rosy-purple, without the usual dark eye. Those of Aspasia are purple with a rayed white centre, and therefore approach those of Pantheon pretty closely. Iris is so distinct that it might well have been accorded the same honour as Paul Bert. It has large violet-purple flowers ultimately shaded with blue, produced on stems 18 in. high. The flowers of Claudot are pink, fading to flesh with a bright rose eye. The stems of Hirondelle are only 15 in. high, branched, bushy, and floriferous, with soft rosy flowers and a carmine eye. Dwarfer even is Regalos, being only a foot high bearing large bright salmon-rose flowers. William Muir is exactly three times as tall, and has rosy flowers with a carmine eye. As the name would imply Purité has pure white flowers, and although they are small they are produced in great abundance, and should prove useful for cut flowers. Eugenie Schutte has rose flowers rayed with white in the centre and produced in pyramidal panicles on stems 18 in. high. Another free flowering sort is John Forbes, having bright pink flowers and a carmine eye. The soft lilac-purple flowers of Bayard are produced on stems 15 in. high. Those of Belvedere are deep rosy-purple with a dark eye. The large purple flowers of Thalie are shaded with white, and the stems only 18 in. high. Rather distinct in its way is Africain, irregularly splashed all over with purple on a white ground; the plant is very bushy and free flowering.

The above list, lengthy as it is, includes only those considered by the committee as worthy of three and two marks respectively. They would undoubtably constitute a very good collection for any private establishment, and also prove a good nucleus for any one wishing to cultivate them extensively. There are several others which might find favour, notably Pluton, a rich deep purple flower with a crimson eye. Purest of All has only medium sized pure white flowers, but they are produced in enormous quantity, a plant about 15 in. high, at Chiswick, forms a much branched bush about 18 in. in diameter, every shoot bearing a small truss of bloom which would be found useful for mixing with cut flowers. Other bushy and branched plants are La Fille d'Air, white with purple eye; Avalanche, pure white; and Faust, large white with a purple eye; all are only about 12 in. high. Since making the above notes, three marks have been awarded to Etna; Scarlet Aspasia; Croid de Sud, white with purple eye; Sam Ireland, rose; Roi des Rose, rose; Pluton; and Epopée, purple with a white centre.

DURHAM FLOWER SHOW

THE twentieth annual show of the Durham Floral Society was held on the 13th and 14th inst., and was a success from all points of view. The society has a hard working committee, who may be congratulated on the result of their labours, which not only consisted of the organisation of a flower show proper, but also included an industrial exhibition of unusual extent and interest. The entries were far in excess of previous records, and the competition very keen in all the leading classes. The plants and cut flowers especially were very fine, notably among the former being some grand Heaths. For six stove and greenhouse plants, Mr. C. Ford, Darlington, was 1st; Mr. J. Morris, Felling, 2nd; and Mr. E. H. Letts, Aske Hall, 3rd; ths first-named having fine examples of Ixora Williamsii, Clerodendron Balfourianum, Erica retorta major, and E. Austiniana, etc., but Mr. Letts well held his own with perfect specimens of Dion edule, Croton Chelsoni, Kentia Fosteriana, and Encephalartos villosus in a class for four fine foliaged plants. Mr. McIntyre, Darlington, secured first honours for a group; Mr. Ford coming in second; and Mr. R. J. Knaggs, Whorlton, third. The cut flower classes were very strongly contested, and the table decorations, bouquets, button-hole bouquets, etc., were especially good.

The fruit was excellent all round, and the competition for six distinct dishes was exceedingly close. Mr. Tallet, of Raby Castle, eventually secured the first prize; Mr. G. Atkinson, Newcastle, the second; Mr. G. Lonsdale, Yarm, the third; Mr. J. McIntyre the fourth; and Mr. E. Hedley the fifth. Black and White Grapes were very good, especially the former, and Peaches and Nectarines, Apples, Pears, and Currants were also well to the front. Mr. Tallet had the best Peaches, and was also first for the two best bunches of Grapes (Black Hamburgh). In the class for any other sort of Black Grapes Mr. Joseph Witherspoon, of Chester-le-Street, secured the pink card with two beautifully formed bunches of Black Alicante. Mr. Shepherd, of Stone Bridge, carried off first with two bunches of Muscat of Alexandria. The competition was perhaps keenest for the premier award for the two heaviest bunches, Mr. J. McIntyre, of Woodside, eventually becoming the fortunate possessor of the winning ticket for two bunches of Barbarossa, Mr. Witherspoon being a good second with two excellent bunches of Black Alicante.

The vegetable classes also brought out a fine lot of produce, but if anything they were mostly shown too large, a fault that is common at many of the northern shows There was a capital entry for the collection, and overlooking the weak point indicated the display was both extensive and excellent.—*Rover.*

THE VEGETABLE GARDEN.

NOTES ON POTATOS.

ALL the early and mid-season varieties should now be lifted, those required for seed stored away on shelves, and all the eating ones pitted in the ground, unless a very cool shed facing the north is available, but in such case they must be deeply covered with straw or fern and mats. This is a matter which does not always receive so much attention as it ought to do. Potatos for eating must be kept from the air. Many people place large heaps of Potatos in hot sheds, with little or no covering, perhaps a few mats or a thin layer of straw only. They take no further care of them because they may all be used in a month or six weeks. Perhaps they will, but I believe that Potatos lose a great deal of their flavour if only exposed to the air for a few days. When I say exposed to the air I mean with only a very thin covering, which is much the same thing.

The vegetable man, he who gathers and carries the vegetables from the garden to the kitchen, is one of the chief offenders in this respect. When the Potatos are dug up, he likes a lot to be taken to the vegetable shed to save trouble, and when these are finished, he goes to the pit and takes out a lot at one time, which he only very thinly covers in perhaps a very draughty shed if not looked after. What is the consequence? Down comes a complaint that the gardener is sending in bad Potatos, and perhaps the variety or the soil is blamed, in some cases probably with good reason. What I wish to impress on everyone is my belief, that not nearly sufficient care is taken in keeping Potatos well covered from the time they are lifted until they are used.

Another error of judgment which many commit is lifting their Potatos as soon as disease appears, and when they are not half ripe, under the impression that if lifted they will be safer from the disease; but this is a fallacy. In practice I have found that even if disease is attacking the tubers, it is best to leave them in the ground until they are ripe, because lifting them before they are fully matured to a great extent spoils their flavour. Of course, these remarks entirely apply to Potatos grown for home consumption. In the case of Potatos cultivated for sale, the grower gets them sold as early as possible out of the way of disease.

Of Potatos which are seen to the best advantage this year in the Royal Horticultural Society's trial ground at Chiswick, I may mention among others Reading Giant, which is a first-rate variety, a very good cropper, and said to resist disease well. The Canon is a variety which took my fancy greatly. It was raised by Mr. A. Dean, and it is a splendid cropper, free from disease, and yields fine-looking tubers with very few small ones. Mary Anderson is a good sort and excellent in flavour. King of the Earlies is a kidney of good appearance, and I should think a fine early sort. Boston is a fine round with a rough skin, and a splendid cropper. White Kidney, Crawley Prizetaker, White Russet, and White Round, are all good varieties worthy of a trial elsewhere, as it is a well-known fact that Potatos vary much in quality in different soils, and it would be a pity to give any sort a bad name because it is not a success in any one particular soil. I fear there is a lot of disease this season, but we must hope that with the present fine weather it will not get much worse.—*G. H. S.*

PEA: SUTTON'S EXHIBITION MARROWFAT.

PERMIT me space to draw the attention of your readers to a Pea named "Sutton's Exhibition Marrowfat." Possibly some of your readers are already acquainted with it, but to those who have not grown or seen this grand Pea, I would venture these remarks. "Sutton's Exhibition Marrowfat" is a wrinkled Pea, and the grandest variety I ever grew, either for table or exhibition. It grows about 4 ft. high, is exceedingly prolific, and the pods contain from eight to twelve Peas of the best flavour and colour. Truly, this Pea is excellent. Those who have seen it growing in these gardens this season can bear testimony to these remarks. I hope all who can will give this Pea a trial next year, as I feel certain it will give great satisfaction.—*A. C. Grant, The Rookery, Dorking.*

The Carnation: its History, Properties, and Management, with a descriptive list of the best varieties in cultivation. By E. S. Dodwell. Third edition, with supplementary chapter on the yellow ground. London: GARDENING WORLD Office, 1, Clement's Inn, Strand W.C. 1s. 6d.; post free, 1s. 7d.—[ADVT.

FLORICULTURE.

Hollyhock Notes.

At the flower show at Alnwick on the 8th inst. there was a large turn out of Hollyhock blooms—larger than has been seen at this show for many a year, and proves that the cultivation of this favourite autumn flower is reviving in the north. The prize stand of twenty-four blooms, shown by Mr. A. G. Brown, of Whitburn, the champion Gladiolus grower in the north, was a splendid example of what can be done with the Hollyhock by good cultivation, and shows that Mr. Brown can grow Hollyhocks as well as Gladioli. The blooms were very large and of splendid quality.

It was remarked by most of the growers here that there had been no appearance of disease this season, and it is to be hoped that in a year or two the Hollyhock will be as common in gardens as it was about twenty or thirty years ago. It is rather strange that the disease should have destroyed nearly all the plants in the South of England, while we in the North have enjoyed almost complete immunity from it this season. As we have had a rather cold, moist summer, perhaps the climate may have had something to do with the propagation of the fungi.

Like the Pansy the Hollyhock seems to delight in a rather cool atmosphere, and a dry, parching climate does not seem to be suited to its development. The Hollyhock also delights in good rich soil, and should be well supplied with liquid manure during the summer.—*T. C. Steel, Crookham, Cornhill-on-Tweed.*

Yellow Carnations.

A grower some few years ago observed in the course of conversation that "there was a scarcity of yellow Carnations." My reply was "wait, and they will be as plentiful as Blackberries." I think now that we have evidence of this, as those raised subsequently are numerous, and in many instances of improved form both in size and colour.

I send you one of my seedlings herewith; it is not a large flower, but it appear to me to be one of the brightest and richest yellows that has come under my notice. It has been blooming with me all the summer, and is still flowering. You will observe that it is a compact and medium-sized flower, neat in its proportions, and moreover it has never been known for the calyx to split; it belongs to the tree or perpetual section, and is robust in growth.—*George Fry, Lewisham.*

[A fine clear yellow of good form, and apparently very free.—Ed.]

AN AYRSHIRE FLOWER SHOW.

The Kilmarnock and County of Ayr Horticultural Society, which is one of the oldest and most enthusiastic in the west of Scotland, held their annual exhibition on Thursday, September 15th, in the Agricultural Hall. As usual the leading feature of the show was the groups of six stove or greenhouse plants, for which a silver cup or £3 is offered for the most meritorious. There were a number of very creditable specimens of Heaths and fine foliaged plants staged, the 1st prize being awarded to Mr. Kitchen, gardener to Sir W. Houldsworth, Bart., of Coodham.

In the fruit classes Grapes, which at a former period of the society's history were conspicuous for their excellence, were at this show considerably under the average standard as regards size of bunches and other points of merit. Apples, on the other hand, were extra good, those staged by Mr. Strathdee, gardener to Sheriff Paterson, Gadgirth, being very fine examples of Warner's King, Beauty of Kent, Lord Grosvenor, Stirling Castle, and Eclinville Seedling. Mr. Gray, Newfield, exhibited a large collection of Apples not for competition, amongst them being some extraordinary large specimens of Peasgood's Nonsuch, which were also beautifully coloured. Mr. Gray also exhibited a seedling Red Currant of handsome size and in good preservation named Come-at-last. Some fine Kirk's Seedling Plums were also noticeable.

The herbaceous and other cut flowers have seldom been equalled at this show, Dahlias and Gladioli being exceptionally attractive. Amongst the latter, Mr. M. Smith, Prestwick, who is now recognised as a veteran grower of this popular flower, repeated his successes at the metropolitan shows with twenty superb spikes divided between the gardeners' and amateurs' classes. Amongst nurseryman's exhibits Messrs. W. & T. Samson, Kilmarnock, staged a splendid assortment of stove and greenhouse plants, which gave evidence of high cultivation. These included some fine Liliums, conspicuous among them being a grand pot of L. speciosum, album novum, Odontoglossum grande, and the beautiful foliaged Begonia named Arthur Mallet. There was also exhibited by this firm a superb lot of Cactus and Pompon Dahlias. Mr. Smith, Stranraer, staged a superb collection of Roses, for which he is so justly celebrated. Mr. Mair, Prestwick, had also a choice collection of Gladioli for exhibition.

Vegetables were a prominent feature of the show, Parsnips, Leeks, and Onions being most remarkable; and the twelve bulbs of the latter, staged by Mr. Mac Fadzean, Troon, in the amateurs' class, were if anything only a trifle behind the best we saw in the Waverley Market Show, Edinburgh, recently. Cranston's Excelsior, Ailsa Craig, and Rousham Park Hero are the varieties in general estimation among exhibitors in this district.

Bouquets lent a graceful addition to the show, Liliums, Allamandas, Roses, Lapagerias, and Chrysanthemums being turned to good account in the first prize exhibits.—*Western.*

WORTH PARK, CRAWLEY.

On Wednesday, the 14th inst., the Brighton New Horticultural Society enjoyed a pleasant day's outing on the borders of Sussex, Kent, and Surrey. The members and their friends to the number of thirty-six assembled about half-past one o'clock in the afternoon at Three Bridges Station, and were driven in brakes first to Worth Park, the noble residence of Mrs. Montefiore, who kindly gave permission for the party to pass through the grounds and inspect the houses and gardens. The party afterwards proceeded by the same conveyances to the Lowfield Nurseries, Crawley, of Messrs. J. Cheal & Sons.

Passing into the grounds at Worth Park, it soon became evident to the party that the place enjoyed a high style of keeping, and was moreover well furnished with the best of modern trees and shrubs that are necessary for the embellishment of a modern residence. The roads and walks everywhere in the avenue and over the place were clean, firm, and substantial, reflecting credit upon the owner and her gardener, Mr. Glen, who superintends the keeping of them. The gardens were soon reached, and Mr. Glen proceeded at once to conduct the party over the place. The Fern house, a model of neatness, was first inspected. The back wall was covered with Ferns, chiefly Adiantums, and the front bench was similarly occupied, including fine pieces of A. Farleyense in 32-size pots.

Near this was a Melon house with the fruits about half grown, and attractive little bits of Caladium argyrites occupied the front of the bed. Orchids occupied another division, chiefly Cattleyas, and Miltonia Clowesii was in bloom. The cool end was filled with Caladiums and small Fuchsias. Alongside of this is the stove containing plenty of Palms, Dracænas, and Anthuriums, and a large plant of the latter in the way of A. leodiense bore two albino leaves. Running parallel with this was another span-roofed house, one end of which was filled with Chrysanthemum Madame Desgranges and G. Wermig, Pelargoniums and fragrant Heliotrope. Tuberous Begonias and Fuchsias occupied the other end.

Close by were the hothies, fruit room and other conveniences. Peaches, Pears, and Tomatos were the chief fruits stored. The walls of the hothies are draped with Cotoneaster microphylla, Vitis tricuspidata (Ampelopsis Veitchi) and Aristolochia Sipho. Passing from thence to the kitchen garden a beautiful sight was noted in the shape of a long wall covered with Cordon Pears train obliquely with single stems. They have been planted for seven or eight years, and in this year of scarcity, as far as Pears are concerned, Louis Bonne of Jersey, Pitmaston Duchess, and many others are bearing large and tempting fruits. The vegetable crops generally are looking well, including Celery, Lily White and other Sea Kale, Brussel Sprouts, Beet, Onions, and Scarlet Runners, as well as late Peas. Some 700 to 800 Chrysanthemums in pots line the walks here, forming long avenues. They look very promising, some of them having stems like walking sticks. A set of frames at one end of the garden was filled with Viola cuttings, seedlings of Tuberous Begonias, Malmaison Carnations, etc. Another set contained a fine lot of Poinsettias, Gardenias, and Caladiums, while Strawberries were ripening in another lot.

The vineries present a fine sight at present particularly a house containing some moderately young and vigorous Vines of Alicante, Lady Downes, Gros Colman, Buckland's Sweetwater, Raisin de Calabre, and Muscat of Alexandria. Many of the bunches of the three white kinds were notable for their size. Alicante and Muscat of Alexandria were also grown in plenty in a larger house. It was rather late to see the Peaches in perfection, as the bulk of them had been gathered; what remained testified to the size of the fruits. One large Nectarine tree occupied the whole of the back area of a large house, while two Peach trees occupied the front. Already the more forward of the Chrysanthemums have found their way into this house. In the next compartment younger Peach trees still carry plenty of fruit. On open walls Morello Cherries and Pond's Seedling Plum were very attractive, and Lord Derby, Warner's King, and other Apples were fruiting finely on espaliers. The borders were gay with annuals and herbaceous perennials

The principal part of the flower garden is located at one end of the mansion, and is very neatly kept. A long corridor surrounds it on one side, and the back wall of neat, red bricks is covered with a wire trellis to which Camellias are trained. The face next the garden is of glass, and just outside it is a long border of Hypericum calycinum. Beds of blue Ageratum are still very gay, and likewise a series of beds of intermediate Stocks around a centre bed of Begonia Worthiana laden with bloom and edged with the golden Viola Bullion. Close by were beds of seedling tuberous Begonias. A low balustrade runs round the house enclosing a lawn on which are beds of Chrysanthemum Madame Desgranges, Cannas, Love Lies Bleeding, and tuberous Begonias, forming a groundwork to Chrysanthemums. The mansion faces this part of the grounds, and is a stately structure of modern design.

Outside of the balustrade is a greater expanse of grass with large beds cut out here and there, and planted with various subjects such as Cactus and decorative Dahlias, Eulalia japonica zebrina, Golden Yews and Fuchsias. Pyramidal Golden Yews are also very conspicuous here and there on the grass, and around a large fountain. Viola Countess of Kintore in full bloom formed a fine edging to a border. A circular bed of Roses was edged with Viola Blue Bell still very gay. A fine lake or ornamental piece of water bounded the prospect from the house, and although dry at present will soon be filled, and must be a fine adjunct to the landscape. In another direction were fine masses of Prunus Pissardi, Golden Poplars (Populus Canadensis aurea), Golden Elders, and other fine subjects.

LOWFIELD NURSERIES.

Having completed the detour of the gardens, houses and grounds at Worth Park the party proceeded in the conveyances through wooded and rustic scenery to the nurseries of Messrs. J. Cheal & Sons. The numerous large standard trees in the cottage gardens by the way of the Sussex Forge Apple were a source of great attraction owing to the quantity of bright red fruits which they bore. Arrived at the nurseries the fruit room already well packed with early Apples was inspected. Conspicuous amongst them were Worcester Pearmain, Duchess of Oldenburg, The Queen, Frogmore Prolific and many other fine kinds.

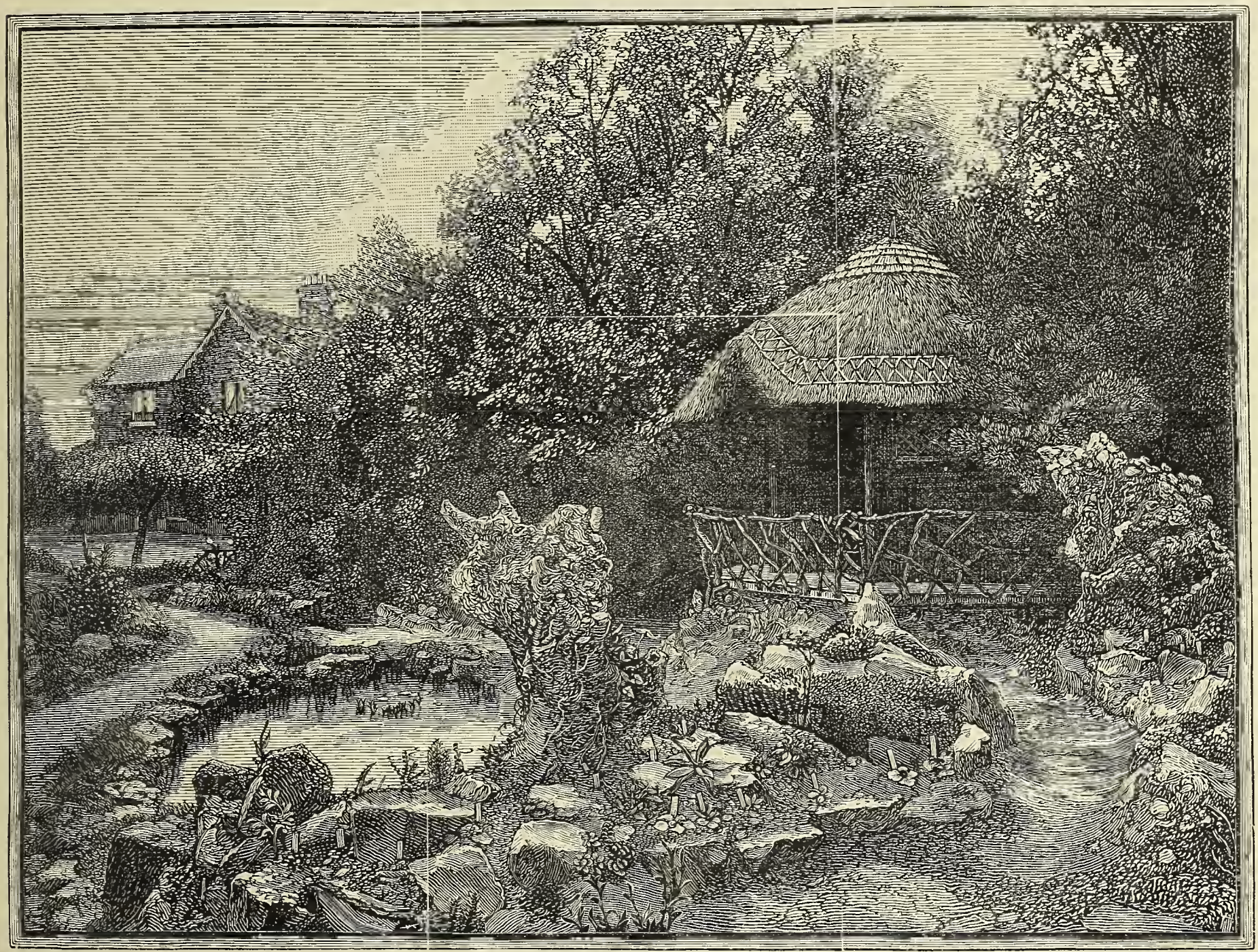
At the Lowfield Nurseries, altogether there are 80 acres under fruit trees and shrubs. The whole is divided into square compartments by means of tall hedges which afford ample protection to the subjects cultivated. Conifers are grown in large quantities, including such things as Thuyas, Cupressus, Retinosporas, Scotch and Austrian Pines, Abies Normanniana and other subjects useful for parks and pleasure grounds. Deciduous trees and shrubs are also grown largely together with Cherry and Portugal Laurels and other evergreen subjects too numerous to mention in detail. The glaucous foliage and pink flowers of Myricaria germanica were very striking, but too seldom seen even in seaside gardens in this country.

The everflowering Acacia (Robinia Pseud-Acacia semperflorens) is still gay with its white flowers.

The fruit trees constituted the greatest source of attraction to the visitors, especially those in full bearing. The soil here is very heavy, inclined to clay and contains much iron, evidence of which was shown by the lumps of gravel run together in blocks by the iron, and which are turned up by the plough and spade. This is considered to be one of the reasons why the fruit takes that bright colour for which it is noted here. The rich soil contains an inexhaustible supply of food for the fruit trees, but it requires a deal of working. A square of bush Apple trees were first inspected. Many of the trees were laden with large fruits, including Worcester Pearmain, intensely coloured, Stirling Castle, Col. Vaughan, Lane's Prince Albert, notable for its long keeping qualities, Eclinville, Cox's Orange and others.

Horizontal and fan-shaped trained trees of various sizes, both of Apples and other fruit trees, are grown to some extent all over the nurseries. Large quantities of Pear trees are grown on the same system as the Apples, but as far as the outdoor trees are concerned the crop is almost nil. The mischievous late spring frosts must be held accountable for this state of matters. In contrast to this a pleasing surprise awaited the visitors in the shape of a span-roofed house filled with single and double cordon trees mostly bearing excellent crops. The house is altogether unheated, and notwithstanding the occurrence of 10° of frost one night while they were in bloom they evidently suffered no harm. Amongst the heavily laden trees are Belle de Bruxelles, Bon Vicar, Emile d'Heyst, General Todtleben, Duchesse de Mouchy, Beurré Sterckmann, Gratioli de Jersey, now ripe; Doyenné Boussock and yellow, heavily shaded with bronzy-orange. Cactus Dahlias were well represented by Beauty of Arundel; Black Prince, of huge size; Empress of India, with maroon centre and crimson edges to the older florets which are tipped which violet. Pompons are also very largely grown. Dwarf single varieties are grown to some extent, but they have not yet become very popular as bedding plants, although there seems room for them in the parterre. Some of the selected and named varieties are Bantam, scarlet; Canary, yellow; Venus, like a miniature Paragon; and Fairy, lilac, all about 9in. to 12in. high. The green Dahlia seemed the most popular, judging from the number of buttonholes carried away by the visitors.

Some rockwork and a small pond, the work of Mr. J. Cheal in his spare hours, was next inspected. Amongst the flowering subjects at present are Montbrettia Pottsii, Japan Anemones, Geraniums, and others. Some rustic bridges and a fine summer-house of rustic work make up the accessories. The Bog Bean is thriving in the water. The accompanying illustration will give an idea of the rockery and dwelling-house.



The Rockery in the Lowfield Nurseries, Crawley.

The upright cordon Apple trees with single or double stems, so largely grown here, were most interesting. Very tempting and attractive were Golden Spire, New Hawthornden, Dutch Mignon, Northern Dumpling, Baumann's Red Winter Reinette and Manks Codlin with a bright red side. A single stemmed tree of Col. Vaughan bore 36 fruits on the lower 3 ft. of its length, or twelve fruits to the foot, and veritably like a rope of Onions. The Old Nonsuch was equally fruitful, and Peasegood's Nonsuch was notable for the huge size of its fruits. Maiden trees have made fine growths this year. A square of taller and older trees grown on the same principle were also inspected. Swedish Reinette has fruits about the size of Red Astrachan with a bloom on them like a Plum. More handsome even was the richly coloured fruit of Lady Sudely. Yorkshire Beauty is heavily cropped, and the same might be said of King of the Pippins, Frogmore Prolific, Hawthornden, Lord Suffield and Alexander, the latter not so heavily but fine in sample.

Louise Bonne of Jersey, wonderfully cropped. Alongside of the latter is a tree of Princess heavily laden. It is a seedling from Louise Bonne, ripening a month later, but it is only of second rate quality. Bon William is another new sort, with very large green fruits, and said to be a dessert variety. Pitmaston Duchess is also heavily laden on a single cordon. Pyramidal trees of the latter in large pots plunged along the central bed of the house are now handsome, as is Duchess d'Angouleme and others. The Dartmouth Crab grown in a pot outside is very handsome with its richly-coloured fruits.

Dahlias, also grown largely here, were a source of great attraction to the party of visitors. Single varieties grown in great quantity were handsome in their numerous tints of colour. Show and fancy varieties were also fine, amongst the former being Gloire de Lyon, large and pure white; John Walker, neater creamy-white; Mrs. Douglas, scarlet; and Mrs. Gladstone, pink. Fine types of fancies are Mrs. Saunders, yellow, tipped white; and Gaiety,

The party then partook of tea and a sumptuous supply of provisions in a tent upon the lawn, liberally furnished by Messrs. J. Cheal & Sons. After tea some speeches were made in reference to the nurseries, to the work being done by the Brighton New Horticultural Society, and to horticulture generally. A cordial vote of thanks was accorded to Mrs. Montefiore for allowing the party to pass through her grounds and gardens, and this was replied to by Mr. Glen, her gardener Similar votes of thanks were accorded to Messrs. J. Cheal & Sons, after which the latter provided conveyances to take the whole party back to Three Bridges Junction, thus completing a most enjoyable afternoon, all being highly pleased with the outing.

AN IRISH ROSE NURSERY

HAVING seen the Rose exhibits of Messrs. Alex. Dickson & Sons, of the Royal Nurseries, Newtownards, co. Down, at the Provincial National Rose Show, at Chester, I took the opportunity of paying their nursery a visit whilst in Ireland at the beginning of this month. I was indeed surprised to find such a large acreage under Roses, the nursery being over fifty acres in extent. It may interest your readers to scan over a few items concerning the Roses. They have this season dug up with spades a six acre meadow and budded 137,000 Roses in it; in all they have budded over 200,000 Roses this season, but when one sees such items as 15,700 Brunner, 8,000 Laing, 5,000 Dufferin, 5,000 Baroness, 5,000 La France, etc., the number is soon made up.

There were also some 600 seedlings, in which were some exceedingly promising ones; but this firm stands well in connection with seedling Roses, in fact I was more charmed by their latest Gold Medal winner (Chester) Mrs. W. J. Grant than by any other Rose on the place. This hybrid-tea, a seedling from La France, for symmetry, colour, perfume, and floriferousness beats anything I saw, as I counted sixteen blooms and buds on a very small plant; certainly Marchioness of Londonderry s a noble Rose and will make a magnificent addition to the whites, being a pure white with thick leathery petals. Earl Dufferin was full of bloom, and I have not the least hesitation in saying that 1,000 blooms of Mrs. John Laing could have been staged had there been necessity. A visit to the nursery is well repaid, as the Messrs. Dickson are heart and soul rosarians.—*M.*

THE PREVENTION OF POTATO DISEASE.

To the statement which we copied from *The Times* into our last issue with reference to the practical trial of the Bordeaux Mixture which Messrs. James Carter & Co. have this season conducted on one of their seed farms at Bromley, we may now add the fact that on Friday of last week a number of gentlemen interested in the subject visited the trial ground to witness the conclusion of the experiments. It may usefully be stated again that the objects which the Messrs. Carter kept in view were of a two-fold character, namely, the prevention not the cure of the Potato disease, and to prove the correctness or otherwise of the results claimed to have been obtained by Dr. Aimé Girard, in the six years' trial conducted by him for the French Government. All growers recognise the fact now that a cure for the Potato disease is of no practical value, as a tuber once diseased cannot be made eatable, and that for a remedy against the ravages of the Phytophthora we must work rather in the direction of prevention. Many experiments have been made in this country during the last two seasons with the compound recommended by M. Girard, but from some cause or causes that have not been clearly explained, the results have been of a varied character, and not until now, so far as we know, have M. Girard's experiments been confirmed by the trials made by English growers. It was the fact that the numerous trials made gave such differents results that induced the Messrs. Carter to adhere rigidly to M. Girard's recommendations, and with this view the conduct of the experiments was placed under the direction of Mr. Henry F. Moore, a well-known agricultural writer who had made himself thoroughly acquainted with the French scientist's work, and the result not only confirms M. Girard's experiments, but is of an even more satisfactory character.

The land selected consisted of a little less than an acre, and the Potatos were planted in ten long double rows, with the drills 30 in. apart. They were planted on April 8, the sorts being as follows:—1, Myatt's Ashleaf; 2, Snowdrop; 3, Beauty of Hebron; 4, White Elephant; 5, Carter's King of Russets; 6, Carter's Cosmopolitan; 7, Carter's Improved Magnum Bonum; 8, The Bruce; 9, Carter's Surprise; and 10, Imperator. The whole piece was divided into four equal parts, of which the first and third were dressed with the Bouille Bordelaise, and the second and fourth left undressed. The strength of the mixture was as follows:—22 lb. of sulphate of copper (bluestone), 22 lb. of unslaked lime, and 100 gallons of water; this being the quantity necessary for an acre of Potatos. The sulphate of copper is of 98 per cent. purity, and is the Macclesfield patent sulphate of copper, this being the same as that used by M. Girard in his experiments. For the purpose of the experiment the first and third quarters were dressed with the Bouille Bordelaise on July 11 and August 2, and the second and fourth left undressed. The mixture was applied by the Antipest, the new knapsack distributor, invented by Mr. G. F. Strawson, which did the work admirably. On the second occasion, a German machine was also tried, this also doing good work.

During the period of the experiment the weather has been as follows:—

APRIL 8th to 30th.—Rainfall: 1.50 in. (on ten days). The rain fell on continuous days from 24-25th to 28-29th (0.55 in.).

Frost was registered on thirteen occasions from April 10th to 30th, in intensity ranging from 1 to 7 deg.

Severe snowstorm 1 a.m. to 8 a.m., April 16th.

MAY.—Rainfall, 1.46 in. (on ten days). Very little rain (0.21 in. on eight days) until after the 24-25th; and on the 25-26th there was registered 0.97 in.

Frost registered on May 1st (5 deg.), May 7th (4 deg.).

JUNE.—Rainfall, 2.64 in. (on fourteen days). Thunderstorm 28th, 8.30 p.m. to 11 p.m. Thermometer: lowest 35; highest 98.

JULY.—Rainfall, 2.53 in. (on eight days). Very severe thunderstorm on the 14th, 10.15 a.m. and 12.30 midday, when 0.90 in. of rain fell. Thermometer: lowest, 39: highest, 90.

AUGUST.—Rainfall: 3.35 in. (on sixteen days); the heaviest fall was 27-28th, 0.98 in. Thermometer: lowest, 38; highest, 98.

SEPTEMBER 1st to 14th.—Rainfall: 0.57 in. (on seven days). Thermometer: lowest, 35; highest, 83.

Early in the present month it was clear that disease had appeared in the undressed portions; and on September 6th one root was dug from the centre of one row of each variety in the first three sections, and with results as shown in the following tables, which conclusively prove that, when properly applied, the mixture is clearly a preventive of this dreaded malady.

FIRST QUARTER PLOT.—DRESSED.

Row and variety.	Weight of sound tubers.			Weight of diseased tubers.			Total.		
	Cwt	qrs	lbs	Cwt	qrs	lbs	Cwt	qrs	lbs
1. Myatt's	3	1	5	—	—	1½	3	1	6½
2. Snowdrops	2	2	12	—	—	1¾	2	2	13¾
3. Beauty of Hebron ...	2	3	18	—	—	2½	2	3	20½
4. White Elephant ...	3	2	19	—	—	2	3	2	21
5. King of the Russets	3	3	14	none			3	3	14
6. Cosmopolitan ...	2	2	7	—	—	0½	2	2	7½
7. Magnum Bonum ...	3	2	19	none			3	2	19
8. The Bruce	4	0	0	none			4	0	0
9. Carter's Surprise ...	3	2	10	none			3	2	10
10. Imperator	4	3	10	none			4	3	10
Totals	35	0	2	—	—	8¼	35	0	10¼

SECOND QUARTER PLOT.—UNDRESSED.

Row and variety.	Weight of sound tubers.			Weight of diseased tubers.			Total.		
	Cwt	qrs	lbs	Cwt	qrs	lbs	Cwt	qrs	lbs
1. Myatt's	1	2	17	—	3	25	2	2	14
2. Snowdrops	1	3	10	—	1	21	2	1	3
3. Beauty of Hebron ...	2	0	10	—	1	12	2	1	22
4. White Elephant ...	2	0	25	—	3	21	3	0	18
5. King of the Russets	3	2	5	—	—	12	3	2	17
6. Cosmopolitan ...	2	0	0	—	1	7	2	1	7
7. Magnum Bonum ...	3	0	21	—	—	5	3	0	26
8. The Bruce	3	2	0	—	—	7	3	2	7
9. Carter's Surprise ...	2	1	10	—	—	25	2	2	7
10. Imperator	3	2	23	—	—	16	3	3	11
Totals	25	2	9	3	2	11	29	0	20

THIRD QUARTER PLOT.—DRESSED.

Row and variety.	Weight of sound tubers.			Weight of diseased tubers.			Total.		
	Cwt	qrs	lbs	Cwt	qrs	lbs	Cwt	qrs	lbs
1. Myatt's	1	1	13	—	—	0¼	1	1	13¼
2. Snowdrops	1	1	21	—	—	0½	1	1	21½
3. Beauty of Hebron ...	1	3	12	—	—	1¾	1	3	12
4. White Elephant ...	2	3	17	—	—	0	2	3	16¾
5. King of the Russets	2	2	9	—	—	0	2	2	9
6. Cosmopolitan ...	1	2	7	—	—	0	1	2	7
7. Magnum Bonum ...	2	3	0	—	—	0	2	3	0
8. The Bruce	3	0	23	—	—	0	3	0	23
9. Carter's Surprise ...	2	2	0	—	—	0	2	2	0
10. Imperator	2	3	8	—	—	0¼	2	3	0¼
Totals	22	3	26	0	0	2¾	23	0	0¾

FOURTH QUARTER PLOT.—UNDRESSED.

Row and variety.	Weight of sound tubers.			Weight of diseased tubers.			Total.		
	Cwt	qrs	lbs	Cwt	qrs	lbs	Cwt	qrs	lbs
1. Myatt's	—	3	14	—	1	14	1	1	0
2. Snowdrops	—	2	26	—	2	14	1	1	12
3. Beauty of Hebron	—	3	16	—	2	23	1	2	11
4. White Elephant ...	1	0	14	—	3	7	1	3	21
5. King of the Russets	1	2	0	—	1	0	1	3	0
6. Cosmopolitan ...	—	3	5	—	1	0	1	0	5
7. Magnum Bonum ...	1	0	20	—	—	1	1	0	21
8. The Bruce	3	1	11	—	—	2	3	1	13
9. Carter's Surprise ...	1	1	0	—	—	14	1	1	14
10. Imperator	2	1	7	—	—	20	2	1	27
Totals	14	0	1	3	1	11	17	1	12

The following table gives the totals of the two duplicate experiments:—

	Dressed plots.			Undressed plots.			In favour of dressed plots.		
	Cwt	qrs	lbs	Cwt	qrs	lbs	Cwt	qrs	lbs
Weight of sound tubers	58	0	0	39	2	10	18	1	18
Weight of unsound tubers	—	—	11	6	3	11	6	3	0
Total yield	58	0	11	46	2	4	11	2	7

It will thus be seen that in whatever aspect the experiment is looked at it is in favour of the dressing by the *bouillie Bordelaise*. So far as sound tubers are concerned, the yield is over two tons per acre more than in the undressed portion (the two plots being less than half an acre), while the quality of the tubers is better.

THE ONION IN EXCELSIS.

IT is now the custom of Mr. Henry Deverill, of Banbury, a town long since renowned for its Onions, to offer prizes annually in September for the best specimen of his famous pedigree Onions, several of which he has introduced of late years. Since Mr. Deverill instituted this annual competition his Onion show has grown greatly in importance and extent. His object in offering prizes is for the purpose of encouraging the cultivation of his pedigree stocks, and when seed from these is obtained and the plants subjected to high cultivation remarkable results follow. The prizes offered by Mr. Deverill are open to all comers; but in the three leading classes it was stipulated that the bulbs should be grown with the aid of Thomson's Vine, Plant, and Vegetable Manure.

An Onion exhibition at Banbury is no new feature; there are records extant showing that Onions were exhibited for prizes sixty years ago, and it is mentioned that about 1832 the best Onions measured 12in. round, and they were thought to be wonderful in that day. Thirty years ago a noted Banbury grower —George Warde—beat all previous records by exhibiting twelve Onions weighing 14 lbs., and they were the heaviest ever before exhibited. One of the most striking improvements in our ordinary garden Spanish or Reading Onion was that known as the Banbury Improved White Spanish, which is still grown to a large size.

On the occasion of Mr. Deverill's annual show on the 15th and 16th inst., he divided his prizes over four classes; there were ninety entries in all, and these, with some shown not for competition, brought the number up to about 1280 bulbs. They not only filled Mr. Deverill's seed shop in the market place but some had to be staged on tables placed in the street front of the shop. Never before had so many Onions of such astonishing size and superb quality been brought together.

Class 1 was for 12 specimens of either one of the following varieties of Onions, viz., Rousham Park Hero, Anglo-Spanish, Royal Jubilee, and the Lord Keeper or Advancer. Rousham Park came into commerce first in point of time, and is said to have been raised by Mr. H. Wingrove, of Rousham Park Gardens, from a cross made between the Reading and Brown Globe; and possibly this fine variety had much to do in producing some others of the same type. In this class, forty lots of twelve were staged, the first prize going to Mr. N. Kneller, gardener to W. S. Portal, Esq., Malshanger Park, Basingstoke, with Anglo-Spanish, raised by Mr. G. Neal, gardener to W. P. Southby, Esq., Bampton, Oxford, from a cross made between the Reading and the Grocers' large Spanish Onion, the twelve probably averaging 20 in. in circumference, and weighing 22 lbs. They

were perfect specimens—clean, bright, handsome, even in size, and well finished. 2nd, Mr. Wilkins, gardener to Lady Theodora Guest, Inwood House, Blandford, with twelve fine examples of Rousham Park weighing 18 lbs. 3rd, Mr. Copp, gardener to J. S. W. S. Drax, Esq., Holnest House, Sherborne, with twelve bulbs of Lord Keeper of the same weight, but not quite so well finisbed. 4th, Mr. W. Pope, gardener to the Earl of Carnavon, Highclere Castle, Newbury, with twelve of the same variety weighing 17½ lbs. A beautifully finished dozen of Royal Jubilee from Mr. R. Lye, gardener to W. H. Kingsmill, Esq., Sydmondton Court, Newbury, scaling 15 lbs., was highly commended.

The next Class was for twelve specimens of any one kind of the three following: Ailsa Craig, Cocoa Nut, or the Original Excelsior. Here Mr. Bowerman, gardener to C. Hoare, Esq., Hackwood Park, Basingstoke, came in first with a dozen Ailsa Craig turning the scale at 26 lbs.; these were large, even and very solid, but wanted a little more time to finish. But they were marvellous Onions, and the weight, it was said, had been excelled only in 1890, when specimens were grown and exhibited weighing 28½ lbs., 30 lbs., and 34 lbs. to the dozen. Ailsa Craig is a Scotch variety raised by Mr. David Murray, gardener to the Marquis of Ailsa, Culzean Castle, Maybole, N.B., the origin not stated, but it is a large somewhat globular shaped variety, though some will come of flatter shape, while still preserving certain distinct characteristics. Mr. Wilkins came second with a dozen weighing 23¼ lbs, rather more matured. Mr. Pope was third with 22 lbs., and Mr. Lye fourth with the Original Excelsior weighing 20 lbs., a very fine form of the Spanish type. The reason why it is designated the Original Excelsior is that, as Mr. Deverill states, the stock of Excelsior has from some cause degenerated, and what he bas is the stock in the fine character in which it was originally distributed. A special Gold Medal was offered by Mr. Deverill for the best dish exhibited in the two foregoing classes, and the judges selected Mr. Kneller's Anglo-Spanish for this distinction.

Class 3 was for twenty specimens of Deverill's Improved Wroxton, said to have originated as a cross between Magnum Bonum and the White Spanish, globe or egg shaped, sometimes tinted witb red, the bulb beavy, the flesh firm and solid, and generally recognised as one of the best keeping Onions of tbe day. Here Mr. Wilkins was first with twenty weigbing 26½ lbs; Mr. Pope was second witb 23 lbs.; Mr. Lye, third with 22 lbs.; and Mr. Bowerman, higbly commended, with 21 lbs.

Class 4 was for twenty specimens of anyone of the following kinds: Main Crop, Improved Wroxton, or Improved White Spanish, shown by allotment holders, mechanics and cottagers generally. Mr. Moss, Hackwood, Basingstoke, was first witb Main Crop, weighing 18 lbs.; second, Mr. W. Winfield, Shutford, Banbury, witb Improved White Spanish, 17 lbs.; third, Mr. G. Bliss, Church Lane, Banbury, with the same, 13 lbs.; and fourth, Mr. Geo. Summers, Adderbury, Banbury, with Main Crop of the same weight.

A large number of persons were attracted to the show, and as no cbarge was made for admission, prominent among the Onions was a collecting box of the Gardeners' Orphan Fund; let us hope tbis deserving institution will be a gainer therefrom.—*R. D.*

SILENE SCHAFTA.

A LARGE number of the species of Catchfly are sufficiently ornamental for cultivation in gardens, and some of them, including tbe present species, are naturally well adapted for rockwork. The plant only grows 3 in. to 6 in. higb, and has relatively large rose-coloured flowers with obcordate petals. Many of the perennial species have the habit of running so extensively to flower tbat the ground becomes practically bare after they have flowered. Numerous stems of this species do not flower at all, but remain leafy and green, forming a dwarf cushion. In propagating this species, division may be resorted to in spring, or cuttings taken early in the season long before they attain full growth, otherwise they root witb difficulty. Unlike several of the species of Catchfly, which are short-lived and easily lost, tbis plant is very long-lived and will occupy the same position for years if grown in a sunny exposed place.

GARDENING MISCELLANY.

DAVALLIA RETUSA.

MANY of the Davallias bear a close resemblance to one another, but D. retusa well merits the name given it, as the pinnæ are all cut short and wedge-shaped, rendering the plant very distinct from its congeners. The fronds of old plants attain a large size and are three or four times pinnate, but small plants are more easily accommodated. The petioles are red, and the leafy portion of a light glaucous green and pleasing in appearance. A specimen is planted out on the new rockery recently constructed in one of the bouses in Messrs. J. Veitcb & Sons' nursery.

NEPENTHES CURTISII SUPERBA.

THE pitchers of this variety are of good average size, cylindrical and of a deep blackish crimson with numerous small, light green spots. The annulus or collar surrounding the mouth is of a deep brown. Altogether this Nepenthes is very distinct, and where a collection is grown it should not be omitted. It produces pitchers freely and stands out prominently amongst those of lighter or even brighter bues. Some of the more renowned species of recent introduction are difficult to grow and give rather unsatisfactory results, but such is not the case with N. Curtisii and its variety N. C. superba. It may always be seen in fine condition in the collection of Messrs. J. Veitcb & Sons, Chelsea.

VERONICA BIDWILLI.

THE species of shrubby Veronicas in New Zealand are very numerous, and a considerable number of them have been introduced to this country on account of their neat habit and foliage. A fair proportion of them are worthy of cultivation for the sake of the quantity of flowers they produce. That under notice is recommendable on account of its flowers, the neatness of its foliage and dwarf habit. The leaves are very small, wedge-shaped, sharply serrate along the upper edge, and leathery in texture. The flowers are relatively large for the size of the plant, white with faint purple rays, and are produced on axiliary racemes like those of our native V. Chamædrys and V. officinalis. The wbole plant is only about 3 in. or 4 in. high, as the slender stems are more or less procumbent. It may be seen planted out in a bed amongst several other species in the gardens of the Royal Horticultural Society at Chiswick.

IXORA MACROSTACHYA.

As a rule before this gets sufficiently strong to flower, it attains a height of 3 ft. to 5 ft., and then produces a large, branching head of bloom 10 in. to 12 in. across. It is a vigorous growing sort, and in order to get it in bloom it must not be stopped. We recently noted a piece of it flowering in the nursery of Messrs. J. Veitch & Sons, Chelsea, and the stems were only 18 in. high. We suspect that a strong top shoot had been taken off and rooted, and that it had flowered after making a season's growth.

OXALIS SMITHIANA.

OF THE numerous species of Oxalis which are known to science, and which can mostly be grown in greenhouses and some in stoves, few of tbem are hardy enough to rough it in the open air. That under notice is an exception, as it may be grown readily enough in sheltered positions under a wall, or on well-drained rockwork in the same way as O. floribunda, a rosy flowered species which seems to be the most popular for outdoor work. The leaves of O. Smithiana are very curious, inasmuch as they are divided to the base into linear segments, and therefore appearing like six leaflets. The flowers are rosy pink with a white throat and just rise above the leaves. The whole plant is only 3 in. to 5 in. bigh.

RUBUS ODORATUS.

MANY hardy shrubs are seen to best advantage only when in flower, but R. odoratus is recommendable on account of the large size of its leaves, which are cordate, five lobed and very unlike either tbose of the Raspberry or Bramble. Tbe flowers are of an intense rose when they first expand, gradually fading to a paler hue as they get older. By cutting down the stems annually and giving the plants liberal cultivation, the leaves attain such a size as to have quite a tropical appearance. Handsome effects can be produced with various other shrubs treated in the same way, as well as with some of the larger leaved trees which permit of this treatment.

APPLE LADY SUDELY.

AMONGST the newer types of Apples that seem to be coming to the front is Lady Sudely, otherwise known as Jacob's Strawberry. It is an early Apple, has a prepossessing appearance, and is shortly conical or sometimes flattened on the top, and more or less distinctly angled round the top, with a closed eye in a moderately deep and rather narrow plaited basin. The skin is smooth and shining, and when well ripened and coloured it is of a bright crimson red and often splashed and striped with that hue on a greenish ground. The flesh is firm, crisp, and sweet with plenty of watery juice, and is white or slightly tinted with yellow. It comes into use during September, and keeps for some time owing to the firmness of its flesh, a quality not possessed by all of the early varieties, some of which are liable to become mealy in a few weeks or even in a few days if left too long on the trees.

ANTIRRHINUM GLUTINOSUM.

THE procumbent or trailing habit of this Snapdragon recalls that of A. Asarina, but the foliage is altogether different. It would seem however to have some relation with it, as the leaves are opposite in both cases. Those of A. Asarina are heart-shaped and five-lobed, while those of A. glutinosum are ovate or oval, pubescent on both surfaces and glutinous or clammy on the under-surface as well as the stems. Tbe flowers are of a large size and produced singly in the axils of bracts towards the top of tbe stems, and are white witb a pale yellow palate and slender, purple lines on the tube. We noted a pan of it at Kew, where it is kept with other plants some of wbich are perfectly hardy but others requiring the protection of a frame during the winter months.

CALCEOLARIA KELLYANA.

THE dwarf and stemless Calceolarias are comparatively seldom seen in cultivation, although several species have been introduced from time to time. That bere noticed is a hybrid between two of them, namely C. Fothergillii, a native of the Falkland Islands, and C. plantaginea, a native of Chili. The flowers are larger than those of the latter and more conspicuously spotted. The lower lip of the corolla or pouch is triangular, crenate at the lower edge, and yellow spotted with crimson; the exposed portion below the claw is wholly crimson. Tbe upper lip is small, hooded, and yellow. Whether it will prove hardy remains to be seen, but it forms a dwarf, neat and pretty plant for pot culture. It may be stood in a slightly shady position out of doors during the summer in association with a collection of other choice and dwarf-growing subjects, as is done in the herbaceous grounds at Kew. It is probable that a frame or cool greenhouse will be necessary for its safe keeping during the winter months.

APPLE GREENUP'S PIPPIN.

THIS Apple might be more generally cultivated than it is on account of its excellent qualities. It is said to be in use from October to December, and that may hold good for the country of its origin, that is Keswick and the surrounding country. In the South it is evidently much earlier, as it was ripe and perfectly fit for use by the beginning of this month in the gardens of the Royal Horticultural Society at Chiswick. It colours much better in the extreme south tban it does in the vicinity of London, where it is pale yellow and dotted with green markings. The fruit is above the medium size, rather flattened, and always broader at the base, with a closed eye in a shallow, slightly plaited basin. Tbe flesh is yellow, soft but crisp, with an agreeable briskness when at its best, and very good eating. Tbe fruit may be used either for dessert or culinary purposes. Tbe variety originated in the garden of a shoemaker named Greenup about the end of the eighteenth century and like many other varieties has proved very suitable for cultivation in the neighbourhood of its original home. It ripens sooner than some of the more recent choice kinds.

SOCIETIES.

Royal Horticultural, *Sept.* 20.—Stove and greenhouse subjects predominated largely at the meeting on Tuesday last. Dahlias, florists' flowers generally, hardy herbaceous plants, Orchids, and fruits were also well represented. A large group of nicely coloured Crotons was exhibited by Messrs. B. S. Williams & Son, Upper Holloway. The broad-leaved kinds were well distributed among the narrow-leaved varieties now so popular for decorative or table work. A Silver Banksian Medal was awarded. A varied collection of Palms, Ferns, Crotons, Dracænas, Caladiums, and tuberous Begonia flowers, some of them done up in sprays and buttonholes, was set up by Messrs. J. Laing & Sons, Forest Hill. A bronzy-yellow variety named Wm. Allen Richardson makes a wonderful substitute for the Rose of that name. A Silver Banksian Medal was awarded the group. A good representative collection of Dahlias for a private establishment was exhibited by W. Keith, Esq. (gardener, Mr. J. T. West), Cornwalls, Brentwood. The collection included a large number of show and fancy sorts together with Pompon and Cactus varieties.

A large collection of show and fancy varieties was also exhibited by Mr. A. Rawlings, Old Church, Romford, Essex; Queen of the Belgians, R. T. Rawlings, Arthur Ocock, Mrs. Saunders, Maude Fellows, and other fine kinds were shown in quantity (Silver Banksian Medal). A smaller collection was shown by Mr. S. Mortimer Rowledge, Farnham, including many of the leading show and fancy varieties (Bronze Banksian Medal). A very extensive exhibit of Dahlias, both show, fancy, decorative, Cactus, and Pompon, was brought up by Messrs Dobbie & Co., Rothesay, Scotland. They also had collections of Fuchsias done up in sprays, bedding Pansies and Violas done up in the same way, also Antirrhinums, French and African Marigolds, and Asters, as well as Onions, Leeks, and other vegetables (Silver-gilt Flora Medal). Sunflowers, perennial Asters, Phloxes, Shirley Poppies, and other hardy subjects were shown by Messrs. Paul & Son, Cheshunt (Bronze Banksian Medal). A similar award was made to Mr. Chas. Holden, 61, Harwich Road, Ealing, for a group of soft-wooded stove and greenhouse subjects, including Coleus, Begonias, and Ferns. A number of new show and Pompon Dahlias were shown by Mr. C. Turner, Slough. Some Sunflowers and new single Dahlias were exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham. A box of Veitch's new hybrid Streptocarpus came from Messrs. J. Veitch & Sons, Chelsea. A group of Ferns, mostly new varieties, including Pteris reginæ, P. r. cristata and P. nivalis, was shown by Mr. H. B. May, Dysons Lane Nurseries, Upper Edmonton. The Silver Elder was shown by Miss Alice de Rothschild (gardener, Mr Gibbs), Eythorpe, Bucks. Some Dahlias were shown by Messrs. Perkins & Sons, Coventry. A plant of Aristolochia gigas, flowered in a 24-size pot, was exhibited by Messrs. F. Ross & Co., Merstham Nurseries, Surrey. Five or six flowers in all had been produced by the same plant. Some new Chrysanthemums were shown by Mr. Robert Owen, Castle Hill, Maidenhead. A collection of Pine cones as they had grown on the branches was exhibited by C. E. Smith, Esq. (gardener, Mr. Quarterman), Silvermere, Cobham, Surrey. Some new Chrysanthemums including a slightly plumose one, were shown by Messrs. Reid & Bornemann, Trewsbury Road, Sydenham. Flowers of Crocus speciosus were shown by Mr. R. Dean, Ealing. A box of blooms of a border Carnation named Keir Prince was exhibited by Messrs. R. B. Laird & Sons, Edinburgh.

A group of Orchids including Vanda cœrulea, Dendrobium Phalænopsis Schroderianum, and several Cypripediums were shown by Messrs. F. Sander & Co., St. Albans. Cattleya Statteriana and C. aurea Statteriana, two fine varieties of C. Dowiana, were exhibited by Thos. Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, Manchester. A plant of Catasetum Bungerothi, bearing six male flowers and one female on the same spike, was shown by J. Foster — Alcock, Esq., Northchurch, Berkhamstead. Crytopodium macranthum and C. Aliceæ were shown by L'Horticulture Internationale (Linden), Brussels. Cattleya Minucia was shown by Messrs. J. Veitch & Sons. A group of Orchids including Vanda Cœrulea, V. Kimballiana delicata, some Cypripediums, and a fine lot of Lilium Wallichianum superbum, was exhibited by Messrs. Hugh Low & Co., Clapton. Two large pieces of Saccolabium Blumei grown in baskets were exhibited by W. Walker, Esq., Brettargh Holt, Kendal.

At a meeting of the Fruit Committee a Silver-gilt Knightian Medal was awarded to Mr. Owen Thomas, the Royal Gardens, Windsor, for a large collection of fruit, conspicuous amongst which were the Peaches and Nectarines grown on open walls. The Apples and Pears were also of large size, and the Plums handsomely coloured. He also showed 12 huge Pineapples, some Melons and Grapes, in all 120 dishes. A Silver Banksian Medal was awarded to Messrs. T. Rivers & Son, Sawbridgeworth, for some boxes of Peaches, Apples, and Plums. A Cultural Commendation was awarded to Lady Theodora Guest (gardener, Mr. Thos. Wilkins), Inwood House, Henstridge, for a dish of Mango fruits. A box of Tomatos was shown by Mr. W. C. Leach, Albury Park, and a yellow variety, named Upperthorpe Orange Plum Tomato, was shown by Mr. E. D. Smith, gardener to J. Middleton, Esq., 132, Upperthorpe, Sheffield. Four Melons were exhibited by Mr. J. Tegg, the Gardens, Bearwood, Wokingham. Sutton's Prize Runner Bean was shown by Messrs. Sutton & Sons, Reading. A Cultural Commendation was awarded to Mr. G. T. Bodley, 99, Loughborough Park, S.W., for a small collection of Apples grown in a London back garden. Hill's Prize Runner Bean was exhibited by Messrs. Geo. Bunyard & Co., Maidstone. A large collection of Potatos was brought up from the Society's Gardens, at Chiswick, and a number of them received Certificates according to merit. Some finely fruited stems of Carter's Blenheim Orange Tomato were shown by Messrs. J. Carter & Co., High Holborn.

ORCHID NOTES AND GLEANINGS.

Cypripedium Cleola.

The parentage of this hybrid was C. Schlimii album crossed with C. reticulatum, and it therefore belongs to the Selenipedium type. The long upper sepal is incurved at the sides. The petals are about 1½ in. long, somewhat twisted, and blush coloured. The lip is rosy pink and spotted with purple on the inside of the claw. The staminode is white, with a horse shoe shaped purple zone. We noted it recently in the nursery of Messrs. J. Veitch & Sons, Chelsea. All of this class of Cypripediums are noted for the length of time they keep in bloom by reason of their elongating racemes producing a number of flowers in succession. Then, again, the species of the Selenipedium type seem to have no regular period of blooming, because where a collection of them is kept some one or other of them may be seen in bloom all the year round, and the chances are if the plants are strong that there will be a considerable amount of flowers at various periods of the year.

Dendrobium ciliatum.

Some of the smaller species of Dendrobium, independently of bright colour, are interesting on account of their neatness and their uncommonness if not rarity in collections. That under notice is seldom seen, and has pseudo-bulbs 3 in. to 6 in. high, bearing the short racemes of flowers near the top. The sepals and petals are buff yellow, and the lip deep yellow, lined with purple internally and heavily fringed at the edges, a fact which suggested the specific name. The fringes are club-shaped, and rather curious. We noted it with Messrs. J. Veitch & Sons, Chelsea.

Cattleya bicolor Wrigleyana.

The typical form of this Cattleya is well known for the fine contrast between the colour of the lip and that of the other parts of the flower. The construction of the lip is also different from that of its congeners, there being no side lobes. The distinct variety Wrigleyana has pale green sepals and petals suffused with pale brown. The lamina of the lip is obovate, and rich purple with a pale lilac band across the apex, and it is this band chiefly which determines the distinctness of the variety as compared with the type. It flowered recently in the Cattleya house of Messrs. J. Veitch & Sons, Chelsea.

Oncidium incurvum album.

Both the type and the variety are useful in the Orchid house because they flower at a time when flowering Orchids are scarce, that is, in the late summer and autumn months. The ordinary form is generally acknowledged amongst Orchid growers to be a pretty and attractive plant on account of its violet and white flowers freely produced on long arching scapes. The white variety is more entitled to the name than many other so-called albinos, for all parts of the flower are white with exception of a yellow crest on the base of the lip. It seems to flower as freely as the type in the nursery of Messrs. J. Veitch & Sons, Chelsea. The plant itself is easily managed and may be grown in pots or baskets.

WHAT TO DO IN THE GARDEN.

Clerodendrons.—Plants in pots are frequently removed to greenhouses after the flowering period is over. The nights are now getting much colder, and it would be unsafe to leave the plants much longer where the temperature gets below 50° at night, otherwise the plants will be liable to suffer.

Epiphyllums—The flower buds are already pretty prominent on the plants that were flowered early last year, and may be placed in heat about a month before they are required. See that the flattened stems are free from mealy bug, to which they are very subject, before placing the plants in heat.

Coleus.—A stock of cuttings of all the kinds it is intended to preserve should now be placed in heat for next year's work. The tips of healthy and moderately vigorous shoots not showing any trace of flower, may be taken from plants that are getting shabby for conservatory work.

Shading.—No further shading of the stove and its contents will now be required till the following spring. The blinds may therefore be taken down on a bright day and spread out in the sun to get thoroughly dried before rolling them up and storing them away for the season.

Celosias. — Late sowings of these brightly-coloured subjects should be kept moderately warm after this, say, in the temperature of an intermediate house, and they will not only be safer but make better plumes either for indoor decoration or for cutting. If the main spikes are removed, side shoots will be thrown up and furnish smaller but useful plumes for cut flower work.

Cinerarias.—Young stuff should be potted on before the roots get pot-bound, otherwise a single flower stem will be thrown up and the ultimate results will be poor.

Chinese Primroses.—Late batches for flowering next spring should now be ready for potting into 60-size pots. After they take to the fresh soil, they should receive liberal ventilation during the day, in order to keep them sturdy and healthy.

Roses in pots.—A useful quantity of late blooms on the plants that have been located in the open air may still be secured by placing the plants in a greenhouse or other structure, where they will be kept sheltered from cold and early frosts at nights.

Vineries.—Where the Muscats are now hanging ripe in the houses, keep the air sweet and cool by affording plenty of ventilation on bright days. Comparatively little water at the roots will be required, just sufficient to keep the berries plump. On dull and moist days a little artificial heat will be necessary to drive off superfluous moisture. Foster's Seedling may have the laterals shortened back so as to expose the berries to light. They colour up much finer under these conditions than when heavily shaded by the leaves.

Oranges in pots.—As the fruits approach maturity, the trees in pots should be carefully and rather sparingly watered with clear water, otherwise the fruits may be injured by cracking. When the crops get ripe they will hang on the trees for some time in perfect safety if the latter are transferred to a vinery where the fruits are also ripe.

Pelargoniums for Bedding.—Cuttings rooted in the open border should now be potted up singly if it has not already been done, so that they may be transferred to safe quarters in case of frosty mornings. Boxes stood in open and unprotected places should be removed to pits or frames where the sashes may be drawn over them at any time on the appearance of a frosty night.

Alternantheras, Coleus, &c.—Tender subjects like these, intended for bedding purposes and which were put into heat to form roots, should be freely ventilated as soon as well rooted. The healthier and hardier they are made in the autumn months the better they will keep during winter. Iresines may be placed under the same category. Lobelias may readily be rooted and kept in pots or boxes, but a few old plants in pots would also prove very useful. By cutting them over now a short young growth would be produced, from which cuttings in abundance would be obtained in spring.

Flower Garden.—Every effort should be made to prolong the interest and beauty of this part of the garden by keeping it neat and trim. Should the grass become rank it must get another mowing, because it retains the moisture so long in the morning as to make walking upon it uncomfortable till late in the day. Trim the edgings of both beds and walks, and remove the decayed flowers of Pelargoniums and other subjects to give them a fresher appearance.

Hoeing and General Work.—During dry weather the hoe should be kept going between all young and growing crops to keep down weeds and encourage growth by the aeration of the soil. Pull up Pea stakes where the crops are gathered, and remove the straw. The stems of Cauliflowers and Cabbages where the heads have been cut should be pulled up unless it is desired to obtain small Cabbages from the sprouts. Earth up Celery and Leeks in dry weather.

Obituary.

There was laid to rest in Echt Churchyard, Aberdeenshire, on Saturday last, the remains of Mr. Samuel Farquhar, who was in his usual health up to within a few minutes of his death, which was due to weakness of the heart. Mr. Farquhar, who had reached the ripe old age of 86 years, was for the long period of 52 years head gardener at Dunecht House, near Aberdeen, and during that time he enjoyed in a marked degree the esteem of the former proprietors, Mr. Forbes and the late Earl of Crawford and Balcarres. His tenure of office was no sinecure, and in particular during the time the laying-out of the lawns and policies of Dunecht House was in progress the whole of the work developed upon Mr. Farquhar. The successful manner in which he carried out the arrangements amply justified the confidence reposed in his professional abilities by the Earl of Crawford, and has been the source of general admiration. In all matters pertaining to his profession he took an intelligent and enthusiastic interest, and he was ever ready to assist by sound advice those who consulted him on horticultural matters. On account of advancing years Mr. Farquhar relinquished his appointment at Dunecht House 15 years ago, and since then he has resided with his son, Mr. James Farquhar, at Old Echt. Mr. Farquhar's repertory of Scotch stories and bygone local incidents was extensive and highly entertaining, and, delivered in his characteristic manner, rendered his company at all times enjoyable.

We regret to record the death at Manchester, on the 27th ult., of Mr. Michael Saul, who for some 30 years was gardener at Stourton Park, Knaresborough, Yorkshire. Mr. Saul was born in Co. Cork in June, 1817, his father being then gardener at Carey's Wood. In early life he served in a number of establishments in the South and West of England, and went to Stourton in 1848. Here he proved himself to be a practitioner of the first order, and took an especial interest in the cultivation of hardy fruits, on which subject he was a frequent contributor to the gardening press until he left Stourton in 1878.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "The Editor" or "The Publisher," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa, London."*

Clubbed Cauliflower.—*R. J. L.*: If they are as bad as you state them to be the best plan would be to pull or dig them up immediately and have the ground cleared. Have them burnt or otherwise effectually destroyed. But in any case they should not be placed amongst the ordinary garden refuse to be brought back again as vegetable manure. The large clubbed roots are simply masses of spores that would reproduce the evil another year. This fact is as a rule, however, utterly disregarded by gardeners, who thus court failure year after year by neglecting what are apparently quite trivial matters, but in reality are of the greatest importance in the successful culture of vegetables. The soil from which the plants are taken should be trenched 18 in. or 2 ft. deep, if circumstances will permit, turning the top spit to the bottom of the trench so as to bury as many of the spores as possible and prevent them from doing injury next year.

Two-spathed Calla.—*W. Weller*: We have on several occasions seen instances of the kind, and others have been sent to our office. Your specimen is one of the most perfect coming under our notice, as both spathes are close together, of good substance and well coloured. The outer one is generally considered to be a leaf which has been carried up upon the flower stem, and occasionally this idea is strengthened by the fact that the outer spathe is lower down the stem than the other. In certain cases the second spathe might be a largely developed bract at the base of the spadix or central axis bearing the flowers. Excessive vigour of growth is generally believed to be the cause of this strange behaviour. It cannot be depended upon to remain constant, nor to turn up again in the same plant.

Camellia Japonica.—*Camellia*: It is said to have been introduced into this country in 1739, by Robert James, Lord Petre. We have no means of knowing how many varieties there are in cultivation at the present day, but perhaps about 300 would not be very wide of the mark.

Chrysanthemums.—*Omega*: Précocité, so far as we can tell from a smashed flower.

Tulips.—*Omega*: Singles: White, Pottebakker, Yellow, Canary Bird; Scarlet, Vermillion Brilliant. Doubles: White, La candeur; Yellow, Yellow Tournesol; Scarlet, Rex rubrorum. All first-class, and moderate in price.

Names of Fruits.—*J. B.*: 1, Kirke's Plum; 2, not known to us.—*C. H.*: 1, Bellegarde Peach; 2, Barrington Peach; 3, Black Diamond Plum; 4, Prince of Wales Plum; 5, not sufficiently developed for recognition; 6, General Todtleben Pear.

Names of Plants.—*Wm. Wilkinson*: Polygonum cuspidatum, introduced from Japan in 1825.—*J. C. S.*: 1, Plantago major; 2, Calamintha officinalis; 3, Spergularia marina: 4, Glaux maritima; 5, Capsella Bursa pastoris; 6, Rubia peregrina; 7, Atriplex portulacoides; 8, Atriplex hastata; 9, Beta maritima.

Coleus Seedlings.—*Constant Reader*: There are plenty like them already in existence, but if of good habit, No. 2 might be worth growing on for local sale.

Carnations and Picotees.—*A. Nicholson*: We regret our inability to oblige you. We cannot undertake to name Florists' flowers, there are too many of them, and a great deal too many that are closely alike. Your best plan is to look over the collection of a local trade grower and see if you can identify any of them there.

Lily Bulbs.—*J. C. B.*: The best time to repot the plants you have got in pots is as soon as the leaves and stems have withered and dried up naturally. They should not be unduly hastened by withholding water and starving them. The time they will die down naturally depends upon the time they were started and flowered. As soon as the stems have quite died down, they may be repotted, as they are then most perfectly at rest. If left longer they start into fresh growth, and if the young roots are bruised and broken in the operation of transferring them to fresh soil and pots the bulbs suffer considerable injury. Good friable, turfy loam with some silver sand makes the best compost for most Lilies in pots, and you may add a little peat for L. auratum. Some silver sand placed round the bulb assists in keeping the latter in a sound condition.

Figs.—*A. T.*: The six feet border between the wall and the path will be ample, but you need only use a part, say the three feet from the wall, for the first two or three years. A depth of 2 ft. will be sufficient Make the drainage perfect, and fill up with good loam and old mortar or lime rubble, well mixed together to make the compost porous, and add very little or no manure. You do not want rampant growth, and the plants can always and easily be fed with liquid manure. They will not do well if the stage is not removed before planting, but to economise space when the shoots reach the top of the wall you may turn them down under the roof for a few feet.

Apples Dropping.—*W. Scott*: Several agencies might be at work in bringing this about. The Codlin Grub may be at work, and may be detected by a hole in the fruit near the base and from which the excrement of the creature is being ejected from time to time. All fruits so injured should be gathered as soon as they fall and before the grub has had time to escape. The fruit should be given to pigs or otherwise thoroughly destroyed if of no other use, to make sure of effecting the destruction of the grub. The trees may in reality, however, be suffering from dryness at the root, seeing that the autumn has been so dry, and if bearing a heavy crop the supply of moisture is inadequate to enable the fruit to swell properly or come to maturity. The best way to remedy this is to take out a shallow basin round the base of the tree and give several good waterings with diluted liquid manure, afterwards filling in the loose soil. Mulching would also be very beneficial.

Salvias for Winter Flowering.—*R. S.*: Unless the pots are unusually small we should not advise you to shift them into a larger size after this date. A better plan would be to supply them with weak liquid manure at every second watering, and this will encourage a good development of flower-buds. The liquid manure may be continued till the buds commence to open.

Communications Received.—W. C.——E. L.—G. W. A.—A. N.—W. N.—R. B.—O. T.—C. H. M.—D. P. L.—T. L.—S.—T. W.—P. M.—E. C. S.—J. D.—G. A. L.

TRADE CATALOGUES RECEIVED.

T. Horsman, 102, Godwin Street, Bradford.—Dutch Bulbs, Roses, etc.

Dobie & Dicks, 66, Deansgate, Manchester.—Dutch Bulbs and other Flower Roots.

Ketten Freres, Luxembourg.—Catalogue of Roses.

J. Cheal & Sons, Crawley, Sussex. Trees and Shrubs, Fruit Trees, etc.

LONDON SEED TRADE.

September 20th, 1892.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, E.C., report a good demand for Trifolium incarnatum, which owing to its scarcity realises higher prices. Winter Tares in good supply, and sell steadily at rates current last week. Rye grasses dearer.

COVENT GARDEN MARKET.

September 21st,

Fruit.—Average Wholesale Prices

	s. d	s. d.		s. d.	s. d
Grapes..... per lb.	0 6	1 6	Pine apples.		
Kent Filberts 100 lb.	80 0		—St. Micbael's, eacb	2 6	6 0
,, Cobs... ..100 lb.	80 0		Apples...per ½ sieve	1 0	3 6
Peaches ... per dozen	2 0	6 0	Plums...per ½ sieve	1 3	2 6
Melons ... . each	1 0	1 6			

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d
ArticbokesGlobe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, perlb.	0 6		Lettuces ...per dozen	1 6	2 0
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages ... per doz.	1 6	2 6	Onions.....per buncb	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Cauliflowers, Eng.dz.	3 0	6 0	Radishes... per dozen	1 6	
Celery.....per bundle	2 6		Smallsalading,punnet	0 4	
Cucumbers .....each	0 3	0 6	Spinach, per strike ...	1 6	
Endive, Frencb, doz.	2 6	3 0	Tomatos..... per lb.	0 6	0 9
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Cbampions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d
Asters .....per doz.	4 0	6 0	Fuchsia, ...per doz	3 0	6 0
Balsams .....per doz.	3 0	6 0	Heliotrope, per doz.	4 0	6 0
Begonias ...per doz.	6 0	12 0	Lilium Harrisii, doz.	12 0	24 0
Cyperus .....per doz.	4 0	12 0	Lilium lancifolium...	12 0	24 0
Dracæna term., doz.	24 0	36 0	Lilium Auratum.....	18 0	36 0
Dracæna viridis, doz.	9 0	18 0	Marguerites, perdoz.	6 0	12 0
Evergreens, invar. doz	6 0	24 0	Mignonette, per doz.	4 0	6 0
Ferns, invar., per doz.	4 0	18 0	Palms in variety, eacb	2 6	10 0
Ferns, small, per 100	6 0	10 0	Palms, Specimen ...	15 0	63 0
Foliage Plants, doz.	12 0	60 0	Pelargoniums, perdoz.	6 0	12 0
Chrysanthemum, doz.	4 0	9 0	—scarlet .....per doz.	2 0	4 0
— large, doz.....	12 0	30 0	Solanums.....per doz.	12 0	15

Cut Flowers.—Average Wholesale Prices.

	s. d.	s d		s. d.	s. d
Arum Lilies, 12 blms.	2 0	4 0	Myosotis or Forget-me-not, doz. bncbs.	2 0	4 0
Asters.....doz. buo.	2 0	6 0	Pelargoniums, 12 sps.	0 6	0 9
Bouvardias, per bun.	0 6	1 0	—scarlet.....12 bchs.	3 0	4 0
Carnations, 12 blooms	1 0	3 0	Primula, double, bun.	0 6	0 9
Carnations, doz. bun.	4 0	6 0	Pansies, doz. bchs ...	1 0	2 0
Chrysanthemum, dz bn	3 0	6 0	Pyrethrum doz bnchs	2 0	4 0
— .....doz. blooms	1 0	3 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Cornflower doz bnchs	1 6	3 0	Roses, doz bunches	4 0	6 0
Eucharis ...per doz.	2 0	4 0	Roses, yellow, dozen	3 0	4 0
Gardenias 12 blooms	1 6	3 0	— Red..... doz. blms.	1 0	2 0
Gladioli...doz. buns.	6 0	12 0	— Saffrano...per doz.	1 0	2 0
—..... doz. spikes	1 0	2 0	— Tea ..... per dozen	1 0	2 0
Heliotropes, 12 sprays	0 3	0 6	Stepbanotis, dz. sps.	2 6	4 0
Lilium Harrisii, doz. blooms	1 6	3 0	Stocks.....doz. bun.	3 0	4 0
Liliums var., dz. blms.	1 0	3 0	Sweet Peas, dz. bns.	1 0	3 0
MaidenhairFern, 12bs.	4 0	6 0	Sweet Sultan, dz. bn.	2 0	4 0
Marguerites, 12 bun.	1 0	3 0	Tuberoses, per doz	0 3	0 6
Mignonette... 12 bun.	2 0	4 0			

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FLOWER SHOWS, &c., 1892.

[The Editor will be greatly obliged if Secretaries of societies will communicate to him the dates of their exhibitions as soon as fixed.]

SEPTEMBER.

28.—National Chrysanthemum Society: Meeting of Floral Committee.

OCTOBER

4.—Royal Horticultural Society: Committee Meetings at Drill Hall.
5.—Fruit Show at Earl's Court (3 days).
12.—National Chrysanthemum Society's Show at the Royal Aquarium (3 days).
18.—Royal Horticultural Society: Committee Meetings at Drill Hall.
25.—Fruit Show at Earl's Court (3 days).
26.—National Chrysanthemum Society: Meeting of Floral Committee.
27.—Alverstoke and Gosport Chrysanthemum Show (2 days).

NOVEMBER.

1.—Royal Horticultural Society: Committee Meetings at Drill Hall.
1.—Kent County Chrysanthemum Show (2 days).
1.—Brixton Chrysanthemum Show (2 days).
1.—Barnstaple Chrysanthemum Show (2 days).
1.—Brighton and Hove Chrysanthemum Show (2 days).
2.—Ascot Chrysanthemum Show (2 days).
2.—Ealing Chrysanthemum Show (2 days).
2.—Portsmouth Chrysanthemum Show (3 days).
2.—Croydon Chrysanthemum Show (2 days).
3.—Steyning Chrysanthemum Show.
4.—Crystal Palace Chrysanthemum Show (2 days).
4.—Bolton Chrysanthemum Show (2 days).
5.—Crewe Chrysanthemum Show.
8.—National Chrysanthemum Society at Royal Aquarium (3 days).
8.—Kingston and Surbiton Chrysanthemum Show (2 days).
8.—Enfield Chrysanthemum Show (2 days).
8.—Sevenoaks and West Kent Chrysanthemum Show (2 days).
8.—Leeds Chrysanthemum Show (2 days).
8.—Batley Chrysanthemum Show (2 days).
8.—Waterloo (near Liverpool) Chrysanthemum Show.
9.—Bath Chrysanthemum Show (2 days).
9.—Birmingham Chrysanthemum Show (2 days).
9.—South Shields Chrysanthemum Show (2 days).

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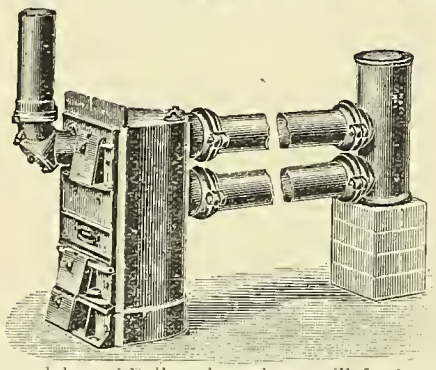

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These Greenhouses are made especially for Amateurs at a cheap rate, so that everybody can have one that any handyman or gardener can put together in a few hours, as the framework is made so complete. All the framework is of good, sound well-seasoned red deal. The bottom part filled in with good, sound match boards, tongued, grooved, and beaded, and well seasoned. Ventilation given according to size of each House. The glass is good 16-oz. English, cut and packed (no charge for packing cases). The House is painted one coat of good oil colour, lock for door, all necessary iron-work for ventilation, stages on each side for plants. All parts carefully marked, securely packed and put on rail, or delivered, erected and glazed complete, within 20 miles of London Bridge, at the following respective Prices:—

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7 ft.	5 ft.	7 ft.	4 ft. to eaves	£2 16 0	£4 5 0
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12 ft.	8 ft.	8 ft.	5 ft. to eaves	6 0 0	8 [illegible] 0
15 ft.	10 ft.	8 ft. 6	6 ft. to eaves	8 10 0	12 0 0
20 ft.	10 ft.	9 ft.	5 ft. 6 to eaves	12 0 0	16 0 0
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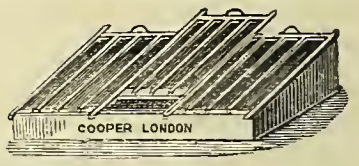

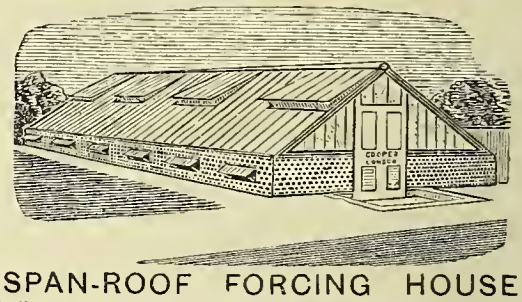

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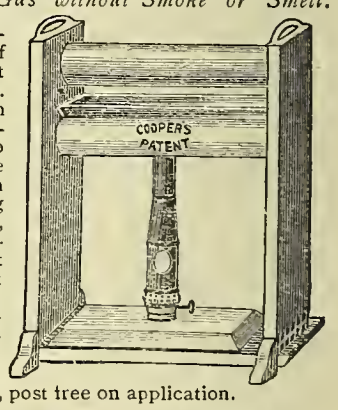

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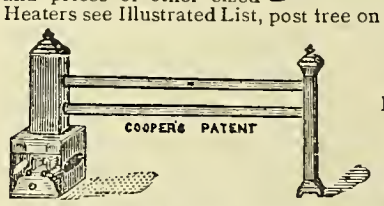

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EARL'S COURT, LONDON, S.W.

A GRAND INTERNATIONAL POTATO EXHIBITION

Will be held by the Executive of the International Horticultural Exhibition, in connection with the

SHOW OF HARDY FRUIT, at Earl's Court, London, S.W., on 5th, 6th, & 7th OCTOBER, 1892,

When PRIZES to the amount of £100 will be offered, also a GOLD MEDAL for the most meritorious Collection of Potatos, and a SILVER MEDAL for the best Dish of Potatos in the Exhibition.

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,, C,	,,	207 ,, ..	,,	15s. 0d.
,, D,	,,	134 ,, ..	,,	10s. 6d.
,, E,	,,	96 ,, ..	,,	7s. 6d.
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FOR GARDEN BEDS, BORDERS, &c.

Collection M,	containing	2,923 Bulbs,	Price	105s. 0d.
,, N,	,,	1,909 ,,	,,	63s. 0d.
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Negress, dark ruby self, three F.C.C., 5/- per pair.
Goliath, largest yellow ground, grand form, 5/- per pair.
Firefly, fancy scarlet maroon, 3/6 per pair.
Boadicea, H.P.E., clear ground, 2/6 per pair.

Our General Collection includes all the best varieties in cultivation. We have gained a large number of first prizes, medals, and certificates this season. Strong plants ready in October, 6/- and 9/- per doz. Catalogues gratis on application.

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(Selected either for Pots or Glasses.)

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For Index to Contents see page 74.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Oct. 3rd.—Sale at the Green Lanes' Nursery, Heaton Norris. Manchester, by Protheroe & Morris (3 days).
Bulb Sale at Protheroe & Morris' Rooms (and every day in the week.)
Bulb Sale at Stevens' Rooms.

TUESDAY, Oct. 4th.—Royal Horticultural Society: Meeting o Committees at the Drill Hall.

WEDNESDAY, Oct. 5th.—Hardy Fruit and Potato Show at Earl's Court (3 days).
United Horticultural Benefit and Provident Society's Annual Dinner at the Canlon Street Hotel, 6 p.m.
Bulb Sale at Stevens' Rooms.

THURSDAY, Oct. 6th.—Sale at the Chilwell Nurseries, Beeston, by Protheroe & Morris.
Bulb Sale at Stevens' Rooms.

FRIDAY, Oct. 7th.—Sale at the Loughborough Park Nurseries, Brixton, by Protheroe & Morris.
Orchid Sale at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, OCTOBER 1st, 1892.

THE COMMITTEES OF THE ROYAL HORTICULTURAL SOCIETY.—A discussion of some considerable interest to all who may have occasion to send subjects for trial to the Society's garden at Chiswick has recently cropped up, arising from the fact that under a proviso inserted for the first time in the present year's schedule, that only a certain number of marks can be given to anything grown at Chiswick by the Committees when they meet there, and that to secure Certificates these subjects, or examples of them, must be further shown at a regular meeting of either the Fruit or the Floral Committee held at the Drill Hall, Westminster.

Naturally, some soreness has been created that awards may not have the same status, and the Committees the same powers at Chiswick as they have at the Drill Hall. At Chiswick, where everything must be first grown before it can be adjudicated upon, the Committees see these things under conditions far more favourable to accurate judgment than can be the case at the Drill Hall. It seems therefore not right that those members who do attend the Chiswick meetings when summoned to them, should have to submit their judgment to other members, who, not taking so much trouble, do not see all the evidence upon which the judgments at Chiswick are

given. It is hoped that the discussion which has originated, and into which one person seems unwisely to have introduced some needless temper, may lead to a clearer understanding between the Council and the Committees, and that those members who so far have at some trouble and expense journeyed to Chiswick in the past will not be discouraged from doing so in the future.

We have always regarded the Chiswick meetings as very pleasant outings, because they are held under such different conditions from the ordinary meetings, and enable members to see subjects under the best possible conditions. Still, if robbed of their force by the deprivation of powers they will greatly lose in prestige. That it should be the desire of the Council to maintain, and in so doing strive also to sustain, the best traditions of the Society all will admit.

The Tomato Boom.—Some none too sanguine people have entertained the idea that the Tomato boom is over, that the popularity of the fruit is on the wane. We fail to find any reason for such conclusion. The bulk of Tomatos grown this season has been greater than ever, and the demand for them increases, so much so in fact, that they may be purchased at almost every provision shop in the kingdom. Even outdoors this season there has been an enormous produce, and a great portion of that crop has or will ripen in spite of the recent frost. Of course fruits so obtained do not for one moment compare in freshness or ripeness with the beautiful fruits grown under glass, but they do very well for cooking, and suit the requirements of the million until they can be better met.

We do not think that it is easy to produce more productive varieties than we now have, as the capacities of the Tomato plant seem to be strained to the uttermost. Still there is no telling what can be accomplished. Certainly it is not in the direction of larger fruits that we must look for greater productiveness, because not only are big fruits not required, but they come large chiefly in lesser quantities than do smaller ones. We can hardly hope to have handsomer Tomatos than we now have. They are as perfect in form as they are rich in colour, and yet it would seem as if all may look even yet for richer hues than we even now find in the reds, for we have recently seen fruits on a plant, which were of a most rich, deep crimson hue, and which showed us that the limits of colouration are not yet reached.

Then we want better flavour in Tomatos, and how that is to be secured seems to be a puzzle we would gladly solve. There was a sort of fancy existing that yellow flesh Tomatos exhibited higher flavour than red ones. That is pure imagination. Tomatos, like Melons, vary very much according to circumstances and culture, but the best are never too highly flavoured, indeed would bear very much improvement. It is in that direction mostly we look for as well as need improvement, and it will be well for raisers to work for flavour more than for other qualities.

Early Frosts.—There was ice as thick as a penny piece to be seen in many directions on the morning of Sunday, the 18th ult., said numerous observers. No doubt it was so, for in some districts, especially where the atmosphere was humid, and hoar frost dense, the mischief wrought upon tender vegetation was indeed distressing, and in many localities quite settled it for this season. How blackened were the Runner Beans, and Marrows, in the market fields especially, because growing so close to the ground. Where trained high into the air not one-half the harm was done.

As to many Begonias, Alternantheras, Balsams, Zinnias, Dahlias, Marigolds, and myriads of tender things, they were blackened beyond recognition. When we recollect that a sharp white frost wrought havoc amongst Potatos, Runners, and Dwarf Beans, Marrows, Tomatos, and many other tender plants so late in the spring as the middle of June, practically within a few days of midsummer day; and that in just three months later a very sharp frost does so much of mischief in gardens and fields, we may well wonder to what are our summers coming.

Generally we have not had a bad season, although there has been in its later parts rather much of rain, but still we have had much of beautiful weather also, yet it has been far from a favourable harvest time. It has suited Apples and Pears so far as we have any, but it has been bad for Corn, Hay, Hops, and in many districts for Potatos. Some time, perhaps, we shall light upon a model or perfect summer season, but experience does not encourage the hope that it will come early. It is bad enough now to find our non-frost season to be limited to three months. It will be very much worse if that period is materially reduced.

The next International Exhibition.—Before our next issue appears the first of the October Exhibitions at Earl's Court will be in existence, and we shall be surprised if this is not of its kind one of the finest displays of the season. Of course there is not so much that is brilliant or attractive to be got out of Apples, Pears and Potatos, for these things will constitute the chief of the exhibits. Still they will afford no lack of interest and much of beauty. There are too the vegetable classes, which will have some novelty at Earl's Court, and we shall hope to see in these classes such competition as shall satisfy the executive that not only is value for money obtained but also that they present very attractive features for visitors.

The flower season of the year is now passing away, and the fruits of the season may well for a time have special notice. It seems as if the display at Earl's Court of these, and especially of Apples, will be a splendid one, if such a term may be made to apply to our premier hardy fruit. After all there is very much of beauty even in Apples and Potatos—very much more perhaps than fastidious people would care to admit. We look not only for a very extensive display of Apples, but one of very superior excellence, for the passing season has been exceptionally favourable to the production of the finest examples, and the putting on of colour.

We have not had a good Pear season, indeed relatively a poor one, and yet it may be certain that there are good Pears about, and that there will be a very fair show of these hardy fruits also. It is a pity so excellent an opportunity to hold both Apple and Potato Conferences should not have been availed of. These subjects, however, if not in conference will be in evidence—that is certain. Also there will be plenty of quiet talk amongst visitors and exhibitors respecting the merits of the many varieties that will be presented for approval.

Mr. Frederick Burvenich, a much respected professor in the State School of Horticulture at Ghent, has recently been nominated a Chevalier du Mérite Agricole by the French Government.

Mr. George Bond, who for 47 years was gardener at Walcot, Salop, died on the 6th ult., at Lydbury North, aged 86 years. Mr. Bond, who was a good gardener and a kind-hearted amiable man, served under three Earls of Powis while at Walcot.

Preston and Fulwood Horticultural Society.—At the meeting of the members of this Society to be held this (Saturday) evening, Mr. W. P. Roberts, of the Garden, Cuerden Hall, will read a paper on "The Cultivation of the Fuchsia."

The Neath (South-Wales) Chrysanthemum Show will be held on Thursday, November 17th.

United Horticultural Benefit and Provident Society—We may remind our readers that the annual dinner of this society takes place on Wednesday next, at 6 p.m., at the Cannon Street Hotel, when it is anticipated that a large number of gardeners attending the Earl's Court Exhibition will be present. In order to make suitable arrangements for seating the guests, the secretary, Mr. Collins, 9, Martindale Road, Balham, will be glad to receive early applications for tickets.

Stavordale Priory, in Wiltshire, which was formerly owned by canons of the Augustinian order, and which has been in the possession of the family of Sir Henry Hoare, of Stourhead, for 150 years, has been privately sold, with a pasture farm of 339 acres, to the Rev. Randolph Leir, rector of Charlton Musgrove. These historical buildings occupy a beautiful situation near the famous Stourton Woods. The eldest son of the Earl of Ilchester takes his title of Viscount Stavordale from this priory.—*The Surveyor.*

Fruit Evaporating at Chiswick.—An advertisement in another column announces that on Wednesday and Thursday next, October 5th and 6th, Messrs. Ph. Mayfarth & Co. will make a demonstration of fruit evaporating in the gardens of the Royal Horticultural Society at Chiswick, to which everyone interested is invited. The fruit evaporator is an American invention, and many thousands of them are in constant use in all the fruit-growing districts of the United States. Many are also in use on the Continent; but at present this most valuable appliance is but little known in England, although there can be no doubt that it would prove as great a boon here as elsewhere. We hope that many of our fruit growers will avail themselves of this opportunity to become personally acquainted with the process of fruit evaporating.

Hedgehogs and their Prey.—An interesting discovery has just been made on a Huntingdonshire farm, which throws a new light on the natural history of the hedgehog. Hitherto it has been supposed that hedgehogs fed upon roots and insects, but on several nights lately chickens had been missed from a hen roost on the farm of Mr. Upchurch, Puddick Drove, and a watch being kept, a hedgehog was discovered in the act of attacking and devouring a chicken. As many gardeners keep these creatures about their outbuildings for the purpose of destroying beetles, etc., it is a matter of considerable interest if it should be found that they do not confine their attentions to this class of fare.

Devon and Exeter Gardeners' Association.—The annual business meeting of this useful organisation was held in Exeter on Wednesday evening, when the following of papers to be read during the ensuing session was arranged:—October 5th, Mr. J. McCormick, Wear House Gardens, on "Grape Vines and their Cultivation." October 19th, Lieut Percy Smith, Devonshire Regiment, Higher Barracks, on "Lilies and their Culture." November 2nd, Mr. J. Stoneman, teacher of botany at Exeter Museum, on "How a Scientific Knowledge of Plant Life can help a Gardener." November 16th, Mr. G. B. Carlile, Topsham, on "Fruit: its selection and handling—from a Fruit-saleman's standpoint." November 30th, Mr. J. Mayne, Bicton Gardens, on "The Cyclamen: its Culture and Value as a Decorative Plant." December 14th, discussion on papers read last session, to be opened by Mr. W. McKay.

A Clock of Flowers.—A rather novel structure in the way of a clock has been described in *Figaro* as the invention of M. Debetr. The clock, or the machinery of it, is constructed and set up below ground. A circle ten yards in diameter is traced on the surface, and divided into twelve parts like a sun dial. These spaces are planted with low growing plants with foliage of different colours, while the

numbers marking the hours are traced by means of plants with pale coloured foliage. The clock sounds or strikes the hours and half-hours. Finally two large hands four to five yards long, covered with plants and flowers are set moving by the clock and indicate the hours. The design is somewhat of a novelty and can be seen from a distance.

Victoria Stocks.—There is a new race of Stocks, or Stock-gilliflower as they are termed on the Continent, of various colours and which are used for winter flowering. They are being sent out by various firms as novelties of 1892, some having one variety and some another. That named Victoria Stock, pure white, seems to possess great merit either as a pot plant or for the open border, as it branches and flowers freely either in winter or summer according to the time it is sown. It is being sent out by Messrs. Damman & Co., San Giovanni, Teduccio, Naples, and was obtained by hybridising the winter with the summer flowering stock, that is apparently Matthiola incana and M. annua, represented here by the East Lothian or Intermediate and Ten-weeks-stock, respectively. In habit and foliage it approaches the former, but may be distinguished from them by the abundance and continuity with which it flowers. It has a great tendency to produce double flowers, so that few seeds are produced. Ninety per cent. of the flowers come double. In Italy it commences flowering in July and continues till autumn, sometimes even in winter in spite of cold and snow, producing numerous bunches of large, pure white flowers. There is a figure of the variety in the *Bulletin d'Arboriculture* for September.

Mushroom Gatherers, Beware!—At the Warminster Police Court recently a number of persons were charged with stealing Mushrooms, the property of Mr. W. Stratton, of Brixton Deverill. Mr. Stratton in his evidence stated that the Mushrooms were cultivated, as he had set spawn on the land last year and again this. On this the Chairman said there was no doubt that accordiug to the Act of Parliament if the Mushroom spawn had been planted then they must come under the clause dealing with cultivated roots, and to steal them was a criminal offence. If, however, spawn had not been planted, then the parties stealing them must be summoned in the County Court for the value of the Mushrooms, and the damage to the land by trespassing. In the present instance it had been proved that the spawn had been planted, therefore it was a criminal offence to steal them, and came within the jurisdiction of that court to deal with it. Small fines were inflicted.

Wild Strawberries in Ceylon.—Writing of wild Strawberries in Ceylon, Mr. Nock says in the *Ceylon Observer* that the species Fragaria vesca, which grows so luxuriantly and fruits so abundantly in Jamaica, is now growing wild in many places in the Nuwara Eliya district. If the soil in Ceylon were as good as it is in the Blue Mountains of Jamaica, and there was less Nilu (Strobilanthes), this Strawberry would soon, he thinks, be as plentiful in the hill districts of Ceylon as it is there. When Mr. Nock was superintendent of the Government Cinchona Plantation in Jamaica, he has given as many as twenty free tickets in one day to old women and children to gather Strawberries among the Cinchona plantations. He has known them gathered by the bushel and carried twenty-two miles to the Kingston market, where they always commanded a good price. He adds that he has this year raised seedlings of six of the best English varieties, to which he intends to give a fair trial in the Nuwara Eliya district.

Clematis lanuginosa Lawsoniana.—This Chinese species proves variable in the hands of the hybridist as most others have done which have been sufficiently ornamental to offer encouragement for the time and trouble expended upon them. The flower is of large size, consisting of six to eight sepals and of great width, as may be gleaned from the fact that C. l. pallida produces flowers 8 in. to 10 in. in diameter. The usual time for the species to flower when planted out of doors is in the early summer, but when grown indoors as in the conservatory at Falkland Park, South Norwood Hill, growth is continued or prolonged, and flowers are produced. Those of the variety Lawsoniana are of a soft lavender, and very pleasing. The long, slender, flowering shoots are allowed to hang down freely so that they become associated with plants on the side stages beneath it.

INTERNATIONAL HORTICULTURAL EXHIBITION.

LIST OF AWARDS.

THE following is the official list of awards made to the permanent exhibitors at the Earl's Court Exhibition :—

GROUP A. CLASS 1.

W. Richardson & Co., Darlington	Gold Medal.
Mackenzie & Moncur	Silver-gilt Medal.
Crompton & Fawkes, Chelmsford	Silver Medal.
W. Duncan Tucker, Tottenham ..	,,
S. Deards & Co., Ltd., Harlow ..	,,
E. Newton & Co., Hitchin ..	Bronze Medal.

CLASS 2.

S. Deards & Co., Ltd., Harlow ..	Certificate.
E. Newton & Co., Hitchin ..	,,
Newton, Chambers & Co., Sheffield	,,
E. Newton & Co., Hitchin ..	,,

CLASS 3.

Thames Bank Iron Co., London	Gold Medal.
Newton, Chambers & Co , London	Silver-gilt Medal.
John Jeffreys, London	Silver Medal.
W. Richardson & Co., Darlington	,,
John Watson, St. Albans.. ..	Bronze Medal.

GROUP B. CLASS 4.

Ransomes, Sims & Jefferies, Ltd., Ipswich	Gold Medal.
S. Shanks & Co., London.. ..	Silver-gilt Medal.

CLASS 5.

Newton, Chambers & Co., Sheffield	Silver Medal.

CLASS 6.

Merryweather & Sons, London ..	Gold Medal.
Shand, Mason & Co., London ..	,,
J. H. Heathman & Co., London..	Silver Medal.
Wilson & Sons, Ltd., London ..	,,
Sphincter Grip Armoured Hose Co., Ltd., London	Bronze Medal.

CLASS 8.

Joseph Davis & Co., London ..	Silver Medal.
R. Springate & Co., London ..	Bronze Medal.
Joseph Davis & Co., London ..	Certificate.

CLASS 9.

Joseph Davis & Co., London ..	Silver Medal.

GROUP C. CLASS 10.

A. Maertens, London	Silver Medal.
Gourock Rock Co., Greenock ..	Certificate.
John Unite, London	,,
Charles Limare & Sons, Fecamp	,,

GROUP D. CLASS 15.

G. Michieli, Venice	Silver Medal.

CLASS 16.

David Rowell & Co , London ..	Gold Medal.
The Economic Fencing Co., London	Silver Medal.

CLASS 17.

The Economic Fencing Co., London	Silver Medal.

GROUP E.

Corry & Co., London	Bronze Medal.
W. Clibran & Son, Altrincham ..	,,
Jos. Bentley, Barrow-on-Humber	,,
Jos. Bentley, Barrow-on-Humber	,,
James George, London	,,
B. S. Williams & Son, London ..	Certificate.
B. Hembrey & Co., London ..	,,
G. Shearod & Co., London ..	,,
J Pinches, London	,,
W. Clibran & Son, Altrincham ..	,,
Jos. Bentley, Barrow-on-Humber	,,
Jos. Bentley, Barrow-on-Humber	,,
James George, London	,,
James George, London	,,
Charles Judson, London	,,
W. Richardson & Co., Darlington	,,

GROUP F.

The Permanent Nitrate Co., London	Silver Medal.
J. Waddell & Co., Greenwich ..	,,
W. Wood & Son, Wood Green ..	Bronze Medal.
James George, London	Certificate.
The Stott Fertilizer and Insecticide Distribution Co., Ltd., London	,,
W. Colchester, Ipswich	,,
W. Wood & Son, Wood Green ..	,,
W. Wood & Son, Wood Green ..	,,
W. Wood & Son, Wood Green ..	,,
G. W. Davis, London	,,
The Horticultural Supply Co., London	,,

GROUP G. CLASS 32.

Pulham & Son, London	Silver Medal.
Dick Radclyffe & Co., London ..	,,

CLASS 31.

Dick Radclyffe & Co., London ..	Silver Medal.
Chas. Williams, Hammersmith ..	Bronze Medal.

CLASS 33.

R. Sankey & Son, Nottingham ..	Silver Medal.
W. S. Iles, Camberwell	,,

CLASS 34.

F. Rosher & Co., London ..	Gold Medal.
Pulham & Son, London	,,
Ernest Wahliss, London and Vienna	Silver Medal.
Ardeshir & Byramji, London ..	,,
E. C. Fratelli Lapini, Florence ..	,,
Boulton & Co., London	,,

GROUP I.

W. Barron & Son, Borrowash ..	Silver Medal.
Jesse Martin, Gt. Totham ..	,,

GROUP K.

Ransomes, Sims & Jefferies, Ltd., Ipswich	Certificate.
J. Kelley, London	,,
J. Watson, St. Albans	,,
P. Mayfarth & Co., Frankfort ..	,,
The Stott Fertilizer and Insecticide Distribution Co., Ltd., London	,,

GROUP L.

L. Farina & Co., London ..	Silver Medal.
Madame Gofton Salmond, Norwood	,,
E. Bombois, London	Certificate.
Chas. Williams, Hammersmith..	,,

GROUP M. CLASS 43.

P. Mayfarth & Co., Frankfort ..	Silver Medal.

CLASS 41.

Gower, Dodson & Co., London, Agents to the Bulgarian Government	Gold Medal.

GROUP N. CLASS 44.

Jarman & Co., Chard, Somerset..	Gold Medal.

GROUP O CLASSES 52 TO 55.

Australian Irrigation Colonies, London..	Silver Medal.

CLASS 52.

Reid & Bornemann, Sydenham ..	Silver Medal.

CLASS 53.

H. J. Van Hulle, Ghent	Silver Medal.
T. Mawson, Windermere.. ..	,,

GROUP P. CLASS 56.

Geo. Cadell..	Silver Medal.

SUNDRIES.

B. S. Williams & Son, Upper Holloway	Gold Medal.
Crompton & Fawkes, Chelmsford	Silver Medal.
J. E. & S. Spencer, London ..	Gold Medal.

GODETIAS.

THE Godetias constitute a section of the genus of Evening Primroses (Œnothera), of which there are several in cultivation, but within the last few years they have mostly disappeared from all except botanic gardens. The cause of this is doubtless on account of the superior size and richly coloured flowers of G. Whitneyi. Under cultivation it has proved variable and several very fine forms have been raised from it, and meet with public favour. Their large flowers, decorative value, and the ease with which they may be raised, enable those who grow annuals to turn them to good account in the garden with a minimum of trouble. By sowing them thinly and afterwards regulating the distance between each plant, they continue for a longer time in bloom, being able to develop the side shoots in succession.

A number of them might have been seen during the past summer in the gardens of the Royal Horticultural Society at Chiswick. The dwarfest was that named Lady Satin Rose, about 12 in. high, with a large deep carmine blotch, and lilac at the base and margin of each petal. The flowers of Duke of Fife are equally large and intense carmine with a rose edge and base. It grows from 12 in. to 15 in. high under ordinary conditions. Brilliant Crimson is no taller than Lady Satin Rose, and the large, deep, satiny-rose blotch on the middle of each petal is paler than that of Duke of Fife, and the base of the petals is white. A paler and beautiful variety is Duchess of Fife, with white or blush-coloured flowers and a smaller carmine blotch on the middle of each petal. That named the Bride is taller than any of the others, being 18 in. high, while it has also the smallest and palest coloured flowers. They are white with a small rose zone in the throat.

The heights given refer to plants in ordinary garden soil without any special preparation. In rich soil and in wet seasons the plants would no doubt be inclined to grow taller, but would not produce a finer display unless the other conditions generally were favourable. On the contrary when the seed has been sown in light or sandy soil, and the distance of the plants properly regulated, they attain as a rule a height of 10 in. or 12 in., and present a regular sheet of bloom, but under these conditions their duration is considerably shortened.

FLORICULTURE.

Auriculas at Reading.

QUITE a cluster of amateur cultivators of the Auricula reside at Reading, and of late years their culture has been so good that they take high places in the annual competition at the show held in London by the National Auricula Society. One of the most enthusiastic cultivators, and almost the father of the Auricula family at Reading, is Mr. Thomas Fife, of Southern Hill. Mr. Fife does not compete at the annual show at the Drill Hall because his plants being entirely grown in cold frames are never forward enough, and the bulk of the plants now staged for competition have to be brought on by means of the help of artificial heat so as to be well in flower by the third week in April.

Mr. Fife began cultivating Auriculas about 1872, growing the Alpine varieties first, but he now confines himself to the show varieties, of which he has a good selection; and he also raises seedlings from crosses made with the best varieties.

I called upon Mr. Fife last spring when his seedlings were just coming into bloom. Some seedling green edges appeared to be full of promise, and they were obtained from various parentages. One extremely promising variety was from a large seedling green edge and Ashton's Prince of Wales; this was of fine form, stout, with a strong tube, and black body colour. From Prince of Greens and Prince of Wales has been obtained a seedling following the character of Prince of Greens, but with a decidedly better tube. A highly promising flower has come from another green seedling and Prince of Wales. Other seedlings have been derived mainly from Prince of Greens and other flowers, Mr. Fife's great aim being to improve the green-edged varieties. From a cross made between John Simonite, white edge, and a heavy grey-edged seedling, Mr. Fife obtained thirty-two plants, among them some highly promising greys and several selfs, for no matter what cross is made selfs are sure to appear, which we may perhaps take as evidence the Auricula harks back to some primal form.

Selfs too are being obtained by Mr. Fife. He has made a seed parent of Mrs. Potts, and crossing it with one or two good seedlings he has obtained capital types. Indeed so much is Mr. Fife charmed with the work of raising seedlings that I should not be surprised if he reduced his named varieties of show Auriculas to a few cracks, and employed them as seed producers. Unfortunately the lateness of the blooming season with Mr. Fife prevents him from showing his seedlings at the Auricula show in London when in bloom; but that he has secured some good things there can be no doubt.—*R. D.*

ABOUT SEDGES AND GRASSES.

"AFTER the Grasses, the most widely distributed order of plants in the world is that of the Sedges," says a botanist to a Washington *Star* writer. "Whereas the former are the most useful of all vegetable products to mankind the latter are much less useful. Whether found in marshes, ditches, or by running streams, flourishing in meadows and forests, or on naked rocks, growing on the loose sand of the seashore, or elsewhere, they are almost uniformly of small value. Nevertheless, some few members of the family serve one purpose or another. In ancient times the 'Papyrus,' likewise belonging to the order, was a very precious plant indeed, affording material for writing upon. Our word 'paper' is derived from it, as every one knows.

"The Egyptian name for Papyrus was 'biblion,' from which our term 'bible' comes. Ordinarily the the plant grows in stagnant pools and lakes, but it will flourish in rapid streams, the angles of its three-cornered stem adapting themselves to break the force of the current. Although the material used for writing on is commonly supposed to have been obtained from the leaves such was not the case. It was got by separating into thin plates the cellular tissue which lies just beneath the outer coat of the stem. These were trimmed at their edges so as to meet equally and were laid side by side upon a flat table. Other pieces, similarly cut, were laid across them at right angles. They thus formed a sheet of many pieces, which were made into one united substance and so transformed into a single sheet by simply sprinkling them with water, the gummy matter in them dissolving and causing them to mutually adhere.

"The ancient Egyptians produced in this manner Papyrus sheets of a prodigious length. One obtained by the famous traveller Belzoni was 23 ft. long by 18 in. wide. From Egypt this primitive paper was for centuries exported in great quantities, especially to Greece and Rome. Until the invention of parchment—about 250 B.C.—it was employed exclusively for writings which were destined to be preserved. However, parchment did not for a long time supersede Papyrus, the demand for which at Rome continued for a considerable period after the beginning of the Christian era. The supply was interrupted by the invasion of Egypt by the Saracens in the seventh century, and from that time parchment was employed almost exclusively as a substitute. Nevertheless, its manufacture was continued as late as the eleventh century.

"The quantity made by the Egyptians of old must have been enormous, judging by the number of rolls of it found in the tombs and in mummy cases. In the museum of Naples there are nearly 1,800 manuscripts written on Papyrus, which were dug out of a small part of the buried city of Herculaneum. From these the number that must have existed in the Roman empire at the time of the famous volcano eruption can be feebly guessed at. Papyrus, save in the quality of durability, seems to have been inferior to the paper now manufactured from rags of linen and cotton, judging from the specimens which have been preserved. The plant had many other uses anciently in Egypt and Ethiopia. People chewed the roots for their pleasant juice, and the stalks were roasted, their soft, pulpy contents being afterward eaten. The stalks also afforded materials for ropes and cables, and the leaves were utilised, as they are at the present day, for making small boats, in which the inhabitants of the banks of the Nile venture upon its waters."

SCOTTISH NOTES.

THE WEATHER IN THE NORTH OF SCOTLAND.—Writing under date Saturday, 24th Sept., our Aberdeenshire correspondent says:—Severe frosts of quite abnormal intensity have prevailed in the North of Scotland during the past few days. On Tuesday night, Wednesday morning, Thursday morning, and again yesterday morning strong frosts prevailed, and reports from various districts are to the effect that considerable damage has been done to vegetation. The Potato tops over a wide area have been blackened; and it is to be feared a large proportion of the crop has been seriously injured. On Wednesday morning in the country, icicles were hanging from the eaves of outhouses, and from the Vale of Alford district it is reported that the ice on pools of was a quarter of an inch thick. In Aberdeen the city gardeners have had to rush in the more delicate plants to prevent their utter ruin. Away in the uplands about Braemar the weather experienced during the past few days has been more like mid-winter rather than in the month of September. At Castleton Observatory (Braemar), the record made by Mr. James Aiken, Bank House, was 22° Fah., or 10° of frost in the shade; and the self-registering thermometer on the grass was down to 15° Fah., or 17° of actual frost. Flower plots and shrubberies, wherever there happened to be anything exotic or of a delicate type, have been badly blasted. On Wednesday and Thursday the night frosts were followed by splendid sunshine, the heat being almost oppressive. The barometer is both high and steady, and general appearances point to a likely spell of hard, dry weather.

NORTH OF SCOTLAND HORTICULTURAL AND ARBORICULTURAL ASSOCIATION.—The members of this association held their annual meeting in Aberdeen on Wednesday evening, 22nd of September, Mr. C. S. France, president, in the chair. The secretary's and treasurer's reports were read and adopted. From the accounts it appeared that there was a balance to the credit of the association of £17 16s. 10½d. The following gentlemen were appointed office-bearers for the ensuing year:—President, Mr. C. S. France; vice-president, Mr. George Ross, Cranford; joint secretaries, Mr. William Reid, Hadden Street, and Mr. J. Minty, Canal Road, Aberdeen; treasurer, Mr. Wyllie. A motion anent alteration of rules 1, 3, and 5 of the constitution of the association was then brought forward. Regarding rule 1, the name of the association was altered to the "North of Scotland Horticultural and Arboricultural Association"; to rule 3, the following addendum was made:—"Amongst means for extending the objects of the association we are to grant awards for essays on, and for collections of, native Herbaria and woods." Rule 5 was altered to admit apprentices at a subscription of 1s. per annum. Three silver medals were offered as awards for the subjects mentioned above—a maximum sum of £3 3s. being voted for the purpose. The usual votes of thanks terminated the proceedings.

INSTRUCTION FOR PRACTICAL FORESTERS AND GARDENERS.—By arrangement between the Commissioners of Her Majesty's Works and the Board of Agriculture, a course of study in the sciences underlying the practice and in the principles of forestry and horticulture is to be instituted in October next, at the Royal Botanic Garden, Edinburgh, for practical foresters and gardeners. The scheme is that which has been promoted by Professor Bayley Balfour, Regius Professor of Botany, and which was mentioned in August last at the annual meeting of the Royal Scottish Arboricultural Society. A circular just issued gives, however, details of the curriculum and the manner in which applicants for the benefit of the education which is to be imparted must enter for it. The curriculum is to extend over two and a half years, and will include the following subjects:—Chemistry, physics, meteorology, geology, surveying and mensuration, entomology, botany, forestry, and horticulture, and these will be taught practically as far as is possible. The curriculum is to be free of charge to those who are admitted to it, and the times of the classes are to be arranged so as not to interfere with the usual hours of labour. No one is to be admitted who has not had at least three years of practical experience in forestry or gardening, and applicants have to submit a recommendation and certificate of character from their employer. Under the scheme the difficulty of young working foresters coming into Edinburgh to receive scientific training in their profession is surmounted. A certain number of the men will be employed as members of the working staff of the Royal Botanic Garden, Edinburgh, during the period of the curriculum, and, serving under all the regulations in force in the Garden, will receive the current wages of their grade.

Through the co-operation of the nurserymen in Edinburgh, arrangements will be made for the employment of others in the nurseries about Edinburgh during the period of the curriculum. Those who are admitted to the curriculum are to be examined from time to time upon the subjects of study, and any one who does not show satisfactory progress may be debarred from continuing the curriculum. If there are too many applicants some method of selection may be adopted. In an accompanying letter which Professor Bayley Balfour has sent out asking for the co-operation of all interested in forestry and gardening, he says:—"I would specially invite your attention to that feature of the scheme by which it is proposed to find employment in and about Edinburgh for young men from a distance desirous of taking advantage of the instruction offered, and in this way to enable them to support themselves during the period of study. The wage obtainable would be 17s. per week in the Botanic Garden, and about 2s. 6d. per day in nurseries. The advantages of the opportunities of study afforded by the scheme are so evident that they will probably be sufficient to induce good men to accept employment in Edinburgh at the rates mentioned, even although some diminution in their earnings is thereby involved. There is, however, the possibility that a deserving man might be called upon to make a pecuniary sacrifice in taking such employment which circumstances would not allow him to contemplate, and he might thus be precluded from attending the course. To meet such cases, and to supplement the wage obtainable, it has been suggested that the County Councils and other bodies having control of the administration of funds which could be allocated to such a purpose might, in different localities, see their way to making small grants in the form of bursaries to aid men desirous of working through the curriculum, and that many individual proprietors would be glad to give some additional pecuniary help to young men from their neighbourhood who wish to reap the benefit of the education offered."—*Scotsman.*

THE VEGETABLE GARDEN.

ONIONS.

THE bulbs should now be removed to a vinery or any cool dry house to harden and dry off before being put into their winter quarters. The question as to which is the most suitable place to store them in for the winter is one which gives rise to differences of opinion. I believe the most suitable place to be a very dry shed facing north with plenty of ventilation. Some gardeners recommend an open shed, but I prefer one that can be closed providing it has ample means for ventilation. It can then be closed against snowstorms and driving rains, which make open sheds so very damp. Frost does not injure Onions if they are dry, but if damp they do not keep so well after it. Some Onions have been seen this season of great size, and no doubt others will be seen larger at the late shows. Of course these large Onions are useful for exhibition and interesting to grow, but they are not so useful as those grown thicker on the ground and with less manure.—*G. H. S.*

SEAKALE.

THIS is a vegetable which most gardeners like to force as early as possible, and those who have to supply a large establishment know how useful are a few dishes of Seakale in November or December, when other vegetables are somewhat scarce. With many it is a great trouble to get the leaves off the plants in time to start forcing so early, but a great help in this direction is to take a fork now, and partially lift the crown just enough to break some of the roots; this will be found to materially assist the ripening of the crowns.—*G. H. S.*

NEW VEGETABLES CERTIFICATED.

The following new varieties of vegetables were certificated by the Fruit Committee of the Royal Horticultural Society on Sept. 20th :—

RUNNER BEAN SUTTON'S PRIZEWINNER.—The pods of this Runner Bean are generally about 6 in. long, moderate in width, nearly smooth, dark green, and fine looking. A First-class Certificate was awarded it when exhibited by Messrs. Sutton & Sons, Reading.

RUNNER BEAN HILL'S PRIZE.—The pods in this instance are 9 in. to 10 in. long, of moderate width, deep green, and smooth or occasionally rough on the edges. It was exhibited by Messrs. Geo. Bunyard & Co., and received a First-class Certificate.

TOMATO BLENHEIM ORANGE.—The fruit of this is of medium size or sometimes above it, flattened on the top, smooth and shining, and varying from an amber tint often more or less suffused with orange on the exposed side, or where it has been ripened under favourable conditions as to light. The seeds are few, the flesh solid, of agreeable and fine flavour. Some stems bearing fruit as it had been grown, were exhibited by Messrs. J. Carter & Co., High Holborn, when an Award of Merit was accorded the variety.

POTATOS.

MARY ANDERSON (*Fletcher, Reading*).—In this we have a white kidney with narrowly obovoid tubers, gradually narrowing to one end, and smooth. A First-class Certificate was awarded it.

THE CANON (*R. Dean, Ealing*).—The tubers in this instance are oblong, but nearly of equal width at both ends, flattened, and smooth or slightly rough. Like the last it is a white kidney, and received a First-class Certificate.

READING GIANT (*Fidler, Reading*).—Tubers of large size, oblong, generally more or less flattened, and rough or netted on the surface. It may be described as a white kidney. A First-class Certificate was awarded it.

BOSTON Q. Q. (*W. W. Johnson & Son, Boston*).—This is a round white, of large size, but the eyes are rather deep in many cases. The surface is rough or netted. The Q. Q. if written in full means quantity and quality. A First-class Certificate was awarded.

CRAWLEY PRIZETAKER (*J. Cheal & Sons, Crawley*).—The tubers of this variety are large, oblong, sometimes thickened at one end, and rough on the skin. It is a white kidney, and received an Award of Merit.

KING OF THE EARLIES (*Ridgwell, Notts*).—Tubers oblong, sometimes broader at one end, and smooth or slightly rough. This also is a white kidney, and received an Award of Merit.

WHITE ROUND (*Paul & Son, Cheshunt*).—This is of medium size, round and somewhat flattened, as exhibitors like to see it. The eyes vary in being deep or shallow, and the skin is rough or much netted and rather dark in colour. An Award of Merit was accorded it.

WHITE RUSSET (*Harris*).—Like the last named, this is also a round variety, but smaller, flattened, very rough on the surface, and apparently of good quality. An Award of Merit was accorded it.

All of the above eight varieties of Potatos had been grown upon trial in the gardens of the Royal Horticultural Society at Chiswick, where they had been examined by the sub-committee. A considerable number of them had been boiled in order to test their quality. Three and two marks were accorded them, and when brought up to the Drill Hall on the occasion of the last meeting for the approval of the Fruit and Vegetable Committeee, that body accorded a First-class Certificate to those having three marks with one exception, namely, King of the Earlies; while those having two marks were accorded Awards of Merit.

NOTES FROM BRIGHTON.

AT first sight it may appear a little incongruous to associate Brighton with horticulture. A closer inspection, however, will certainly reveal floral as well as other beauties; although it must be admitted that, on the sea front at least, there is almost an entire absence of the former. This, to a lover of all that is brightest and best in nature, is somewhat depressing. But on inquiry, the cause at once becomes evident, and, although Brighton does not languish for pure air, clear skies, actinic rays, or demand for flora's gifts, but from the palpable fact that the ozone-laden breezes are so strong and tempestuous at times that their fierceness precludes the possibility of plant resistence. This may, or may not, be taken *cum grano salis*; but my opinion is that the wind from the sea is so largely surcharged with saline particles that Brighton's peculiarly healthy position is probably due to that fact.

Some attempts at gardening are being, and have been, made on the western boundaries; but the result is not *recherché*, or the effect pleasing, although the difficulty, due to exposure, is partly met by the planting of thick Euonymus hedges on the seaward side. The Euonymus and the Tamarisk are consequently the only shrubs one sees in this otherwise salubrious resort, and though this is, perhaps, a little monotonous, it only applies to the decoration of the front, where otherwise all is gay, fantastic and bizarre. Brighton enjoys many natural advantages, and what with a glorious sea in front, the everlasting hills behind, and the infinite azure in the space beyond, the horticulturist, amateur or professional, on holiday, may well drop the interminable intricacies of his choice or his trade, and give himself up for the time being to freedom, luxury and ease.

But, in this *fin de siècle* age inactivity is well nigh impossible; therefore we are impelled to take a peep at those parts of the town situate beyond the immediate vicinity of the sea. The sky is luminous with sparkling sunshine, the air is sweet and balmy, and the joint forces of Auster and Zephyrus combine to lend a motion to the breeze which is redolent of life and health. We turn our devoted steps towards the old Steine, where the trees at once exhibit their conflict with Eolus, for their brown leaves, bare twigs, and generally stunted appearance and lopsidedness are self-evidences of the torture they have sometimes to undergo. The occupants of the flower beds do also struggle with the elements; though the bright colours of the Pelargoniums, the refined tints of the Violas, or the pensive style of the Cupheas, lend a charm and relieve the mind of vacancy and sameness. A fine fountain adorns the centre, the spray from which gives misty vapours, grace and coolness, and otherwise imparts a feature much to be desired. Other enclosures entice the wayfarer, though much formality prevails. The Pavilion gardens, however, possess redeeming features, and there is much here both of geometric and of graceful character to compensate for lack of design elsewhere.

Pursuing our way up the London Road, which lies between the hills, and passing under a lofty viaduct, we find ourselves before the gates of Preston Park. It is well wooded, about seventy acres in extent, and was the bequest of Mr. Davies, who acquired it for the Corporation at a cost of £70,000. Tennis, cricket, polo, etc., make it a popular resort; the grass is well kept, the floral arrangements are in good taste, and the animal cravings are not forgotten. Begonias are used here in large quantities and with excellent effect; the zonals of the Henry Jacoby and Lucius types glow with much warmth and brilliancy as they can only glow in the sunny south, where summer seems unwilling to depart. A very artistic mixture consisted of Petunias of many hues, Violas of varied colours, Ageratums of the softest blue, and Lobelia Cardinalis of intensest crimson. The dwarf Lobelias are of course in great request; but these, as likewise Dactylis glomerata elegantissima, or Lady-glass, are only skeletons of what they were. Herbaceous plants, such as Dahlias, Hollyhocks, Sunflowers, Phloxes, play their part, and play it well, in the light and joysome atmosphere of the English "Seville." Annuals are not despised, as Zinnias, Asters, and Drummond's Phlox do testify. Of course the Euonymus is here, as it is everywhere in Brighton, but only the green variety dominates the scene.

Thence forward, and we soon attain the picturesque; Preston is reached, and the pretty villas duly noted with their gay parterres, and beds of brightest hues, set in the greenest of turf and traversed by the tidiest of gravel paths. Besides the ordinary subjects, Fuchsia gracilis, Anemone japonica alba, and Begonia discolor, the everlasting Pelargonium never fails. It is in the borders, on the window sill, in the court-yard, and crammed into large pots, and placed beside the narrow ways, and stood upon the terraced fronts, until the garish glare becomes a mania, distorts one's vision, and renders all the finer feelings sore perplexed.

Turning abruptly upwards towards those hills of chalk, whose fame is far-spread, whose soil has probably been undisturbed for centuries, and whence the Corporation obtain their water supply, which water is said to be so good, so vivacious, that whiskey absolutely spoils it. Here, where the wild flowers blossom unperceived, the larks sing unheard, or the incipient "mutton" develops into sweet maturity; here we must pause, here we must take council afresh, and consider the mode and manner of our return.—*C. B. G., Acton, W.*

(To be continued.)

A BLUE PEA.

A HORTICULTURAL paper has recently been indulging in rhapsodies about the purple podded Runner Bean as the wonder of the horticultural world and the greatest novelty of the age. Seeing that it was first put into commerce in 1867, having been raised at Wettemberg, in Germany, more than a quarter of a century ago, it can hardly be termed a novelty, though unknown to many horticulturists. Occasionally the blue flowered annual Pea, Lathyrus sativus, L. azureus, L. cœruleus, Lord Anson's Pea, etc., turns up. A great fuss is made about it, it is renamed, sent out at a big price, and then it subsides into comparative obscurity, to be restored again to notice after a lapse of time.

But this Lathyrus well deserves cultivatiou. The few who grow it make a practice of sowing the seeds thickly in spring. A somewhat spare growth results, flowers are produced, but not so large in size and brilliant in colour as they would if better treated, and it disappoints, but no blame should be cast upon the plant, but rather upon the mode of cultivation.

If any one would grow this Pea to perfection, let him sow the seeds now, one in a small pot and as soon as the plants are large enough and have become pot bound let them be shifted into a 48 size pot and kept in a cold frame during the winter, protecting from the effects of severe frosts; and then when spring comes planting each out individually in good soil, and give them the support of stakes. That is the way to grow and flower the old Lathyrus azureus or what under one of its new names is catalogued as Lathyrus cœruleus. Treated in this way it will be an object of great beauty all the summer, and well reward the cultivator for his pains. I scarcely know any other annual possessing its peculiar shade of silvery blue. A buttonhole made of a few flowers would prove a floral sensation in the city of London. There is one drawback, the flowers burn somewhat on the petal edges, more so in sunny than in dull weather; but the flower yielding such a delightful hue of blue can fairly claim dispensation in the face of a fault it displays, but cannot remedy.—*R. D.*

The Arboretum.

Some Novelties in Ornamental and Pictorial Trees and Hardy Shrubs.

The genus Acer supplies several of these which may properly be termed novelties. There is A. colchicum, probably a sport from A. colchicum rubrum, the leaves of the sport being handsomely variegated with red, green, and rose. There is also a golden variegated form of the well-known A negundo, but with the margins gold instead of cream, a very fine variegated variety of the Ashleaf Maple. Then there are two sports from the old purple Sycamore. One named Atropurpureus has the leaves purple below as well as on the upper surface; another has them parti-coloured, being marbled with rose, white, and yellow; another has golden variegated foliage, but fine specimens of this, or a near resemblance to it, can be seen in various parts of the country.

A variety of the common Sycamore, named Simon Louis Frères, is regarded as the finest of all the variegated types, the leaves being edged with rose and white, and it is highly effective. Another named Woolleii is a fine golden form of Acer platanus. Cornus brachypoda variegata is a handsome type of the Dogwood, the leaves being well margined with white, are very effective. C. elegans tricolor aurea is a rapid grower of a semi-weeping character, the foliage edged with red and yellow. C. Spathii aureus variegatus is a fine variegated shrub of rapid growth, the leaves broadly margined with pale yellow, while some are entirely yellow. Sorbus majesticus is a fine ornamental tree with very large silvery leaves; and S. lutescens has large leaves of a yellow tint, and is very handsome when well coloured. Veronica buxifolia is a box-leaved form likely to make a useful plant in shrubbery borders if perfectly hardy, a quality which is claimed for it.

Of flowering plants I place at the head a new continental Clematis which comes to England with a great reputation. It is named Madame Baron Veillard, of the Jackmanni type, of vigorous growth, very free, a continuous summer and autumn bloomer; the colour rosy-lilac. Of Cytissus (Genista) scoparius andreanus it is scarcely necessary to speak. Its bright golden flowers with velvety-purple centre command admiration. Hypericum Moserianum is a handsome shrub of low, spreading habits, of vigorous growth, bearing from June until September a profusion of arge golden-yellow flowers. Lemoine's hybrid of Philadelphus microphyllus is a fine new form bearing large white flowers which are very fragrant, and produced in great abundance. Spirea astilboides is a delightful subject for pot culture, graceful and elegant in the extreme, and worthy of a place in every garden.

Here then is a few subjects challenging attention. They are by no means new in all cases, but they are novelties, and as such can be recommended for their obvious good qualities.—*R. D.*

TUFTED PANSIES FROM CHIRNSIDE.

It is now pretty well known that Dr. Stuart, of Chirnside, has been instrumental in raising a new type of rayless Violas, although there are now several others working in the same field. The principal seed parents he has been using are Violetta and Countess of Hopetoun. Others have been used as pollen parents in order to get colour, amongst which Viola cornuta Perfection, Ardwell Gem, and probably others might be mentioned. The leading colours as yet are white, yellow, various shades of sulphur, light blue and lilac, either separately or in various combinations. The name "Tufted Pansies" has been applied to them by Dr. Stuart himself, doubtless to indicate that they have the procumbent habit of Ardwell Gem, Duchess of Fife, and Goldfinch, which are the best of the old types to which that name should be applied. A boxful of flowers sent to us by Dr. Stuart a few days ago included both the large and miniature type of this new race, represented by Countess of Hopetoun and Violetta respectively.

The most interesting and handsome of the named sorts of this year is Lady in White, more happily named than White Lady, for it is pure white with a few yellow rays hardly extending beyond the golden yellow eye. It is moreover deliciously fragrant, and although not so large as Countess of Hopetoun, yet approaches it, and would therefore be useful for bedding purposes if a free bloomer, which we should suspect it is. Another distinct and beautiful variety of this year is Buttercup, of the palest sulphur with a large golden yellow blotch nearly covering the lip. Picturata is as large as Countess of Hopetoun, with the upper petals splashed and clouded with bluish-lilac, the others white and margined with a blue line and having a small golden yellow eye. It is also fragrant. We hope it will be re-christened, as there is already a variety under that name, but greatly inferior and would create confusion. An older sort is Bridal Wreath with large pale sulphur flowers.

Of the miniature type Old Gold is the best yellow, considerably superior to Golden Gage and Ophir by the same raiser; a seedling from it was devoid of the white margin. Blush Pet is much in the same way as Blush Queen but has darker upper petals; both are delicately suffused with the palest blue-lilac on a white ground with the customary yellow blotch on the lip. Another very choice minature variety is Snowdrift, but it seems nearly identical with Sister Frances figured by us last week.

Besides the above-named varieties Dr. Stuart sends us a selection of blooms gathered from his seed beds. One of the bunches, however, contained flowers of familiar colours, namely, those represented by Picotee, Rothes, or something near it as far as the flowers are concerned, and a lilac-blue one, possibly Blue Gown, which we have not seen. The others were mostly of large types, seedlings of Countess of Hopetoun crossed with Violetta. One of them was in the way of Sylvia's Rival, but was clouded on the edges of the upper petals. Others were of various shades of sulphur and pale yellow, large and in some cases fragrant. Some of them closely resembled Mr. W. Dean's Bridesmaid, but probably the habit is different, with more of the Viola blood (so to speak) in them.

The World's Fair: A Tall Order.—Mr. John Thorpe is reported to have stated at the recent convention of American Florists that it was the intention of his department to have a specimen of every plant and flower enumerated in Nicholson's "Dictionary of Gardening" shown at the Fair.

WINTER KALES.

All descriptions of "winter stuff," to use the common appellation, are now looking exceptionally strong and luxuriant in growth. Naturally the growers are wondering how this sort of vegetation that is brought to such a condition of luxuriance by such frequent heavy rains is calculated to stand a hard winter. It is a sad result of the long labours of a season in sowing, planting out, and cultivating hundreds of acres of this class of vegetable to find that perhaps a week of unusual severity in the winter suffices to cripple and very largely destroy it. Naturally it is of the first importance that only very hardy sorts should be grown where this danger is threatened.

Coleworts, which just now are unusually strong in leafage, will have largely been pulled perhaps before very severe weather ensues, because these are ordinarily cleared off before the depth of winter comes. The Hardy Green not planted too early is the best, because its firm conical heads do not offer so much area for the collection of hoar frost as the broad heads of the Rosette Colewort does. Large full-hearted Cabbages suffer most in frost as they soon split, or because too full of moisture are soon brought to decay. Savoys are generally very hardy, but there are none after all so good for winter work as the dwarf green curled, because being dwarf they are less exposed to injury.

Purple Sprouting Brocoli stands well as a rule, because that is not only hardy but the open leafage enables plenty of air to circulate through it, and thus keep it drier. White Brocolis suffer most just as they are of gross growth, whilst the harder the stems the better will they endure frost. In the case of Kales, of which the chief grown are the old tall Scotch and dwarf curled, these suffer more or less just as they are more or less coarse, or if specially exposed to snowstorms, which breaks down the leafage. To avoid that evil there are none like those which have very compact solid heads, and stout hard stems of medium height.

I was much taken with a very handsome green curled Kale of this description I recently saw in the Messrs. Sutton & Sons' trial grounds, at Reading,

Liliput China Aster.

and with which I was not previously familiar. It was one of a very large number under trial, and stood out amongst all as specially excellent. It is named Sutton's A 1. for the firm seem to think that this is the best curled compact headed, and handsomest of all the Kales they grow. It would make a splendid market variety because the foliage, whilst so short and compact, makes a complete edible head, and thus would fill the bushel far more quickly than will the best of the curled Kales now ordinarily grown. Even as a purely decorative Kale it is very attractive.

Those of the very hardiest are the Arctic Kales, both green and purple, and so called because they have the reputation of being of the very hardiest of all grown. These are dwarf and of very even character, would soon be entirely covered with snow, and thus sheltered should severe weather ensue, whilst the A 1. has somewhat reflexed leafage, the Hearting Kale on the other hand has distinct incurved leafage, the which produces solid tender hearts when it is fully ready for cutting in the winter.

China Aster, Pyramidal Bouquet Rose.

This Kale too is of a purplish colour and is of very even growth.

A very pretty hardy Kale is the Parsley leaved, and its foliage is so pleasing that it may be used for garnishing purposes when Parsley is scarce, although what is known as the garnishing Kale is even handsomer for that purpose, and is found in two or three shades of colour. There is a new dwarf curled green Kale that has whitish midribs, the which are so soft and succulent that when properly cooked they eat like Sea Kale. It is really full of the greatest interest to go over a trial of these Kales, and note how many varieties of the most useful nature there are, yet so comparatively unknown.—*A. D.*

TWO STRAINS OF CHINA ASTER.

There are few gardens without a sowing of China Asters of some strain or other, some gardeners growing several strains according to the requirements of the place. Immense quantities of certain dwarf and bushy forms are grown for market purposes, as they can be raised and planted in the open ground and grown to the flowering stage with a small amount of trouble and expense. They are then lifted and potted off as they reach the flowering stage, and getting established in a few days are taken to market. The two strains we figure are so identical in general appearance from the cut flowers alone that they might well have come off of the same head. The one is, however, a dwarf strain named the Liliput China Aster, represented on the opposite page. In certain seasons if at all dry they vary from 2 in. to 4 in. high, forming little tufts furnished with relatively large heads of bloom. The outer florets are incurved at the edges, that is, fluted but not tubular, while the centre is quilled. The heads may be rose, blue, or white, or the first two colours may be edged with white on different plants. This strain is suitable as edgings to borders or to beds of the taller growing kinds. The blooms, although relatively large for the size of the plants, would still be classed amongst the Pompons.

Below is an illustration of the Pyramidal Bouquet Rose strain of China Aster. The heads here are small enough to be classed amongst the Pompons. The outer florets are flat, forming a ray of many series, while the central florets are tubular and flat. The whole head is of a beautiful rosy lilac. The plants grow to the height of 18 in. or 2 ft., forming a pyramidal mass of bloom. When accorded a proper amount of room, the quantity of bloom a plant will produce is astonishing, and grown in this way the plants are highly appreciated in the garden, while the blooms may be cut with long stalks to mix with others. If grown in pots they come much dwarfer, as might naturally be expected.

CHESWICK HOUSE.

Being in the vicinity of Beal, in Northumberland, last week, I took the opportunity of calling at Cheswick House Gardens, and found the gardener, Mr. Angus, busy amongst some flowering Marguerite Carnations—the result of a sowing of seed made early in February. I consider this class of Carnation a valuable addition to our stock of choice flowers, and especially as they can be obtained at a minimum cost. They were of various colours and delightfully scented. The kitchen garden is not large, but it is pretty well stocked with winter stuff. The soil being of a retentive nature does not favour Potato culture, and I noticed that some of the crop was badly diseased. The bush fruit crops I understood had been light. Apples are a fair crop, especially Beauty of Kent, King of the Pippins, Keswick Codlin, and Ribston Pippin. Pears are scarce, but Peaches and Apricots are a heavy crop.

The glass-houses are very fine, and in first-class condition. On entering the greenhouse I was struck with the high culture of the zonal Pelargoniums, nowhere has it been my lot to look upon such a display. The plants numbered over 500, and were arranged on each side of the spacious span-house. The most prominent varieties were Swanley White, Lily Stella Massey, Rev. Dr. Harris, Sissie, Brilliant, John Mason, Lady Chesterfield, Hermine, and Gloire Lyonnaise. They are models of high culture, and were growing in 6-in. pots. Overhead were Ivy-leaved Pelargoniums such as Souvenir de Charles Turner, which is a really grand variety—the individual pips being large and bright. Fuchsias and other stuff occupied the centre stage. Before leaving this house I noticed some very heavy fruits of a new Tomato named Ponderosa—an American introduction I was told.

The stove adjoins this house, and nice table stuff only is grown. Pandanus, Dracænas and Crotons are represented by the best sorts. Stephanotis and Bougainvillea cover the roof, and when in bloom they must have been very nice. The side stages are clad with Panicum, giving the house a finished appearance. The vineries are two in number, and one is in course of renovation.

The conservatory is a huge structure, and its occupants look extremely healthy. I noticed some well-flowered plants of Vallota purpurea—a rather neglected plant nowadays. I was informed that some time ago they had suffered from mite, but the gardener took the advice of an old friend north of the Tweed, and watered them with a mixture of paraffin and water. I have every reason to believe that this had been the means of destroying the pest, and of bringing them into their present good condition. Some fine plants of Nicotiana affinis scented the air; and Begonias and other flowering plants were plentiful. Chrysanthemums were a grand lot, and promised extremely well.

I was also pleased to see a quantity of well-grown Hollyhocks, entirely free from the disease which has been so prevalent for a number of years past. Dahlias are grown in quantities and are represented by excellent varieties. All departments of the garden are kept in a neat, orderly manner at Cheswick, and reflect much credit upon the able gardener who presides over it.—*H. S.*

AMATEURS & THE R.H.S.

I was ambitious enough to have a desire to become a Fellow of the R.H.S., but being always careful to have, if possible, full value for my money, I looked at the guinea and asked myself what return I should get for it. Residing at a distance from Chiswick, the society's gardens offered little inducement to me, and with the present constitution of the R.H.S., professionals and amateurs exhibiting on the same basis (although the subscription of the latter is double that of the former), I failed to see how I could possibly hope to exhibit with any prospect of success, so I gave up the idea of paying a guinea just for the honour of the thing, and turned my attention to the National Amateur Gardeners' Association. There I found something which suited me exactly, an annual subscription of half-a-crown aud plenty in return for it—meetings once a month with interesting papers, and every encouragement to exhibitors, however small, in the way of medals, certificates, and numerous extra prizes for special subjects. Any member taking only an ordinary interest in the working of this association cannot fail to have a splendid return for the subscription.

The idea of a show next year on a much larger scale than anything yet attempted by the N.A.G.A., is not altogether a new one, and I do not doubt that such a step will meet with every success.—*Bona Fide Amateur.*

Atraphaxis lanceolata.—This may be described as a shrubby plant of the Polygonum family, of which a considerable number are now in cultivation for one purpose or another. The flowers are produced abundantly in axillary and terminal racemes, and although small individually are pretty in the aggregate. They are pink with darker midribs.

FRUIT NOTES.

BUNYARD'S SUPERLATIVE RASPBERRY.

This grand Raspberry is still fruiting here. I have to-day, September 20th, picked several quarts, and, weather permitting, I shall be able to gather a lot more from the autumn growths. The fruits now are an inch long, and the flavour is still good for so late a period in the season. I believe it to be the very best Raspberry in cultivation.—*F. Bridger, Penshurst Place, Kent.*

APPLE KING HARRY.

THE fruit of this by no means very common Apple is ovoid-conical even in outline, and of medium to moderately large size when well grown. When first gathered it is light green, but gradually becomes of a soft yellow, closely marked all over with small starry and russety spots. These spots make the surface rather rough. The eye is open, with reflex sepals set n a shallow, even, or slightly plaited basin. The flesh is firm, crisp, sweet and juicy, or even slightly brisk before being fully ripe, and pale yellow, making it an Apple of good quality, notwithstanding its general want of attraction beyond its neatness. It comes into use during September, and keeps good till the end of November. The fruit attains good average size in the gardens of the Royal Horticultural Society at Chiswick.

A NEW MELON.

TEGG'S FAVOURITE.—Four fruits of this Melon were shown at the last meeting of the Fruit Committee, weighing from four to six pounds each. They were shortly-oblong or oval, yellow, and finely reticulated with grey lines. The flesh is scarlet of great depth, scarlet, juicy, sweet, and well-flavoured, which is more than can be said of a great many of the Melons which are brought before the committee for adjudication. The fruits were shown by Mr. J. Tegg, gardener to John Walter, Esq., Bearwood, Wokingham, and an Award of Merit was accorded them.

NEW PLANTS CERTIFICATED.

AMONGST the subjects brought up to the Drill Hall on the 20th inst. for the adjudication of the committees, the undermentioned were accorded certificates according to merit.

ARISTOLOCHIA GIGAS STURTEVANTI.—Amongst the larger-flowering of the Aristolochias the subject of this note is evidently on the eve of becoming a popular stove climber on account of the huge dimensions of its flowers, the ease with which the plant may be grown and flowered. Climbers of this nature usually require a great amount of house room, but not so in this case, as the plant exhibited by Messrs. F. Ross & Co., Merstham Nurseries, Surrey, was grown in a 24-size pot, and had produced five or six flowers in succession. This is remarkable considering that the flowers measure 18 in. wide, 18 in. to 22 in. long with a tail 30 in. to 42 in. long. The leaves are heart-shaped, gradually narrowed to a point and entire. The flowers have a large bent tube which is white, netted with greenish veins, while the exterior of the lamina is creamy-white and strongly ribbed; internally the latter is heavily mottled and marked with purple on a creamy ground. It is of a maroon-crimson round the mouth of the tube, and densely covered with purple hairs on a blackish ground in the throat. A First-class Certificate was awarded it.

PTERIS NIVALIS.—Variegated Ferns have not hitherto been very numerous, but they are becoming rapidly plentiful. A batch of seedlings has been raised from a variegated variety named Reginæ, and several of them are very distinct in character, including that under notice. The whole plant is very dwarf at present, but it is hard to say what it may be when fully developed. The fronds have very short stalks and are bipinnate at the base, and simply pinnate upwards. The terminal pinna in each case is long and pointed, all linear and white along the centre with narrow green margins. It was shown by Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, and received a First-class Certificate.

SILVER ELDER.—There is already a silver variegated form of Sambucus nigra in cultivation having a silvery margin to the leaflets, but some branches of a new one were shown by Miss Alice de Rothschild (gardener, Mr. Gibbs), Eythorpe, Bucks. The tips of many of the shoots and many of their leaves were almost wholly white, and the rest closely marbled and blotched with silvery-white. An Award of Merit was accorded it.

FRENCH MARIGOLD.—About 144 blooms of the striped strain of French Marigold were exhibited by Messrs. Dobbie & Co., Rothesay. All were equally perfect and golden-yellow with a rich brown margin of slightly varying width, but all conforming to the requirements of what a good strain of striped Marigolds should be. An Award of Merit was accorded the strain.

DAHLIAS.

MATCHLESS.—Hitherto the dark-coloured Dahlias of this type have been more referable to the decorative than the Cactus class, but Matchless is a true Cactus variety of medium to large size, deep maroon-crimson, and darkest in the centre in the young state of the flower with long and narrow-pointed florets. An Award of Merit was accorded it when shown by Messrs. Perkins & Sons, Coventry.

KATHLEEN.—The flowers of this variety are of a soft, lilac-pink when fully developed, but in the young state the florets are tipped with pale purple. They are very neat and the variety belongs to the show class. It received an Award of Merit when shown by Mr. C. Turner, Slough.

ARTHUR WEST.—In this we have a small and very neat deep crimson Pompon.

TOMMY KEITH.—For description of this variety see p. 33. Both this and the previous one were shown by Mr. J. T. West, gardener to W. Keith, Esq., Cornwalls, Brentwood, when Awards of Merit were accorded them.

CARNATIONS AND PICOTEES.

IT may be stated for the information of young and inexperienced amateurs that for the sake of convenience the florist speaks of Carnations and Picotees as if these represented two distinct species of the Dianthus; but the Picotee is simply the Picoteed Carnation, a flower upon the white petals of which the colour is laid on, and in the form of an edging or beading, and not in longitudinal flakes as in the case of the bizarre and flaked Carnations. Thus seed of a flaked Carnation will produce Picotees, and the latter flaked and bizarre Carnations, and both self-coloured flowers; thus showing their common origin. Some say the fragrant Pink is but a variety of the Carnation, though others differ from this conclusion.

The Carnation is a flower of some antiquity; its very name, Dianthus, suggests the *Dios Anthus*, the flower of Jove, and it is no stretch of the imagination to suppose that when the gods were up in Olympus, they used the Dianthus as garlands and emblems; and, in fact, the flower itself was sometimes called the coronation flower, because, it is said, it was pink round the edges, and represented very much the diadem that the great Jove wore upon his awful brow. According to a noted writer, the Carnation represented flesh and blood, and so it should, for flesh and blood is the life of the world, and must have been the life of Olympus also. So much then for some items in the early history of the Carnation, fabulous or otherwise.

ITS PROGRESS.

According to all accounts, a King Rene, who made a dash for the crown of Naples and failed to secure it, settled down in quiet on the shores of the Mediterranean in Provence, and took to cultivating flowers, among them the Carnation. This occurred about A.D. 1442. In the works of Gerrarde, published about 1597, it can be seen a great number of Carnations were grown by him, and among the number was a yellow, which had been given him by an "excellent merchant," Nicholas Lete, who obtained it from Poland, and Gerrarde says this was the first yellow Carnation which had come into an English garden. From that time onward there have never been wanting floral enthusiasts to take in hand this fragrant flower, and, by gently leading it on from stage to stage, bring it up to the level of perfection seen in the present day.

BIZARRE AND FLAKED CARNATIONS.

By a bizarre Carnation the florist means a flower having a white ground, but with two distinct colours laid upon it. There is the scarlet bizarre, in which the scarlet colour predominates, and the richer the hue of scarlet the more valuable is the variety. The florist places the scarlet bizarre at the head of his list. In the crimson bizarre the crimson predominates, with flakes of rose—a beautiful class. Then there is the pink and purple bizarre, on the petals of which are flakes of pink and purple of varying tints. Then comes the flaked Carnations. The most valuable is the purple flake, because the tint of distinct purple is so difficult to obtain; in this case purple only is laid on the petals in flakes or stripes. Next comes the scarlet flake, and lastly the rose flake. The purer the white ground, and the more distinctly coloured the flake—given, of course, smoothness and stoutness of petal—the more beautiful is the variety. Purity of the white ground colour is absolutely necessary; the purer the white, the greater and more striking is the contrast of colours between it and the tint of the flake.

Fragrance in the Carnation. Alas! though often called the fragrant flower, many fine varieties are destitute of fragrance. This is all the more singular because there is scarcely a Pink grown which is not more or less scented; but many of our most beautiful Carnations lack this much-prized sweetness. What is known as the old Crimson Clove Carnation is remarkable for its perfume, and this is why it is so very popular. It is richly clove-scented, and so we have come to speak of self-coloured Carnations as Clove Carnations, though ten out of every dozen may be destitute of scent. The Carnation is Dianthus caryophyllus, and so the Clove is spoken of as D. caryophyllus aromaticus. Unfortunately, a kind of disease has affected this fine old English plant, and the scented Crimson Clove, which used to be in almost every garden, has now quite died out of not a few. That it will soon regain its original robustness of constitution is the ardent wish of all lovers of flowers.

THE PICOTEE.

The Picotee is but a variety of the Carnation; and is represented by a flower having an edging or beading of colour, instead of the longitudinal flakes found upon the petals of the Carnation. Like the Carnation, the Picotee is a flower having a white ground, but varying in the tint of colour upon the petal edge. The florist divides his Picotees into four sections, viz., the red edge, the purple edge, the rose or scarlet edge, and the yellow grounds. In dealing with the Carnation I should have said that there are two other classes, besides the bizarre and flaked flowers, viz., the self and the fancy; a self flower is one of a decided tint of colour, such as maroon, crimson, scarlet, rose, pink, purple, mauve, blush-yellow, white, etc.; but the term fancy includes everything which cannot be grouped under one of the afore-mentioned headings. There are literally hundreds of Carnations which cannot be classified, and they thus find a place under the comprehensive term fancies. Some of them have a white ground, but are so marked that they are neither Carnations nor Picotee, as defined by the florist. Some of the yellow self Carnations are very fine, particularly ones raised in Germany by Mr. Ernest Benary, of Erfurt, and appropriately named Germania. It is a flower of large size, good in colour, and very handsome, but unfortunately not a robust grower, nor very free of bloom. Of its rare beauty there can be no doubt.

DEGREES OF EDGED PICOTEES.

Each of the sections of Picotees—red edged, purple edged, and rose edged—is divided into three divisions, viz., heavy edged, in which the edge or beading of colour is quite broad, probably a twelve of an inch or so in breadth; and the light edged, in which the colour is laid on the petal edges in the form of wire beading, and I think the light edged Picotees most delicate and lovely flowers, standing in their relation to the Carnation as the feminine to the masculine; and they generally receive feminine names. Between these two come the medium edged flowers, the width of the edges of colour on the petals being about midway between the two. The purple edged and the rose edged Picotees are divided in the same way; and some of the light rose edges, such as Favourite, Miss Gorton, Mrs. Payne, and Nellie, are lovely in the extreme.

THE YELLOW GROUNDS.

The yellow ground Carnations and Picotees, which have yellow as the ground colour of their petals instead of white, are now a very numerous class; and they range in the tint of the ground from pale buff and primrose to deep yellow. Some—those weakest in the yellow tint upon the ground colour—are included among the "fancies;" a few are true Picotees, having the colour laid on the petal edges as

in the case of the white ground Picotee; but the great majority are more or less flaked with various colours, and are thus included under the head of yellow grounds. It is a section of Carnations which has grown enormously of late, and now comprises a very large number of varieties. But only a few of them are fragrant, and we do, as a rule, attach a greater value to flowers that possess fragrance than to those that do not. And probably, after all, it is a wise arrangement that limits fragrance to certain flowers, giving it to them in a large degree in some instances; in others only to a small extent, but denying this quality to the great majority; else, perchance, it would become common, and so charming a feature be less valued than it is.

A Blue Carnation.

The question is sometimes asked—is there a blue Carnation? No, it cannot be said there is; but some varieties recently raised in Germany show tints of slate and slaty-blue that may in course of time develop to a real blue Carnation. We have several purple self Carnations, such as Purple Emperor and Neptune, among others; but I do not think they are so likely to develop a blue tint as the German flowers. Two of the latter are worthy of special mention; one is Theodore, which may be described as of a slaty-blue tint, large, full, with finely-formed petals, and delightfully fragrant—one of the sweetest scented Carnations we have. It is a grower, not too tall; the flowers are thrown up well above the foliage, and the blooms are not disfigured by the splitting of the calyx or the pod, as it is termed. This beautiful Carnation is very scarce at present, and I am afraid it is not so robust in constitution as one can desire, but it will be largely grown for its rare and distinctive beauty. The other is Van Dyck, and a more striking and attractive flower I do not know. The ground colour is slate shaded with mauve, and along the petals are flakes of bright rosy carmine. As I have not yet seen it growing, I am unable to give its height or the degree of its robustness, neither am I sure if it is fragrant, but as to its marvellous distinctness there can be no doubt.

The Propagation of the Carnation and Picotee.

This is very largely done by means of layers during the month of August. The Carnation throws up certain shoots which, following the flower stems, do not bloom until the following year. The shoots, when the wood is sufficiently hardened, are cut half way through at about the fourth or fifth joint from the point, the cut being made in a downward direction, so as to leave a little tongue. The shoot is then fastened down into some light sandy soil by means of a peg, and, in the course of a month or so, rooted plants are formed. Carnations are under such better control for layering when they are grown in pots, that all who cultivate for exhibition so grow their plants. Layers should be put down by the end of August at the latest, or they will not root so early as can be desired.—*R. D.*

INJURIOUS INSECTS IN 1892.

In a condensed report of some of the main points of the work this year up to date, regarding British insect infestation, Miss Eleanor A. Ormerod says in *The Mark Lane Express* that "Amongst bush fruits, the Currants, Raspberries, and Gooseberries suffered from caterpillars, of various kinds of moths, and sawflies, gall mites, scale, red spider, and also from beetles, and their maggots, all duly attended to in reply to inquiries, but too numerous to enter on here. Only in the case of Strawberries there was some unusual mischief. In this case I had notes of a weevil affecting the blossom, of a small beetle, the Galeruca tenella, which reduced the leaves almost to lacework, and of continuance of presence in one locality over many acres of injury from attack of an eelworm (an Aphelenchus), causing such a peculiar distortion of what should have been the flower shoot that the infestation has thence been named the 'cauliflower disease.' Less was reported than usual regarding winter moth presence, and in the case of the Apple sawfly (a very wasteful attack) we are now from the observations of a fruit grower in possession of all the details of its history, which we need to keep it in check.

"In forestry infestations there was the customary amount of inquiry as usual. Pine weevils and sawflies required attention, and Larch bug and Spruce chermes-gall were also reported, also much injury from Oak caterpillars.

"In this department the most interesting inquiry was regarding great injury caused in an alder plantation by the infestation of the caterpillars of the Trochilium or 'Clear Wing Moth,' which especially infests Alder and Birch, but is so rare with us that (as far as I am aware) no observation has been previously made of the details of this attack in this country. The mischief is caused by the caterpillar boring up the young Alder stems near the ground and thus destroying them. In the present case, by the prompt measures taken by the proprietor, it may be certainly hoped that the infestation was stamped out, though at the sacrifice of his plantation."

GARDENING MISCELLANY.

CALANDRINIA GLAUCA GRANDIFLORA.

There are several species of Calandrinia with spathulate fleshy leaves and large richly coloured flowers, and that under notice is one of them. The leaves are smooth, fleshy, and glaucous as the name would imply; and from amongst these the flower stems rise to a height of 12 in. to 18 in., bearing a raceme of large flowers that are purple, intensified about the middle and white towards the base. By way of contrast the anthers are orange. The best way to grow it is to sow seeds in small pots in moderate heat in the spring time, and transfer to the open ground as the weather gets warm about the end of May. The seedlings soon come into bloom and keep on till frost destroys them. Seeds ripen in favourable seasons, more particularly if the plants have been started in good time; they, of course, take longer to ripen than the smaller flowered and less fleshy species.

LILIUM HENRYI.

When this gets into commerce it is almost sure to become popular, for while it possesses the habit characteristic of L. speciosum the colour is strikingly different. The latter is, however, liable to fade considerably, and the orange-apricot hue of the newly-expanded flower gives place to a much paler shade as if it was liable to burning under the influence of sunshine. When one is in possession of a quantity of bulbs, a succession of bloom is kept up for many weeks together. Three to four feet is the usual height of the plant, but strong bulbs may yet show greater possibilities. At all events it is quite tall enough for planting in beds amongst Rhododendrons with charming effect during the late summer and autumn months as in the beds at Kew.

VERONICA PIMELIOIDES.

The leaves of this species are elliptic, about a quarter of an inch long, and neatly arranged in four ranks similar to those of a Pimelea, as the name implies. The plant forms a neat bush, flowering when only 3 in. to 6 in. high, and possesses a decidedly glaucous hue. The flowers are violet purple, fading to a clear lilac, and are pretty although not larger than those of V. pinquifolia, V. carnosa, and other dwarf, bushy species of the same type. It is to be hoped that V. pimelioides will prove as hardy as those two, for it would then be a suitable subject for rockeries of moderate size. Like a considerable number of the New Zealand Veronicas it would doubtless prove hardy around the south and west coasts of England, where the shrubby Veronicas are well adapted for resisting the sea breeze, and not only so but flower profusely for many weeks or months together. That here noted may be seen outside of the hardy plant house at Kew.

CARNATION KEIR PRINCE.

This new Carnation is considered by those who know it to be suitable either for border or for pot work. In the latter case the early layers are potted on, and by being kept in a greenhouse or conservatory continue their growth, flowering in winter and early spring. The flowers are of medium size, glowing scarlet, neat in form without dressing, and never burst the calyx. Of these facts we are assured, having examined a boxful of cut flowers, which at this late period of the year are quite acceptable, more particularly when one knows that they can be obtained from the open ground. It was raised by Mr. T. Lunt, Keir Gardens, Dunblane, and it is to be sent out in October by Messrs. R. B. Laird & Sons, Edinburgh. Besides the brightness of colour and the neatness of the flower, the plant has a very vigorous constitution to recommend it, producing plenty of grass, and an abundance of bloom from July to October. It is the constitution of the plant that will enable it to be rapidly propagated, distributed and perpetuated, and by which it will hold its own amongst the numerous varieties now in cultivation.

PRIMULA POISSONI.

A fine batch of this planted out on the rockery at Kew has made wonderful growth, and many of the plants are flowering strongly. It would be better perhaps to go perfectly to rest at this time of the year in order that it may be the better able to pass the winter in safety. At all events there are many of the plants not in a flowering condition, so that taken altogether the batch will form a pretty fair test as to the hardiness of this fine species. It belongs to the same type as P. japonica, and produces its flowers tier above tier in the same way, but the leaves are of a rich dark green, smooth and altogether different. They vary from oblong to obovate-spathulate, forming rosettes from amongst which the flower scapes rise to a height of 12 in. to 18 in. The flowers are large, and rich purple with a golden yellow, five angled ring forming the eye. It is to be hoped that the species will prove as hardy as P. japonica.

WITSENIA CORYMBOSA.

Many years ago this was rather a common plant in greenhouses throughout the country, there being few establishments of any note that did not possess a few plants. The foliage is always pretty, being produced in short two ranked tufts corresponding to the branches. The leaves are evergreen, but of a soft glaucous hue, and resemble those of an Iris in miniature. The plant flowers freely, apparently at various times of the year according to the stage of growth, bearing corymbs of small, bright blue flowers. The plant is shrubby, a very unusual character for an Iridaceous plant, and pretty at all seasons. It is now flowering in one of the houses at Falkland Park, South Norwood Hill, the residence of T. McMeekin, Esq.

DIEFFENBACHIA MELEAGRIS.

The leaves of this new species are ovate-lanceolate, long pointed, of a rich dark green, and variegated on both surfaces with a few scattered white spots. The specific name refers more to the petioles than the leaves themselves, as they are blackish green and closely marbled with ivory white spots which have been compared to those of the flowers of Fritillaria Meleagris the common Fritillary which is native to this country. The stem is erect, cylindrical, ultimately attaining a height of two feet, with long slender petioles. The plant is altogether more slender and graceful than most others of the species of Dieffenbachia in cultivation, and the long petioles show themselves off with wonderfully fine effect, judging from the coloured illustration of *L'Illustration Horticole, pl.* 159. It was discovered last year in the equatorial regions of South America by one of the collectors sent out by Messrs. Linden, of *L'Horticulture Internationale*, Brussels, and made its appearance at the Temple Show in May last.

LABISIA SMARAGDINA.

This dwarf and ornamental foliaged plant comes from Borneo and is closely allied to the Ardisias, many of which are now cultivated for the sake of their ornamental character when laden with red, crimson, or black berries according to the species. The plant is almost stemless, and forms a dense rosette of leaves lying upon the surface of the soil in which it is grown. The leaves are obovate-lanceolate, narrowed to the base, leathery in character, 6 in. to 7 in. long, and 2 in. to 2½ in. wide. They are of a dark green variegated along the middle and extending along the lateral nerves in dark olive green patches or lobes. The flowers are small and rosy-purple, but freely produced in branching racemes or panicles just rising above the foliage. It was exhibited in the Temple Gardens in May last by Messrs. Linden, Leopold Park, Brussels, and there is a coloured figure of it in *L'Illustration Horticole, pl.* 160.

FRUIT FARMING IN SPAIN.

I THINK, says a correspondent of *Land and Water*, it might be interesting to some of your readers to give a short sketch of a district in Andalusia I recently visited on the Mediterranean coast, which in my eyes present many and great possibilities for those classes of our population which are invited to emigrate, more especially to California and British Columbia, to begin life as fruit farmers, etc.

In the first place, the people who are invited to go to California because of its fine climate and the fertility of the land when under irrigation, are chiefly members of the middle and upper-middle classes—retired army officers and their sons, professional men, and clerks who, under the stress of our so-called high civilisation, are unable to send their sons into the professions formerly more accessible than they are now.

Individuals of the classes referred to, we may take it, have been brought up in comfort, and are unused to wait on themselves and perform the hundred petty duties of domestic life. To these the parting from home is a great wrench, and in the case of married people the menial duties which must be performed by the women-kind in California or Columbia are keenly felt, and submitted to only because servants are not to be obtained.

The knowledge of the ever-increasing difficulties of the classes referred to has induced me to enter into the subject; but as I have had no time to carry my investigations beyond the main facts, my ideas will only be sketched in outline. For this reason I refrain from mentioning the name of the locality to which my remarks refer.

Should my ideas be carried out, persons who took land and commenced life as fruit-farmers in Spain would not encounter the hardships inseparable from life in California, Florida, etc.; first they would not feel they were separating themselves from their country and kinsfolk as if they went to such distant countries, and, should they find the experiment a failure, the expense of the five days' journey home to London is only £10 or £12 first class, without calculating on the possibility of returning in a cargo steamer for half that sum. On the other hand, should intelligence, industry, and perseverance be rewarded, and an income assured from the investment, they need not spend all their time on the land, but could spend a portion of every year at home. Again, the advantage of requiring no manual labour on the part of the men, and the ability to engage domestic servants, in my opinion, raises the advantages afforded by this country far above California or any other distant land.

There is the difficulty of the language, of course, but this should be overcome; Spanish is the easiest of any European language to learn, and arrangements could be made to meet this difficulty during the first year.

The part of Andalusia I visited is in appearance very uninviting to an English eye if you except a certain savage grandeur in the mountain scenery, and the ever-present view of the intensely blue Mediterranean; the soil is apparently an arid desert, glimmering and blazing in the hot season; but this same soil, when brought under irrigation, has a fertility not surpassed in any portion of the globe. Without irrigation Vines will flourish, and this should be the chief source of revenue to the country; and if capital and industry were brought to bear on the district referred to, it would become as large a Raisin producing district as Malaga.

In the time of the Moorish dominion the district was fertile, as the names of the valleys, plains, and places surely indicate, as well as the ruins of the water tanks and embankments. Without irrigation land fit to grow the finest Muscatel or other Grapes can be bought in any quantity for from £5 to £10 the farrega of 4,000 Spanish yards (a little more than three-quarters of an acre).

Land under irrigation is worth from £40 to £80 per farrega; in one district the land has been sold for £200 the farrega. There are large tracts of land that could be brought under irrigation at a reasonable cost, and it only requires capital to do it. If only some of our capitalists could be persuaded to form a syndicate for the purchase of these lands and the construction of irrigation works, I feel sure the money would be well spent, and would afford a good return on the outlay. The general geological features of the district are hills chiefly composed of Silurian schists capped by Dolomite limestone; the flatter country from the foot of the hills to the sea coast is composed of alluvial deposits and raised sea beaches, with large tracts of recent volcanic rocks.

The climate is exceedingly healthy, and is all that could be desired, save for three months from the middle of June to the middle of September, when it is decidedly hot.

I visited one valley about ten miles in length by five in breadth, which twenty years ago was literally a desert, and the land of no value; only in the most favourable years could the inhabitants of two neighbouring villages sow a little grain on portions of the land.

An irrigation scheme was planned and carried out, with the result that now a more fertile or delightful valley it would be hard to find, it being covered with vineyards, Orange, and Almond groves, and with all kinds of fruit trees and market garden produce. The villages are supplied with water from the same source as the irrigation channels. The irrigation company is in a flourishing condition, and the average price of the water, which is sold by public auction every week, varies from 4½d. to £1 per hour. The land now is worth per farrega, to purchase, about £80.

The export from this place alone exceeds 20,000 cases of Oranges (400 Oranges in each case), and could be raised to 50,000 cases; the cost for collection, packing, cases, carriage, etc., free on board steamer, is 5s. 3d., and I understand the fruit is sold in London at from 10s. to 20s. per case. The Oranges are the finest I have ever tasted.

I also visited another plot of ground of about eighteen acres on a particularly barren-looking hill slope facing the sea, a portion of which had been planted with Vines four years ago, and which this year will pay all expenses incurred for labour and planting, and the interest of the capital invested another portion of about three acres is under irrigation, and pays all expenses, and would pay much more but for want of means to work it properly. The Orange and other fruit trees are thriving wonderfully, and the place forms a grateful and fertile oasis in the surrounding desert-like country.

Land similar to the above, suitable for Vines, could be bought for from £6 to £9 the farrega.

The total cost of planting, tilling, and working each farrega of land was obtained from three separate and trustworthy authorities of experience, and is as follows:—

Each farrega will require 1,000 Vines if planted by hand, or what is termed spade husbandry at home; if by ploughing with mules or oxen, each farrega will require 750 Vines planted between the rows.

The total cost of labour on each farrega for the first three years will be £10 18s. 4d.; although not to be counted on, the produce of the third year very frequently pays the interest on the capital invested.

Wages vary from 1s. to 1s. 5d. per day, and plenty of labour is always available.

The produce of the Vines in the fourth year will cover the above expenses inclusive, and also the interest, say 5 per cent., on the capital invested. After the fourth year the profits can be reckoned at from £10 to £11 on each 1,000 Vines planted.

The saleable value of each farrega of land planted with Vines is £20 per farrega after the first year, £30 the second year, and £40 to £45 at the end of the fourth year, when the Vineyard is made, as it is termed in Spain.

It need hardly be said that the places above described are entirely in native hands, that the system of agriculture is of the most primitive description, and that the proverbial indolence of the Spaniard makes the least of his advantages. Still, in spite of these conditions, the larger proprietors, of say seventy-five acres and over, make considerable incomes from their property. In English hands, and with English industry and capital, it is certain much larger revenues would be made.

Summer Shading for Glass.—An American grower states that he has found a mixture of benzine and white lead very serviceable; put in no more white lead in the benzine than is sufficient to colour it; and if not heavy enough add a little more. This was applied with a brush, but another grower uses a syringe when applying the mixture.

CABBAGES AT CHISWICK

VISITORS to the gardens of the Royal Horticultural Society at Chiswick about a month ago had a splendid opportunity of seeing a large number of the leading varieties of Cabbage growing alongside of each other, and under the same conditions as to soil and culture. Nothing decidedly new has appeared amongst Cabbages for many years, the chief improvement of late consisting in varieties suitable for early spring work. Nevertheless it is of great advantage to make notes concerning the varieties suitable for spring use as well as for garden purposes generally. Cabbages have now been brought to great perfection, but many of the larger ones in cultivation might be relegated to the fields with advantage. Small or medium sized Cabbages are best for table use, and for cultivation in small gardens where space is a great consideration.

Amongst the early varieties Ellam's Early Dwarf still maintains its position in popular estimation. It forms a sharply conical heart of moderate size, light green, and not liable to split. The surrounding leaves are broad, glaucous, and ascending. It may be described as belonging to the old Early Battersea type, and the same may be said of the Nonpareil group. The Improved Nonpareil is roundly conical or blunt, small, light green, and comparatively dwarf. It is liable to split if not cut when ready for use. Prince Nonpareil is a small conical useful Cabbage in the way of Ellam's Early, but is liable to split ultimately. Nonpareil Improved Dwarf is slightly taller but otherwise similar. Nonpareil Improved is a conical Cabbage of medium size but rather taller, and having more bulky foliage than the previous named variety. Very similar also as far as appearance goes is Kelway's Nonpareil, as all Nonpareils have a family likeness; but Prince Nonpareil is rather the dwarfest and least bulky of the lot. A choice and useful Cabbage is Matchless, with small conical heads very firm and not splitting till past its season. It is dwarf, compact, and less bulky even than Ellam's Early. Both are suitable for early work, and might be more largely planted in cottage and other small gardens. Of the same general type are Dwarf Spring Cutting and Dwarf Autumn Cutting, with conical and pointed heads of medium size, and dark green foliage. The former is the dwarfer of the two, but both kinds are larger and taller than either of the Nonpareils, Matchless, or Ellam's Early. Veitch's Maincrop evidently claims affinity with all of the above group on account of its conical heads and dark green wrinkled leaves, but the latter character is more strongly developed than in either of the others. It is also more bulky, but evidently a good Cabbage for the main crop.

A useful early Cabbage of continental origin is Early Etampes, of dwarf habit but producing very large firm and conical heads of a white or light green hue. It is liable to split, however, when it gets past its best. Early Dwarf York is one of the oldest Cabbages grown true to its primitive type, and has been in cultivation for the greater part of a century. Twenty and thirty years ago it was largely planted in autumn for the earliest spring use. The heads are oval or elliptic, narrowed to both ends, and of medium size, surrounded by relatively small deep glaucous leaves. Little Pixie is a gem for small gardens. The plants are very dwarf, with leaves lying on the ground, and produce small bluntly conical or even rounded heads of great firmness. It should be more largely planted for table use in summer as well as in gardens of limited dimensions on account of the number that can be grown in any given space.

Well known also is Cocoanut, a shortly conical Cabbage, with dwarf stems, and by no means bulky foliage. Very compact also is Wheeler's Imperial. Wheeler's Early Dwarf Imperial, curiously enough, is somewhat taller than the last named but otherwise closely similar. A short and bluntly conical Cabbage is Empress Extra Early, with a very broad base to the head. The leaves are also small or very moderate in size. There are several varieties of larger size and which, like Veitch's Maincrop, would seem to be useful sorts for spring planting to give a supply during the late summer months. The names of some of them, however, would imply something different. Like Cocoanut they have smooth light green and veiny leaves, but are larger. Amongst them are Eclipse, for spring cutting, a conical Cabbage with a broad base, and very firm. Criterion is something in the way of Enfield Market but dwarfer, and the heads are not so large. Carter's Model is a type of

Cabbage notable for the great size of their heads as compared with the leaves. The heads are very broad, shortly conical and firm, containing much material, and the leaves are quite of a blue tint. The heads of Large Early Conical are much smaller than those of Carter's Model, but the bluish leaves are rather bulky and spreading. All Heart may be compared to Carter's Model for the great size of its conical heads, its dwarf habit, and moderately bulky foliage. Both sorts are recommendable for cottagers who cut up their Cabbages before cooking. A good Cabbage also is Reading Defiance in the style of Enfield Market, with wrinkled leaves, but smaller. Allam's Incomparable is apparently a good Cabbage, but rather mixed in character, so that it is impossible to say what really is the type.

A few of the varieties grown are so gross and bulky in their nature that they would seem more fitted for field culture than in the garden. One of these is Sugarloaf, an oval or oblong Cabbage of great size, and the leaves are spreading and very gross. The plants of Large York, although two feet apart each way, fully occupied the space allotted them. The oval heads are of great size, and the plants tall and gross. Offenham, on the contrary, has a shortly conical head of great size and broad at the base, with large leaves. Even stronger growing is Enfield Market, with larger and spreading light green wrinkled leaves. Another gross-growing sort is Sutton's Incomparable, with conical pointed heads, apparently of good quality but altogether too large for ordinary garden culture.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

East India House.—The Phalænopsis will now be fast making up their season's growth, and spikes will be making their appearance. There are between forty and fifty species of this beautiful genus, all of which are worthy of a place in any collection, but generally speaking those mostly grown are P. amabilis, P. grandiflora, P. Schilleriana, P. Stuartiana, P. Luddemanniana, and P. Sanderiana, all of which require a stove temperature to do them well, with plenty of moisture at the root during the time they are making their growth, which is from March to October. From now onwards they should be watered with great caution, and the spraying overhead which is so beneficial during summer discontinued; at the same time they must not by any means be allowed to suffer for the want of water, for with an absence of the pseudobulbs with which most Orchids are endowed, they are unable to withstand any check in this direction. Sponging the foliage about once a week will keep down thrips and free the leaves from any dirt that might accumulate thereon. Shading should now be done most carefully, for although they cannot withstand the bright rays of the sun under cultivation on account of their succulent growth, we must remember that they are to be found in their native habitats growing on bare rocks and branches of trees where they get plenty of light. It will thus be seen how necessary it is for their benefit that all the light possible be afforded them from now onward, without allowing them to come in contact with the direct rays of the sun.

Cypripedium Spicerianum.—Plants coming into flower in the Cattleya house will be all the better if given a little more warmth, for although they grow freely enough during summer under cooler treatment, the flowers come finer when placed in more heat. Angræcum sesquipedale does well enough in the Cattleya house from April to September, when it will be more at home in the warmer section.

Saccolabiums should now have all the light possible, and but little shade, so as to properly mature their growths and ensure the production of good spikes of bloom at the proper season. Watering with care must now be the order of the day, the sphagnum moss and the feel of the leaves being a good tell-tale. Too much water with a low temperature during winter brings on the "spot." The treatment of Aerides is identical with that adopted with Saccolabiums, except that they cannot stand being dry at the roots to such an extent, the foliage not being so thick or fleshy.

Cattleya House.—The shading of this house should be discontinued except on very bright days, when they may be useful in keeping the temperature from running up too high which is undesirable just now. We have just removed the Miltonia Vexillarium (which have been growing with the Odontoglossums during the summer) into this house for the winter. —*C.*

Cattleya Statteriana.

The numerous beautiful and distinct varieties of Cattleya Dowiana and sub-varieties of C. D. aurea that now grace the finer collections throughout the country show a greater richness in this Cattleya than the most sanguine could have dreamed of a few years ago. That under notice comes nearest to C. Dowiana Rex, but the lip is larger and finer, unless good culture is to be held accountable for the size of the flowers of C. Statteriana as exhibited at the Drill Hall on the 20th ult. by Thos. Statter, Esq. (gardener, Mr. Robert Johnson), Stand Hall, Manchester. The sepals are creamy-white, but the petals are much paler, almost white, and folded back at the sides. The lip is the grandest feature of the flower, the lamina being of large size with two large and long, golden-yellow blotches on the sides, a purple margin and the upper portion of a crimson-purple; the tube externally is netted and striated with purple on a yellow ground, while the interior is striped with gold and purple, the latter forming the broader lines. There were two large flowers on the plant, and a First-class Certificate was awarded it.

Cattleya Minucia.

The flowers of this hybrid Cattleya are about the size of those of C. Gaskeliana, and the parents were C. Loddigesii and a variety of C. labiata. The sepals are oblong and of a soft lilac-purple, while the petals are oblong-ovate and similar in hue, except at the base where they are darker. The uniform and soft but pleasing hue has evidently been derived from C. Loddigesii. The tube of the lip externally and internally is of a darker lilac-purple; there is a soft or pale yellow blotch on the disc of the lip, and a deep purple blotch on each side of the apex. It is a pleasing Cattleya, although it presents nothing very striking, and an Award of Merit was accorded it when shown by Messrs. J. Veitch & Sons, Chelsea.

Odontoglossum ramosissimum.

This Odontoglot has never been very common in gardens in this country and probably in no other country. The flowers individually are of small size, but taken in the aggregate are very handsome if the plant has been well grown. The flowers are variable in different individuals, but usually they are spotted with mauve-purple or violet on a white ground. The flowers of a form sent us by Mr. Yea, gardener to Admiral Fairfax, Ravenswood, Melrose, were pure white, excepting a mauve-purple portion at the base of each segment of the flower. They were cut from a magnificent spike bearing 250 blooms, which must be a silent witness of the ability of Mr. Yea as a cultivator. We sometimes see a fair panicle of bloom on recently imported plants bearing fifty to eighty flowers, but more often weakened plants may be seen with less than half that amount of bloom. It is only by patient nursing that the pristine vigour of the plant can be regained, after which, however, the plant is an object of great beauty and could not fail to reward those cultivators who make a point of doing it well.

Zygopetalum Lindeni.

The flowers of this species are produced singly on the peduncles, and are of that form which relegates them to the section Warscewiczella, which is more often recognised by gardeners than Zygopetalum itself. A flowering plant was exhibited by Messrs. Linden, Leopold Park, Brussels, at the Drill Hall on the 7th of June last and was awarded a First-class Certificate. Now a beautiful figure of it appears in the *Lindenia, pl.* 337, showing the habit of the plant and the flowers, which are pure white with exception of some radiating, purple lines upon the lip. The latter is the largest and most conspicuous organ of the flower, as it is in the case of most or all other species of this genus. Its precise habitat has not been disclosed, but it will no doubt thrive under the same treatment as that accorded to Z. (Warscewiczella) discolor and others of the same group.

WHAT TO DO IN THE GARDEN.

The Stove.—Now that shading can be dispensed with for the season, a thorough overhauling of the occupants and their rearrangement so that they may be seen to the most advantage, should be given. The stems and leaves should be overhauled to destroy any insects if present, and the plants allocated to positions where they will be most effective in combination and at the same time exposed to light without crowding.

Camellias and Oranges.—Large plants of these in pots and tubs should be thoroughly cleansed before taking them indoors. The leaves often get black and filthy if scale has been allowed to accumulate upon them, and to take them indoors in this condition would be to keep the floors and atmosphere in a saturated condition while they were being washed. Preparations should also be made to remove them indoors in case of frosty mornings.

Heaths and Azaleas.—What has been said about the housing of Camellias will also apply here. If there is any trace of red spider or thrip upon the Azaleas, they should get a thorough syringing on the underside of the leaves with a strong solution of soft soap or Gishurst Compound, and washed with clean water afterwards. Heaths must be dusted with sulphur if there is the slightest trace of mildew. Epacris and other hard wooded plants will also have to be removed to shelter at no distant date.

Chrysanthemums.—The sharp frost, ranging from 3° to 10°, which was experienced in the southern counties of England on the morning of the 18th ult., was a good reminder to Chrysanthemum growers of what they may expect at any time after this date. As it was some of the buds of the more forward plants were considerably injured. All are aware that they should be left out of doors as long as possible, but at the same time a house should be held in readiness for their reception at any moment. An early vinery from which the fruit has been cut and the leaves have mostly dropped would be a suitable place for them. They will derive great benefit from artificial or liquid manure, as the case may be.

Peaches.—The indoor crop as far as the south is concerned has mostly been gathered. The leaves are now dropping in the earliest house; but although the tops of the trees are practically resting the roots are still active, and must not be allowed to suffer by the borders getting dry, otherwise there will be a great dropping of the buds in spring. A little artificial heat should still be kept on late in succession houses so as to encourage the ripening of the wood. Gross and useless shoots should be corrected or removed, and all wood not required for fruiting next year.

Melons.—The comparatively clear atmosphere with which we have been favoured for some time past has been favourable to the progress of late Melons, and the cultivator should always bear in mind that judicious ventilation will secure that robustness of tissue which will enable the foliage to withstand exposure to bright sunshine without flagging, and to bring the fruit to perfection. Keep the laterals well stopped as soon as the requisite or desirable number of fruits has been set.

Cucumbers.—The object of the cultivator at this season of the year with Cucumbers intended for winter fruiting should be to keep the plants as sturdy as possible so that the wood will be strong and short jointed. Plants put in the beds about the beginning of September will now be approaching the top of the wires, and if the stems are short jointed all will be well. Judicious ventilation should always be given to secure this end.

Tomatos out of doors.—Plants in the open ground and on open walls are liable to be cut down by frost at any time after this date, though should the weather remain open, many of the fruits may yet ripen upon the plants. Gather all the fruits that are well or even partly coloured and lay them on the shelves of a Peach house, vinery or greenhouse where the atmosphere is kept dry and they will colour up beautifully. It will also leave the plants in a position better able to hurry on the fruits they still carry. It would be worth while covering up at nights when there is an appearance of frost any plants that may still bear heavy crops of fruit. Light frosts could in that way be staved off for some time to come.

Cabbages.—Make up any blanks that may occur amongst recently planted Cabbages, and where any of the plants present a flabby appearance it may be conjectured that something is wrong at the root. Grubs are often the cause of this, and should be sought for and destroyed.

farther it supersedes the December Show, which falling after all the best flowers were over was but a mere reflection of the glories of the November display, and gave blooms for the most part whose only merit was that they existed.

But in October we have now good reason to look for really fine flowers. As we said so recently there is growing up a race of October bloomers, chiefly Japanese by-the-bye, that promises to give us really high-class flowers, and these there will be great pleasure in seeing even though they may yet fall far short of the noble dimensions, fine form and quality, of the November blooms. They will give not only something worth looking at but also some real promise of what is later to follow.

Still farther we shall find in October flowering varieties something that is of particular value in our greenhouses and conservatories. They can give to us in a much more attractive way than the small and in many cases somewhat insignificant early bloomers do, beauties and effects that cannot be too highly prized. We hope to see very many fine new varieties at the coming show.

VINES AND VINE CULTURE.—The publication of a new edition of Mr. Barron's standard book on "Vines and Vine Culture" will we hope still further lead to its reading by young gardeners. We should like to see gentlemen who like their gardeners to grow good Grapes, not only purchasing this book and giving it to their gardeners if they do not at present possess it, but also urging them to read and study it, so that henceforth their culture of Grapes may be based less upon mere rule of thumb practice, and more upon the best theoretical information and practical experience.

It is not our place to recommend this book specially, but we so fully recognise its great value as a leading work on the Vine, and also realise that there is still room for very much wider knowledge concerning Grape culture, that we thus urge its more extended perusal. Where there are some two or more young men in the garden it would be a special benefit to them were their employers to obtain the book for their edification. In how many cases could head gardeners get books in this way if they choose, and charge their cost to their employers. Every good garden in fact should have its garden library of horticultural books, for it is too much to expect that young men can out of their scanty pittances purchase expensive books with a view to enable them to be more skilled in their employers' service.

We are passing through something of a crisis of Grape culture when only the very best fruits will obtain the best prices, and because of that some none too successful are converting their Vineries into Peach houses. We hope that there is still to be found not merely a profitable market for good Grapes, but ample skill being created to produce the finest examples.

THE VIRGINIAN CREEPER.—With our great present wealth of climbers, both hardy and tender, we are often apt to forget what a boundless supply we have that otherwise might not have been ours. We always had the noble Evergreen Ivy, but we have not always had the finest and most beautiful varieties, and how much do we owe to these. But there seems to be hardly any hardy climber in existence which is so cosmopolitan and so adaptive to all places and circumstances as is the Ampelopsis. What now would our towns be without this section, and especially our suburban districts.

Even in populous districts such as many portions of London are, do we see house after house luxuriating in a dense coating of the rich green leafage of the Virginian climbers, and of the two, whether Virginian or Veitchii, it is difficult to say to which we owe most. If one is a beautiful clother up of bare brick work, and presents vast areas or walls of leafage, or sometimes clothing the columns of porticos, or the millions of bay windows, literally setting them in a framework of leafage, we yet find very much of beauty in the free pendant and almost cascade like growth of the old variety.

So far during the season these grand climbers have done noble service, but the time is fast nearing when they will once again lose their leafage. The green is now turning to red and crimson. There is in all directions being put on a wealth of colour, which in the grey autumn sunlight is glorious to behold. All too fugitive is this wealth of leafy beauty. Then comes the long season of bareness and of rest, but only for a time, and then the spring once more clothes our houses in vernal beauty.

PARSLEY.—After seeing curled Parsley, and sometimes a good deal that was very much out of curl, used freely for the dressing up of collections of vegetables when exposed or staged for competition, we hardly expected to have heard that a collection was disqualified because Parsley being added made a variety beyond the numbers specified. Judges sometimes do very funny things, and therefore we may always be prepared for surprises. But then the question is, what is the real status of Parsley as a vegetable?

At one of the Earl's Court exhibitions a Scotch collection of six varieties or kinds included plants of Parsley in pots, very good specimens, but then not used for garnishing, but put up as a distinct kind. Clearly the judges could not disqualify, and had to allow the Parsley what merit it possessed. Still, it is doubtful whether any southern exhibitor would ever set up Parsley as a vegetable. Practically it is employed solely for such comparatively insignificant purposes as garnishing or flavouring, and in no case as an ordinary cooked or uncooked edible vegetable. As a consequence it would at the very best be entitled only to one point as against three or more to any good edible vegetable.

The universal use of Parsley as a garnisher, even to vegetable collections, shows how very low it is placed in the scale of vegetables generally. As to general stocks of Parsley it is, in spite of all that has been done from time to time to obtain good stocks, still painful to see what rubbish is sometimes found in gardens. There is really no reason whatever why a single plant of coarse Parsley should be grown. In such varieties as the Dwarf Perfection, a very pleasing and perfect selection, the finest treble curled, so abundant in market gardens, and in the beautiful moss curled or fern-leaved Parsley, we have varieties that cannot be excelled, and no others are required. When coarse sorts are found a gardener has good reason for serious complaint against his seedsman.

The Spalding Chrysanthemum Society's Show is announced to take place on November 10th and 11th.

Finsbury Park Chrysanthemums.—The twelfth annual display of Chrysanthemums at Finsbury Park was opened to the public on Saturday last, but of course the show will not be at its best till towards the end of the month. The house will be open daily from 10 a.m.

The Gardeners' Royal Benevolent Institution.—We are requested to announce that the annual festival of this institution will take place on Tuesday, November 15, when Lord Brassey has kindly consented to preside. The secretary, Mr. G. J. Ingram, would be greatly obliged by all who have collecting cards sending them in to him before that date. Mr. Ingram would also be glad to hear from gentlemen who may want tickets for the occasion.

Garden Assessments in East Lothian.—At the County Valuation Appeal Court recently held at Haddington, Mr. Robert Macfarlane, Kingsburgh Gardens, East Linton, appealed against the valuation of £70 put on the gardens and premises owned by him. He stated that he returned the dwelling-house and part of the gardens at £30, and a cottage and the other part of the garden at £20. The assessor, however, had added £20 as the value of the greenhouses. This, he contended, was not the practice followed in the case of Whittinghame, Tyninghame, or Broxmouth. Fruit, and other produce, from these gardens were sold in the same market in which he exposed his produce, and it was unfair to assess the Earl of Haddington, the Right Hon. A. J. Balfour, M.P., and the Duchess of Roxburgh, all of whom had quite as much, if not more, glass than he had, at a lower rate. He claimed that the glass was a gardener's stock-in-trade, and that the ground was all that should be assessed. The total extent of his ground was five acres. In answer to a query, Mr. Macfarlane said the glass had cost him over £2,000. After considerable discussion, the appeal was sustained.

Devon and Exeter Gardeners' Association.—The annual meeting of this society was held on the 28th ult. The President (Mr. C. T. K. Roberts) presided, and congratulated the members on the success which the society had attained during last year. He had pleasure in moving that Mr. Lethbridge, of Courtlands, be elected as president for the ensuing year.—Mr. A. Hope seconded the motion, which was carried unanimously. The following were elected vice-presidents of the society:—Rev. Dr. Dangar, Rev. A. H. Cruwys, Major Tracey, Lieut. Smith, Mr. R. N. G. Baker, Mr. J. D. Cann, Mr. R. R. M. Daw, Mr. H. C. Lloyd, Mr. H. Michelmore, Mr. Ed. Sanders, Mr. T. M. Snow, Mr. H. D. Thomas, Mr. P. C. M. Veitch.—On the motion of Mr. H. Michelmore, seconded by Mr. Mann, Messrs. A. Hope and T. E. Bartlett were re-elected hon. secs., and Mr. Mackay, hon. treas. for the ensuing year, and they were thanked for their past services. The following members were appointed as the committee for 1892-3:—Messrs. W. Andrews, G. C. Crabbe, J. Franklin, G. B. Lansdale, J. Luxton, J. McCormick, S. Radley, W. Rowland, E. Sparkes, W. Street, J. Weeks, and A. Williams.—Mr. Hope remarked that the excursion recently held was so successful that it would probably be held again next year. A programme had been drawn up for the session ending at Christmas. For the following spring session Dr. Dangar had promised to read a paper on "Insects which are destructive to fruit crops." The society had made an application to the County Council for a grant towards promoting technical education in gardening. He had received a letter from the clerk to the County Council acknowledging the receipt of the application. Continuing, Mr. Hope said he believed the society had several good friends on the Council, who would assist them if possible. It was a much debated question whether the course which the society suggested, namely, that of having lectures on gardening, was not exploded. That, however, was a matter for the consideration of the County Council. Whether the society succeeded in getting the grant or not it would certainly call attention to the society, as being the best medium for disseminating technical knowledge on horticultural subjects. At one of the society committee meetings a representation was made that some men were members who were not gardeners. They were railway men and others who had garden plots, which they worked themselves. The committee thought it would be hard to exclude anyone who wished to join, and they decided to admit the men at the same rate as the gardeners. It had been suggested that a spring flower show should be held under the auspices of the society next march, confined to members, and that no prizes should be given. They did not desire to enter into competition with any existing institution, such as the Devon and Exeter Horticultural Society, which they all wished to see flourishing.

ZONAL PELARGONIUMS FOR WINTER.

PELARGONIUMS of this class that have been prepared for winter flowering will now be making a show and doubly acceptable at this season of the year, as tuberous Begonias, and the bulk of the summer flowering subjects, are getting over. A little artificial heat must now be given them to maintain an airy and buoyant atmosphere as the days get shorter, the sun more feeble, and dull wet days prevalent. We had the pleasure of inspecting a nice collection of the best and more recent varieties suitable for this purpose, a week ago, in the Ryecroft Nursery, Hither Green, Lewisham, belonging to Mr. H. J. Jones, who has now some fine glasshouses built on modern principles for ensuring the proper growth of the plants grown in them. There is no season of the year when Zonal Pelargoniums are seen to better advantage than in autumn and winter.

We noted a few only of the best and more recent kinds notable for the size of the flowers, richness of colour, and distinctness. A beautiful velvety, crimson scarlet is H. Shoesmith, having a small white eye. The flowers of Proserpino are of a beautiful salmon with a scarlet centre, and freely produced on dwarf plants. Very dwarf and pretty also is Lady Brooke, with white flowers and a pink eye. Mr. Jones considers the Duchess of Portland the best pink variety. It has large trusses and flowers, and the petals are very persistent, with a white blotch at the base of the upper two. Parker's Favourite has very large, clear scarlet flowers. Large also are those of Katherine Morgan, and salmon with a lighter edge. A yellow Pelargonium may yet be a reality, for Aurea perfecta shows a strong tendency in that direction, with large, bright orange flowers.

As yellow is a desirable and possibly attainable colour, so also is blue. The variety Richard Dean has been considered the nearest approach to that hue for some years, but Mrs. W. Wright is considered an improvement upon it. The flowers are large, produced in huge trusses, and bright magenta with a scarlet blotch at the base of each of the two upper petals. It is, however, scarce, and has been completely cut up for the sake of cuttings, some of which bore flowers; not of a large size it is true, but showing their rich and beautiful colour. Sir Percival is in good style, with large pure white flowers borne in large trusses. A free flowering sort also is Phryne, having rich cerise flowers shaded with plum and freely borne in good trusses. Large trusses of bright scarlet flowers are produced by D. B. Crane; but Lord Salisbury is even finer—in fact, considered the best dark variety in commerce, whether grown in pots or planted out in beds. The flowers are of a rich madder, velvety, shining, and produced in large trusses.

Only a few semi-double varieties are cultivated here, the old-fashioned double varieties, with small, full, and compact flowers, not being very popular at the present day. Spenser Philipps is a semi-double, dwarf, and floriferous variety with salmon-coloured flowers tinted with scarlet in the centre. Those of Golden Rain are of the same type, bright orange coloured, like Aurea perfecta amongst the singles, and very attractive.

MODERN FRUIT CULTURE.

UNDER this title Messrs. George Bunyard & Co., of Maidstone, have just published a little shilling manual on the culture and management of fruit trees, and which contains much valuable practical information on Apricots, Peaches and Nectarines on open walls, Apples, Pears and Plums, for villa gardens, Cordon trees, the preparation of Strawberries for forcing, early Strawberries in the open air, orchard-house trees, and Apricots in cool houses. The concluding chapter is on root pruning, being the paper read by Mr. Bunyard last month at one of the meetings of the Royal Horticultural Society. From this paper we quote the concluding paragraph, which forcibly illustrates the evils of deep trenching and the wisdom of the old saw anent the possession of more money than wit:—

"I quote the case of a garden noted for its grand fruit. On planting, the land was trenched 6 ft. deep, and for a few years the trees grew very fast and prospered, producing gigantic fruit, though not in great abundance; suddenly the foliage of the Pears and Apples became yellow at the tips, and mildew set in, and then canker appeared. The trees had been induced to root deeply, by the best soil being placed at the bottom of the trench, and on their gaining the desired food they exhausted its goodness, and were too far from the surface to gain much by mulching. Many died outright. By degrees examples were lifted and placed in better conditions, and when last I saw them finer crops could not be desired, or better specimens of cultural care. It was an initial mistake to trench the land so deeply."

NOTES FROM BRIGHTON.

(*Concluded from p. 67*)

AFTER due consideration with reference to the events of last week, we decide to leave the picturesque railway station of Preston cut out of the solid chalk and overhung with purple Beech and Mountain Ash and embosomed in stately Elms, and court the high lands on the western side of Brighton proper ere we return. Immediately on the threshold of our departure we observe a row of new houses built in the cliff, whose little gardens, Babylonian like, do seem to hang about them. So little do the builders regard obstructions here that the said gardens are elevated to aërial rank, are on a par with the upper stories and approached therefrom.

Verily these are times of stern utility. A little further and the allotments—those nineteenth century gifts—loom in sight. Much labour, joyously given and persistently demanded, is required. The soil is shallow and the chalk is dry, the exposure is great, the work is hard, the result not always adequate to the strain endured, and yet the workers work on and let the hope that is in them find consummation in a good harvest time. "It is a poor heart that never rejoices," and this season's crops will undoubtedly bring that which he aspires to.

On the other hand his agri-horticultural neighbour, with larger means and consequent responsibilities, vies with him on a grander scale to produce those necessaries of modern life—fresh vegetables. Here are fields of Brassica and Legumes, here is the plough at work turning over the rich brown ferruginous-looking soil, so different to the thin pasty nature of the plots just witnessed; and here are twenty-six rows of the Allium tribe, each half-a-mile long and the bulbs about twelve to the foot; query, how many Onions are there, and what is the value? These are now being turned about to ripen them, and the sight was to me a novel and interesting one.

Beyond are the Victoria Nurseries, one of the many plant emporiums that cater for the Brighton taste. Grapes, Tomatos, Mums, and miscellaneous subjects in abundance; Euonymus of course, which, in the case of the variegated varieties, grafting is resorted to to gain a season. But what struck me as of particular importance was the great preference given to Carnation Marguerite, which Mr. G. Miles told me found a ready sale, and which he relied on largely for button-holes and bouquets. They are treated as annuals, seed being sown early, planted out as soon as weather permits, when they rapidly develop into dwarf, stocky, little bushes laden with flowers. All the best specimens may be lifted later, when the buds, under glass, will continue to unfold their charms right into the spring months.

Many pretty villas, hereabouts, attract the eye; but space forbids. One large vase, however, must be noticed for its grace and simplicity, it merely contained Pelargonium, Henry Jacoby, surrounded by Gazania splendens, and this again by the little seen Convolvulus Mauritanicus, which draped the vase with its beautiful mauve-coloured blooms in quite artistic style.

Thence onward to the market where the cycle ends. Here, in their season, come the flowers, and fruits and vegetables from the neighbouring fields. The market is well supplied with every desideratum, the flowers are fresh and clean, the fruit and vegetables of the best quality, the pot plants in excellent health, and the prices extremely moderate. On Saturday mornings early the scene is a busy one, and the "market" is totally inadequate to receive the produce. The pot plants that took my fancy were Aster amellus bessarabicus, Chrysanthemum flora, Aralia japonica, and Pteris serrulata cristata. All these were veritable pictures of health, flower, and foliage. —*C. B. G., Acton, W.*

VAGARIES OF MODERN GLADIOLI.

GLADIOLI are now getting so popular, and so many seedlings are being raised annually to meet the demand, that we cannot be surprised at the appearance of abnormal or unusual forms occurring amongst them, as in the case of so many other garden plants that are crossed, intercrossed and extensively raised from seeds. The natural form of the flower is irregular, consisting of six segments in two series of three each. The odd one of the outer series is uppermost and that of the inner series lowermost, and smaller than any of the rest. The small one is generally characterised by having a blotch along the centre of a darker and different colour from the rest.

The above arrangement is often disturbed amongst the more modern varieties of Gladioli. The odd segment of the inner series is sometimes the uppermost, and in that case attains the size of the two others in their normal condition. The latter, however, when turned to the lower side of the flower, are small, and both have a central blotch. Occasionally all the flowers on one side of the spike are normal, while on the other side they are all abnormal with two small blotched segments on the lower side. In other cases these two forms of flowers are irregularly mixed. When two of the segments of the inner series are at the lower side of the flower, the odd segment of the outer series beneath them has generally a medium blotch also. These characters may be seen in Bicolor, Berthe, and many seedlings. In the first-named there may be one large creamy or nearly white blotch on the lower inner segment, or the three lowest segments may each have a blotch. Usually the flowers of Conquerant show variations like those recorded above, but sometimes the flowers are as nearly regular and symmetrical as possible, a character which is altogether abnormal in Gladiolus. The regular flowers are rose, tinted with scarlet at the edges with a white line along each segment, but without any blotch. Seedlings also sometimes appear in public having regular flowers, the outer segments being blush and the inner ones slightly darker, but each three alike, consequently constituting a case of peloria. Others of the same type have the outer segments blush and the inner ones pink, or the outer ones deep rose with a paler midrib, and the inner ones smaller but otherwise similar. Some varieties show variation of a different character. The flowers are regular to commence with, and therefore abnormal. On one side of the flower spike they may be all regular, with the three outer segments white and the inner three pink; on the other side they may be white and splashed all over with rose, or the two kinds of flowers may be mixed, but in each case symmetrical in form and alike in colour.

A BLUE CARNATION.

IN your last issue, under the heading "A Blue Carnation," R. D. suggests the probability of the slate colour exhibited in several varieties ultimately developing into a "true blue." This I think impossible. If R. D. or any other of your readers will examine a portion of a petal of any Carnation of a grey tint under a microscope or fairly powerful lense, they will perceive there is no more advance to a blue in this than in the ordinary purple or mauve. The colouring matter in these greys is not, as many may suppose, grey, but purple. The great difference between the grey and the purple is not so much due to the tint of the colouring matter as to its distribution. In the purple it is diffused equally throughout the entire contents of the cells, of which the petal, or rather the epidermis of the petal (for colouring matter is only found in this) is composed.

In the grey the colouring matter has accumulated to one spot (either vacuole, nucleus, or pigment corpuscle). I have not prepared a specimen to determine what this spot may be, but it appears that the colouring matter in these grey Carnations is soluble only in the cell-sap (vacuole), and will not penetrate the protoplasm; therefore it is retained wholly by the cell-sap in the vacuole, and appears as a small purple spot in each cell. The combination of the colour of this spot with the white cell wall gives the characteristic grey appearance to these varieties.

May a blue Carnation ever be produced? We are quite as far from this in the grey as we are in the purple. Red is the predominant colour in every Carnation (save in the yellow), and until this be eliminated we shall be without a blue. Is this possible?—*Geo. Chaundy, New Marston, Oxford.*

INTERNATIONAL HORTICULTURAL EXHIBITION.

COMPLIMENTARY DINNER TO MR. H. E. MILNER, F.L.S.

THE near close of the International Horticultural Exhibition at Earl's Court. was evidenced by the complimentary dinner given to Mr. H. E. Milner in the French Restaurant, on Thursday, the 29th ult. The dinner originated in a desire on the part of several of the leading officials to pay a tribute of respect to Mr. Milner ere the close of the exhibition, and a dinner was suggested and heartily concurred in. Nearly one hundred persons were present, the chairman being Mr. H. Percy Dodson, one of the Board of Directors, who was supported by several of his colleagues. Intercolonial unity was represented by Sir Charles Tupper, G.C.M.G., the High Commissioner for Canada in this country; Sir J. Heron Maxwell, Bart., M.P., represented the Houses of Parliament; Baron de Reuter and Baron George de Reuter, the financial enterprise of the City; the Wild West by Col. Cody, Nate Salsbury, and Major Burke, a trio difficult to match in any part of the habitable globe; Botanical science by Professor Stewart, President of the Linnæan Society; Horticulture by a host of well-known names, including John Lee, William Paul, William Bull, Anthony Waterer, F. Q. Lane, J. Laing, P. Barr, William Lee, A. B. Barron, H. Turner, F. Sander, Arthur Turner, O. Thomas, W. Elphinstone, H. Herbst, W. F. Dreer, of Philadelphia, and many others.

Music was contributed by Lieutenant Dan Godfrey, Bandmaster Wellington, and H. S. Tonking, and the officials were largely represented, all the heads of departments being present. The dinner and wines were rècherche and served in Messrs. Bertram's best style; the floral decorations arranged by Mrs. Buck charming; and the greatest harmony and enjoyment prevailed. The instrumental music provided by Bandmaster Wellington was excellent, and a duet by Mr. G. A. Loveday (piano) and Mr. Harry Turner (concertina) was received with tumultuous applause.

The toast list was commendably short, the speeches terse and to the point. The address in which the Chairman proposed "The health of Mr. Milner" was in excellent taste and characterised by a warm personal feeling; and quite unexpected by a large body of the company, Mr. Dodson presented Mr. Milner with a very handsome antique silver salver in the name and on behalf of the officials of the exhibition. So well had the secret been kept that Mr. Milner had no idea what was in store for him until the salver was placed upon the table. In an admirable speech in reply, Mr. Milner alluded to the great success which had attended the exhibition, and to the warm and kind support he had received from all—from the Board of Directors down to the lowest in rank. He made particular mention of the flower shows as having, both in their extent and quality, completely distanced all previous anticipations, and made mention of the warm support which had been afforded by Messrs. W. Marshall and H. Turner as members of the executive committee, and by Mr. R. Dean as superintendent, and by so many in the horticultural trade, and by the horticultural Press. He felt certain that one result of the shows had been to disseminate a love for flowers and gardening among the people. Mr. Milner concluded by stating that the exhibition had been visited by nearly two millions of persons, and not a single hitch had occurred in their arrangements.

Sir Charles Tupper gave "The Board of Directors and Officials," which was spoken to by Mr. W. Hays for the Directors, and by Mr. A. Johnson for the Officials. Professor Stewart then gave "The Dinner Committee," and Mr. Richard Dean, one of the Hon. Secretaries, spoke in reply. Sir J. Heron Maxwell, M.P., gave the toast of "The Chairman," which was duly honoured and spoken to by Mr. Dodson. The speech of the evening was that delivered by Mr. Nate Salsbury, of the Wild West Show, in proposing "The Press." It was racy and piquant in the extreme, full to overflowing with native American humour; one of those speeches it would be almost impossible to report, and one long to be remembered by those who listened to it. The toast was spoken to by a representative of one of the daily papers. In this pleasant manner the proceedings, which throughout were of the most gratifying character, came to a close.

Hardy Fruit and Potato Show.

THE exhibition, which was opened at Earl's Court on Wednesday morning under atmospherical conditions of an unpropitious character, will rank with those which have preceded it, both as regards extent, high quality, and general interest to the gardening community. The display of Potatos and Apples is especially fine, indeed of both inestimable products of our gardens nothing better has been seen for a very long time. The exigencies of going to press early preclude the possibility of our giving anything like a detailed report this week, indeed at the time our reporter left but one of the fruit classes had been judged. That was the first on the list, for a collection of Apples not exceeding 100 dishes, and in this competition, which was a very keen one, Messrs. George Bunyard & Co., of Maidstone, again took premier honours, the second prize going to Mr. John Scott, of the Merriott Nurseries, Crewkerne.

The prizes for Potatos were splendidly contested, but as in the old days of "The International" at the Crystal Palace, a few exhibitors secure the premier awards. Thus Mr. J. H. Ridgewell, of Cambridge, is first for twelve dishes, distinct; three dishes of coloured Rounds; three dishes of white Kidneys; three dishes of coloured Kidneys; and the best dish of any white Kidney—Snowdrop. The next most successful competitor is Mr. James Simkins, Shillingham, Hitchin, who has the best nine dishes; the best six dishes; the best dish of any coloured Round—The Dean; and the best six dishes of distinct varieties introduced into commerce since January 1st, 1886. Mr. T. Wilkins, Blandford, has the best dish of white Round Potatos, a grand sample of London Hero; and Mr. T. Tooley, Banbury, has the best coloured Kidney—Mr. Bresee. Messrs. Sutton & Sons, Reading, contribute a grand collection; and other leading exhibitors are Mr. C. Fidler, Reading; Messrs. Harrison & Son, Leicester; and Messrs. W. W. Johnson & Son, of Boston.

To the fruit section Messrs. James Veitch & Sons send a magnificent collection of Apples and Pears, and gain a Gold Medal. A similar award is also made to Messrs. T. Rivers & Sons for a grand collection of orchard house-grown fruits; and to Messrs. John Laing & Sons, for a very fine group of Begonias backed up with fine-foliaged plants, and flanked with collections of Apples and Pears. Other prominent features include a very fine show of Apples in half-bushel baskets from market growers; collections of fruit from Messrs. C. Lee & Son, Hammersmith; Messrs. J. Cheal & Sons, Crawley; Messrs. W. Paul & Son; Messrs. H. Lane & Son, Berkhampstead; Messrs. Jarman & Co., Chard; Messrs. J. Peed & Son, Streatham; Mr. Watkins, Hereford; and others.

Plants and cut flowers include contributions from Messrs. E. D. Shuttleworth & Co., Mr. C. Turner, and Mr. Norman Davis, Camberwell, who has a most excellent display of Michaelmas Daisies. Messrs. Vilmorin, Andrieux & Co., of Paris, also send an admirable collection of salad plants. In our next issue we shall give a more complete report.

SCOTTISH NOTES.

ABERDEEN FLORAL FETES.—The accounts of the Duthie Park Floral Fete—held in Aberdeen on 5th and 6th August last, under the auspices of these directors of the Royal Horticultural Society, of Aberdeen, who did not approve of holding military tournaments in connection with flower shows—have now been made up. The entire drawings amounted to £601, and the expenditure to £487, leaving a balance of £114. Of this sum £100 has been sent as a donation to the Aberdeen Sick Children's Hospital, the remaining £14 being reserved for any incidental expenses which may eventually fall to be paid. The committee have resolved to present one of the handsome medals struck in commemoration of the fete to Mr. McBain, C.A., Aberdeen, for the admirable manner in which he carried out the secretarial duties; to Mr. Harper, keeper, Duthie Park, for the trouble he had taken in connection with the fete; and one to the Bandmaster of the Royal Scots Fusiliers. The committee presented a handsome copy of the medal, in gold, to the chairman of the committee, bearing the following inscription:—"Awarded to Baillie Lyon, by the Duthie Park Floral Fete Committee, 5th and 6th Aug., 1892.

In connection with the recent floral gala and military tournament of the Royal Horticultural Society of Aberdeen, the directors have resolved to present Colonel Sir Arthur Grant, Bart., of Monymusk, with an illuminated address and a handsomely bound album of photographic views, depicting the various phases of the tournament, as a slight recognition of the invaluable services rendered by him in connection therewith. Albums will also be presented to Major Wood, R.E., and Captain Forbes, R.F., who rendered yeomen service in the carrying out of the arrangements.

THE VEGETABLE GARDEN.

WINTER SALADS.

IN the majority of gardens salads are always in demand, and to supply them during the summer is, in comparison with winter, a simple matter. To begin with Lettuces, during this month a good batch of full, or nearly full grown plants must be lifted and stored away in frames, in an orchard house, or in fact anywhere that is light and dry. These with attention will carry the supply on to Christmas, or perhaps longer. Then we must look out for some to follow these until those sown at the New Year are ready. For this purpose I should advise that a pit be filled, one that has a hotwater pipe running through it, with some young plants of Brown Cos. Now is the time to do this as they will soon get established, and if just kept warm enough to keep the frost out, and given a little more heat early in January some very useful Lettuces will be the result. To follow these one of the early forcing Cabbage varieties should be sown in the first week in January in shallow boxes. These will start well in early Peach houses or Vineries. Some hot-beds should be prepared that will not get too hot; put a thin layer of soil in the frame and prick out the young plants thickly; then as they grow every alternate plant can be taken out, this will give those left room to grow and the supply of Lettuces will be kept up.

The next most important material for winter salading is, of course, Endive, which should be stored away similar to Lettuces; but if frames are scarce a supply may be kept up for some time by covering them where they grow with shutters made to throw off the wet. Other material for the salad bowl during winter may be obtained by putting a few pots of Chicory and Dandelion root, every fortnight into the Mushroom house to force and blanch. To get a supply of roots for this purpose seed must be sown during May. If sown too early the Chicory is very liable to run to seed. The above-mentioned, with some boxes of Mustard and Cress sown weekly, form the most generally grown plants for winter salads.—*G. H. S.*

FRUIT NOTES.

APPLE WORCESTER PEARMAIN.

THIS beautiful variety seems to be very plentiful this year, and highly coloured. As an early English Apple, it should be more extensively grown for market purposes; its high colour and tolerably good quality should tell in its favour. Quantities of it appeared in the London markets about the time the fruit was gathered from the trees, but they have evidently been all sold out, and now its place is taken by the equally beautiful but smaller Duchess Favourite. The fruit of Worcester Pearmain is ovate, of medium size, and of a deep, shining, crimson red, thinly strewed with small whitish specks; occasionally the shaded side is yellow, and lightly suffused with red. When the fruits are newly gathered, the flesh is of a pale greenish white, but as they attain maturity it becomes white, soft but crisp, juicy, and better flavoured.

APPLE KENTISH PIPPIN.

POSSIBLY this Apple is better known under the name of Colonel Vaughan or Colonel Vaughan's Pippin and is a fruit of medium to small size, but very pretty. It is roundish, or slightly conical in the larger specimens, and pale yellow, more or less heavily suffused with red on the sunny side, and thinly mottled all over with little greenish or yellow specks. The flesh is yellowish white, tender and good, with a brisk, slightly acid flavour. It may be eaten during September, but becomes more mellow and pleasant during October, and keeps good till January. It has been cultivated in the London nurseries since 1670 at least. Complaints have been made about its degenerating, in the same way as lamentations have been made about Ribston Pippin and Devonshire Quarrenden; but if the fruits have decreased in size there is no evidence that the trees refuse to bear. On the contrary, we have evidence that the tree is a most prolific bearer, and the fruits are as good eating and as clear in the skin as ever. It may never have become very plentiful outside the country of its origin, but that it should have been preserved since 1670 is good evidence that a good Apple takes a long time to die out. We noted it recently, finely coloured, in the gardens of the Royal Horticultural Society at Chiswick.

NEW PLANTS CERTIFICATED.

CHRYSANTHEMUM GENERAL HAWKES.—Early-flowering varieties of the Japanese type are increasing. That under notice may be compared to the late-flowering Edouard Audiguier. The blooms are about 6½ in. in diameter, with narrow, reflexed florets, revolute at the edges, and of an intense crimson-red with a maroon tint and a silvery reverse. The parentage is, however, different from that of E. Audiguier, and it is an English seedling raised by Mr. Robert Owen, Castle Hill, Maidenhead, and was exhibited by him at the Floral Committee meeting of the National Chrysanthemum Society at the Royal Aquarium, Westminster, on the 28th ult., when it received a First-class Certificate.

CHRYSANTHEMUM GLOIRE DE MEZIN.—The heads of this Japanese variety are 4½ in. to 5 in. in diameter and very deep. They are buff-yellow and of a deep bronzy-buff or pale orange-red in the centre, with a yellow reverse. The florets are reflexed, horizontal and ascending, and compressed or concave at the tips. The whole bloom reminds us of Criterion with which it may have affinity, but it is neither so flattened nor is the colour the same, while it differs in being earlier. It was exhibited by Mr. Norman Davis, Lilford Road, Camberwell, at the same time and place as the above, and received a First-class Certificate.

CHRYSANTHEMUM LADY FITZWYGRAM.—The dwarf habit and the early-flowering nature of this Chrysanthemum should render this a favourite with those who grow the early kinds. It is in the way of Madame C. Desgranges and La Vierge, but dwarfer in habit than the former and pure white when at its best, and only becoming tinted with extreme age. A small plant bore eight blooms on as many shoots after being disbudded. It was shown by Mr. J. Agate, Havant, at the September show of the National Chrysanthemum Society, when it received a First-class Certificate. The plant has now found its way into the collection of Mr. H. J. Jones, Rycroft Nursery, Hither Green, Lewisham.

AMATEURS AND THE R.H.S.

I AM fully in sympathy with Mr. H. A. Needs in his letter to you in your issue of the 17th ult., and think that it is extremely hard on the *bona-fide* amateur to have such a reflection cast upon him as is contained in your article of the 3rd ult. The unsatisfactory number of exhibits usually staged in competition for awards to amateurs at the R.H.S., is entirely due (so far as the *bona-fide* amateur is concerned) to the fact that the definition of the word "amateur," as defined by the R.H.S , is utterly opposed to what is reasonable or just to the large number of amateur gardeners who would like to compete at its meetings. It is quite out of the question to expect men who spend the greater part of their time away from home on business, to compete with professional gardeners, who, with all their skill and many advantages, should without an effort out-distance their *bona-fide* amateur rivals.

These facts should be patent to the council of the R.H.S., who, if they hold the broad views which most horticulturists imagine they possess, should immediately set about making an alteration in their definition of an amateur. The definition of the National Amateur Gardeners' Association reads as follows:—"No person shall be eligible for membership who disposes of plants, flowers, seeds, or trades in garden produce for profit, or is in the employ of a nurseryman or gardener, or is employed as a gardener. Gentlemen who engage professional aid shall also be entitled to become members, but shall not be privileged to compete at the meetings of the association. Occasional help from a labourer in wheeling, digging, and similar rough work is, however, allowed to all members."

This finds ready acceptance with most minds, and if proof is wanted of the popularity of this institution, the fact that there are now 400 members, each of whom have been elected during the last year and nine months should prove conclusively that where the interests of amateurs are studied, there will always be found many willing to support an effort made in their interests.

In reply to your correspondent, W. C., in your issue of the 24th ult., it may be stated that when the N.A.G.A. was inaugurated, one of its aims was, to hold an exhibition in a central position in the metropolis, and it is quite possible this may be accomplished a little later.—*D. B. Crane, Hon. Sec., N.A.G.A.*

GARDEN CHRONOMETERS.

THE water clock recently described as a new invention, is, I think, an old friend under a fresh name, apparently an adaptation from a very antique contrivance for measuring time, which in all probability was known to the ancients. I do not, however, remember, neither can I trace any record of the floral appendages, still it would not alarm me to learn that this notion too had also been fished out of the mists of antiquity—so much by way introduction. The vanity of some men of the present day is positively ludicrous, for now and then this man blows his own trumpet, and is spoken of as the gardener who first found out that, and that man as the gardener who first found out this. All scholars know that increased knowledge generates increased wonder, and that Locke's great truism that knowledge is gained by external impressions goes to prove that we have all been copiers—in proof whereof the study of old gardening works will convince the most sceptical that our modern gardening methods are simply improved ones of former days, and in most cases are precisely the same as practised in the so called "good old times."

I possess several quaint and curious old gardening works, and one in particular deeply interests me. It is dated 1717, and it will be seen that its title is rather a big order, thus:—"New improvements of planting and gardening, both practical and philosophical, in four parts, viz: 1. The Clergyman's recreation. 2. The Gentleman's recreation. 3. The Fruit Garden Kalendar. By John Lawrence, M.A. 4. The Lady's recreation, with an appendix explaining the motion of the sap and generation of plants, with other discoveries never before made public for the improvement of forest trees with an invention whereby more designs of garden platts may be made in an hour than can be found in all the books now extant, likewise several rare secrets for the improvement of fruit trees, kitchen gardens, and greenhouse plants, adorned with copper plates. By Chas. Evelyn, Esq., and Richard Bradley, F R.S." If space permitted I should quote freely on many subjects from these valuable old works, but it will suffice for my present purpose to show what the ingenious old gardeners knew about hybrids and pedigree breeding. Until a short time ago almost everyone took it for granted that this interesting branch of gardening was a latter day find, and that some country doctor or the modern Mr. Feeder, B.A., was the discoverer. Cain, and for aught we know his father Adam, might have understood hybridizing. At any rate we know that Moses knew something about it, because in his account of the creation he speaks of plants having their seeds in themselves. We are also quite certain that about 200 years ago English gardeners not only knew something about it, but practised it also, for Mr. Bradley devotes a whole chapter of nearly a dozen closely printed pages to the subject, and as an example the following paragraph will clearly show that he thoroughly understood all about it. He wrote:—

"Moreover, a curious person may, by this knowledge, produce such rare kinds of plants as have not yet been heard of by making choice of two plants for his purpose as are near alike in their parts, but chiefly in their flowers or seed vessels; for example the Carnation and Sweet William are in some respects alike, the farina of the one will impregnate the other, and the seed so enlivened will produce a plant differing from either, as may now be seen in the garden of Mr. Thos. Fairchild, of Hoxton, a plant neither Sweet William nor Carnation, but resembling both equally, which was raised from the seed of a Carnation that had been impregnated by the farina of the Sweet William. These couplings are not unlike that of the mare with the ass, which produces the mule, and in regard to generation are also the same with mules not being able to multiply their species no more than other monsters generated in the same manner."

As these observations are so singularly ingenious and interesting I trust to the reader's kind indulgence for introducing them here, and hope that my didactic digression will prove a salutary impetus to the encouragement of intelligent fecundation of plants, and now let us hark back again to the water clocks. In another old book, entitled "A general treatise of husbandry and gardening, containing such observations and experiments as are new and useful, for the improvement of land, with an account of such extraordinary inventions and natural productions as may help the ingenious in their studies and promote universal learning. By R. Bradley, F.R.S., 1721," at p. 166 is a letter concerning a new method of managing Pear trees, and of a water clock, a copy of which follows:

"Sir,—I have perused the most part of what you have written about gardening with a great deal of pleasure; and I must say such as have any curiosity owe very much to you for what you have published upon that account. The knowing part of the world who value themselves upon subjects of that nature cannot but in justice have you in great esteem; and more especially where they have the advantage of your conversation.

"There is a piece of amusement that I have had at my house several years which any gentleman who hath the convenience of water near his gates or running through his gardens may put up to his pleasure and use. It is a clock that goes by water, being a perpetual motion, in regard it needs no winding up. I have known it to go a month without losing time, the water when once truly regulated being very exact. I have sent you herein enclosed the model of it.

"I must acquaint you likewise of a small piece of improvement that I find hath not been put in practice by any but myself, which is dwarf trees trained circular ways after the manner of a screw, whereby I make a tree 40 ft. long not to be 5 ft. high; the tree being carried round upon a frame of small poles made into a bell figure, and as it advances in growth is tied gently to the frame by pieces of woollen yarn, raising it a little as it winds about and therefore needs no pruning. This way of training them consumes the sap and makes them very productive, and when the frame decays the tree keeps its station and looks very well. If any shoots offer to spring up in the summer from any of the side branches, they must be pinched from the first beginning; and when a frosty night threatens them in the spring make a plain frame upon a large hoop covered over with a piece of canvas or pitch cloth to cover the whole, which preserves the flourishing buds and their knitting till the danger be over, and keeps them also from cold rains and winds in the spring. I have likewise hastened the ripening of fruit by a fortnight by taking off the earth from about the trees near to the roots after the fruit is grown to a size of bigness as much as you expect they will come to, and in dry weather giving them a little watering in the morning. This way hath a good effect upon Vines and early Cherries or Plums or the Avant Peach; I had fruit upon trees used after this manner two weeks, or at least ten days, before others of their kind that was not so prepared. Sir, I hope you will pardon my freedom in communicating what I thought was not yet in universal practice, being with all due respects,

"Sir, your very humble servant,

"A. HERON.

"P.S.—The water wheel of the clock is about 18 in. diameter, and of the same form as the wheel of any ordinary corn mill; its axletree on the side the standard is near a foot long, with a screw on the end of it, that when it turns takes in the teeth of the foot wheel, which consists of twelve teeth. The axletree hath a pinion beyond the screw where it turns in a small piece of wood set up for the purpose. The standard is 5 ft. high with a gutter cut in 2 in. deep, and as much broad, in which turns the shank of the foot wheel to which it is fixed with a pinion below the wheel to move upon, in a little frame of iron, as the pinion itself is to keep it steady in its motion. There is a box fixed on the top of this great standard, 10 in. diameter, with a hole cut out in the bottom to let the shank or standard of the foot wheel go up through, and hath a screw upon the top of it, with a pinion in a frame upon the top of the box. This screw turns a wheel of sixty nicks within the box, and the axletree of this great wheel hath a screw upon it that turns another wheel of twenty-four nicks, the end whereof goes through, and hath a pointer fixed upon it without the hour-plate like a common clock. Where you bring of your water you cut a square hole in a piece of board with a shutter upon it whereby you give more or less water, till you bring it to one exact time. The great standard must be cut through halfway, where the foot wheel is to stand, about 4in. wide,"—*W. Napper, Chelsea.*

FLORICULTURE.

Miniature Violas and Tufted Pansies.

In the Gardening World of September 24, Mr. George Steel wrote about the new type of Miniature Violas, originated by Dr. Stuart, and hits the nail upon the head in remarking that "Habit and floriferousness are perhaps the most important features in a bedding Viola, and when we can combine colour and fragrance their usefulness is greatly enchanced." Of their delicious fragrance there can be no doubt, and their exquisite form is another strong recommendation.

In the Gardening World, of the 1st inst., is an article on Tufted Pansies from Chirnside, in which the writer speaks of this new type of rayless Violas; but it should be remembered that we have several rayless varieties of the ordinary Viola, and that the name of Tufted Pansies has been applied to them by Dr. Stuart himself. I believe I am quite correct in stating that the original introducer of the term Tufted Pansies is the Editor of *The Garden*, who is very autocratic in this matter, but to me the appelation is very objectionable and misleading, as there is so very little of the Pansy character about them. Had the procumbent growing kinds been classed as Tufted Violas I could have understood it, but to call all Tufted Pansies is a mistake. Mr. Steel proposed to me to call the Violetta section Miniature Violas, and I so heartily approved of his suggestion that I have adopted it as so thoroughly identified with the type.

I have on two or three occasions received from Mr. J. D. Stuart, Belfast, blooms of some of his beautiful seedling Violas, and from Belfast we may now look for some very fine new varieties raised by himself and Mr. McKee. Of Mr. Stuart's lot especial mention must be made of H. W. Stuart, Mrs. Joseph Chamberlain, Hibernia, Unionist, Lady Dufferin, Lavrock, Colleen Bawn, and Accushla, whilst others will have a further trial and are very promising. I am unacquainted with Mr. McKee's arrangements as to the introduction of his fine seedlings, but it is not unlikely that Mr. Irvine of Tighnabruaich will introduce some of them shortly. I have seen blooms, and Modesty, Mermaid, Countess, and Duchess are all very fine. Several others were only under number, so that I need not refer to them, but I see plainly that both of the amateurs I have named are seeking for quality and distinctness.

Out of the multitude of varieties now in cultivation, some are very much more useful than others for prolonged decoration work. On looking over a large collection on the 1st inst., whilst a large number were almost out of bloom, a few sorts stood out in great beauty still with a profusion of bloom. These are The Queen, colour of Ardwell Gem, primrose-yellow, and I like it better; Duchess of Albany, Mrs. McDonald, white; Crimson King, purple; Gaiety, cream, with clouded lilac top petals; and Yellow Boy, an excellent yellow. The collection was planted out in April, and those I have now named have been in bloom ever since. I again say plant out in October if possible or early in November.—*W. Dean, Sparkhill, Birmingham.*

Pinks from Pipings or Layers.

The propagation of the Pink from pipings has been the custom from the time the Pink was taken in hand by our old florists, and they were put in under hand-glasses out of doors until rooted. This practice is still general, but some of our Midland growers resort to layering only, and in the colder districts layering is a great advantage in the early formation of strong plants for standing the winter, and those who have experience of the Midland and Lancashire districts know how desirable it is to have early, strong, well-rooted plants. In the more favoured districts, such as Slough, early plants from pipings are easily obtained.

Some of our florists are inclined to debate the point as to the refinement of the flowers grown from layers being equal to those grown from pipings. We have in Birmingham a champion exhibitor, Mr. A. R. Brown, of Handsworth, who invariably "sweeps the board" when he exhibits. Quality reigns supreme in his blooms, and he grows exclusively from layers. I think, therefore, we may safely set aside any prejudice against layering Pinks in the face of Mr. Brown's annual successes. Any tendency to coarseness is much more probable from over-manuring and feeding, and late planting is productive of bad lacing. To get fine blooms, the plants should now be in their blooming beds in a sheltered place, so that they may get established for the winter.

Purchasers should not forget that the finest Pink ever seen is Brown's Amy, a very fine flower of good size, good petal, and refined in its markings. Brown's Ethel is another fine flower, and The Rector, sent out from Slough, is also a great acquisition. Paul's Bertha is also an acquisition, with almost a wire edging of deep purple. Bertram, Hooper's Emerald, and Henry Hooper are also useful flowers. Turner's Godfrey and Turner's Galopin are also good kinds, and Boiard is always to be seen in winning stands. Modesty should be in every collection, as also should Empress of India. Mr. William Paul, Fellowes' Rosy Morn, Machan's Device, Turner's Dr. Masters are also exhibition flowers.—*W. D.*

CHRYSANTHEMUM NOTES.

From the Ryecroft Nursery.

Chrysanthemum culture is still prosecuted with great vigour, and no better evidence of it can be seen than in the nursery of Mr. H. J. Jones, Hither Green, Lewisham, where 5,000 plants in flowering pots have been grown this season, independently of the other specialities in hand. The collection includes not merely all the best recent kinds, but a large number not yet in commerce. Last year he had close upon 500 new kinds, but that is exceeded this year. Of French, English, and Italian novelties he has 430, and 109 American varieties, independently of his own seedlings. About 70 of his own last year's seedlings are again under trial. One end of a large house is entirely devoted to September and October varieties, which are now gay. The later flowering varieties were housed a week ago under a heavy downpour of rain to make them secure against a night's frost, which may be expected at any time.

Varieties of 1891.

The undermentioned may be spoken of as September and October flowering varieties, although some of them commence even earlier. One of the early varieties now attaining some popularity is M. Gustave Grunerwald in the style of Madame Desgranges, but having deep rosy pink flowers with a paler centre. It is now in full bloom for the seeond time on the same plants. Alfred de Montbella is a blush pink reflexed Japanese variety. M. Albert Galy is of the same type, about two feet high, never tall, and having crimson flowers and old gold on the reverse. A very pretty bright pink is Marquis de Montmort, and of good average size. Like the previously named varieties it may be described as belonging to the reflexed section of Japanese varieties. The others are mostly of the true Japanese type, including Madame Germaine Cassagneau, a rosy pink variety with a blush centre. It is very graceful, and free flowered if grown out of doors without disbudding. The flowers of course are larger if disbudded, but the quantity of usable flowers it produces when allowed to grow freely should make it suitable for market purposes. Madame Zephyr Lionnet is already well recognised as a sort well adapted for market work and cut flowers, and is of a beautiful golden bronze.

The florets of Vice-President Hardy are curiously twisted and bright orange-crimson with a yellow reverse. Secretaire Alfred Bleu is like an early Carew Underwood, but dwarfer and golden tinted with bronze. A dwarf and free flowering early sort is Mon. Vauvel with mauve pink flowers. A great novelty in its way is M. J. Moulins, often spoken of by those who know it under the name of Twisted Copper Wire. It is dwarf and easily grown with dark green foliage tinted with bronze, deeply cut, and densely set upon the stems. The blooms are small when they first expand, but as they lengthen they get deeply lacerated, revolute and twisted, forming a curious mass-like twisted copper, the latter describing the colour. A good early variety is M. Pierre Cassagneau, of medium size, and crimson-red with a yellowish reverse.

Varieties of 1892.

The yellow Mademoiselle Lacroix is likely to become a favourite on account of its beautiful primrose yellow and drooping slightly wavy florets. André Fallières is golden yellow, reflexed and twisted. Gloire de Mezin may be described as an improvement upon Thomas Stevenson, with terra cotta flowers changing to buff, with a beautiful golden yellow reverse. Seedling No. 2933 of Mr. Jones' raising is a very full, lilac-pink of good substance, with long florets and a dwarf habit. The florets of M. Paul Lemoine are flat at first, buff yellow, becoming clear yellow, reflexed and twisted. Altogether it is like an early Criterion. Madame Bagaric is intense rose fading to a silvery rose, and curiously twisted in the centre while opening, and therefore very pretty. Madame Labour is a reflexed Japanese sort in the way of Amy Furze, with much more colour in it and deep blooms. Something in the way of Gloire de Mezin is Madame Gabriel Fontaine, but the florets are much broader and salmon coloured, while the blooms are also very deep with much material in them. Distinct in the way of colour is M. Gazon with deep flowers of a blood red, but not very wide. A pretty thing amongst the new Pompons is Mademoiselle Eugenie Klein with fimbriated creamy white flowers and dark foliage. It is also very dwarf and bushy. Equally distinct is Zelmire, a Japanese Pompon, with golden yellow flowers and irregularly twisted or curled florets. M. Edouard Cruse is a single variety with numerous tubular pale blush pink ray florets. The latter are less numerous when grown free and the blooms more numerous. The golden yellow sport from Miss M. A. Haggas, the well-known primrose yellow incurved variety, is likely to turn out a good thing and constant, as the buds are already showing colour well. Its proper flowering season, however, is November. Madame Marie Constans is a new reflexed Japanese sort with beautiful primrose flowers fading to white.

From the Lilford Road Nurseries.

Here also early varieties of Chrysanthemum receive due prominence at the hand of Mr. Norman Davis, at Camberwell. The early varieties, as far as pot plants were concerned, were housed, and so were all the best of the late ones. Owing to the peculiarly sheltered condition of the nursery, Mr. Davis was not particularly alarmed at a frosty night, for the 3° to 10° that prevailed on the 18th ult. had no visible effect here, the Chrysanthemums, Dahlias, and other subjects being as fresh as ever. Many of the houses for the late plants are still occupied by Tomatos, so that the Chrysanthemums cannot have undisputed possession of them just at present.

In the house occupied by the September and October varieties, are some fine plants of La Vierge with flowers of the purest white. Different plants of M. Gustave Grunerwald have been flowering since last May. The rosy-pink flowers with an ivory white centre are still conspicuous in the collection. Very useful for early work is William Holmes, a Japanese variety with crimson flowers, and a golden reverse striped crimson. A less known plant is Anna Hartshorn, an incurved Japanese sort, with waxy pure white flowers of large size, and handsome when disbudded. It may also be grown for market purposes by growing it on the free and easy system, that is leaving it to take its natural course. A somewhat sportive Japanese variety is Bouquet de Dame, with pure white flowers of great size and depth. The crown buds come different from the terminal ones, inasmuch as they are hirsute at the tips, while those of the type are plain.

Another interesting variety of peculiar behaviour is Madame Louise Leroy, with pure white flowers. The florets are split at the tips, and the way they become contorted after a time brings out the fission very prominently. We noted also the Gloire de Mezin, for which Mr. Davis recently had a First-class Certificate. A large number of that fine thing Vivian Morel is coming on finely and full of promise. The crown buds of a few have been taken and the rest are terminals. The former are now in bloom and of huge size, namely a foot across, but they are pinky-white and paler in the centre, and therefore not so attractive as when flowered late; the plants, however, are dwarfer. The buds of the late batch are already showing a dark hue. Altogether there are 300 plants of this variety alone. The yellow Mademoiselle Lacroix is early as usual.

Feu de Bengal is something in the way of Gloire de Mezin, but the flowers are buff yellow with a deeper centre and the florets are narrower. The plant, moreover, is dwarf. Another equally low growing variety is Amos Perry, a beautiful bright yellow, incurved Japanese variety in the way of H. Cannell. The blooms of Elliot F. Sheppard somewhat resemble those of the last-named, but they are more spreading and more loosely arranged. The comparatively new Japanese W. H. Lincoln with

golden yellow flowers is almost certain to become popular on account of its dwarf and stiffly branched habit of growth even when grown in the bush form. Here the disbudded plants are 2 ft. high, with dark foliage and fine looking buds. It is well known that Etoile de Lyon is a tall growing sort, but a fine batch of it here is only 18 in. high, and a late batch is even dwarfer. The stems are straight with rich dark green, thick and leathery leaves down to the surface of the pot. The foliage of W. Tricker was also in the same fine condition, a fact which Mr. Davis attributes to an excess of carbon. The golden bronze flowers of Madame Zephyr Lionnet are of good size, graceful, and highly suitable for cut flower purposes.

KEW GARDENS.

WRITING on the subject of the earlier opening of the Royal Botanic Gardens at Kew, in connection with which movement the new First Commissioner is to receive a deputation next month, the editor of *Nature Notes* in the current number says:—

"It is important that the hollowness of the scare that the scientific work of the Gardens would be in the least interfered with should be clearly demonstrated; and nothing is more easy. To those parts of the Gardens where experiments in culture are carried on, the public are (very properly) at no time admitted, nor do they ever visit the forcing pits or other places of the kind. The Herbarium, where the systematic botanist pursues his work, is a building entirely apart from the gardens; the Jodrell Laboratory, for scientific work of an experimental kind, is equally inaccessible to the public. If the Gardens were open every day from sunrise to sunset, the scientific work would go on, as it does now, unhindered and unchecked.

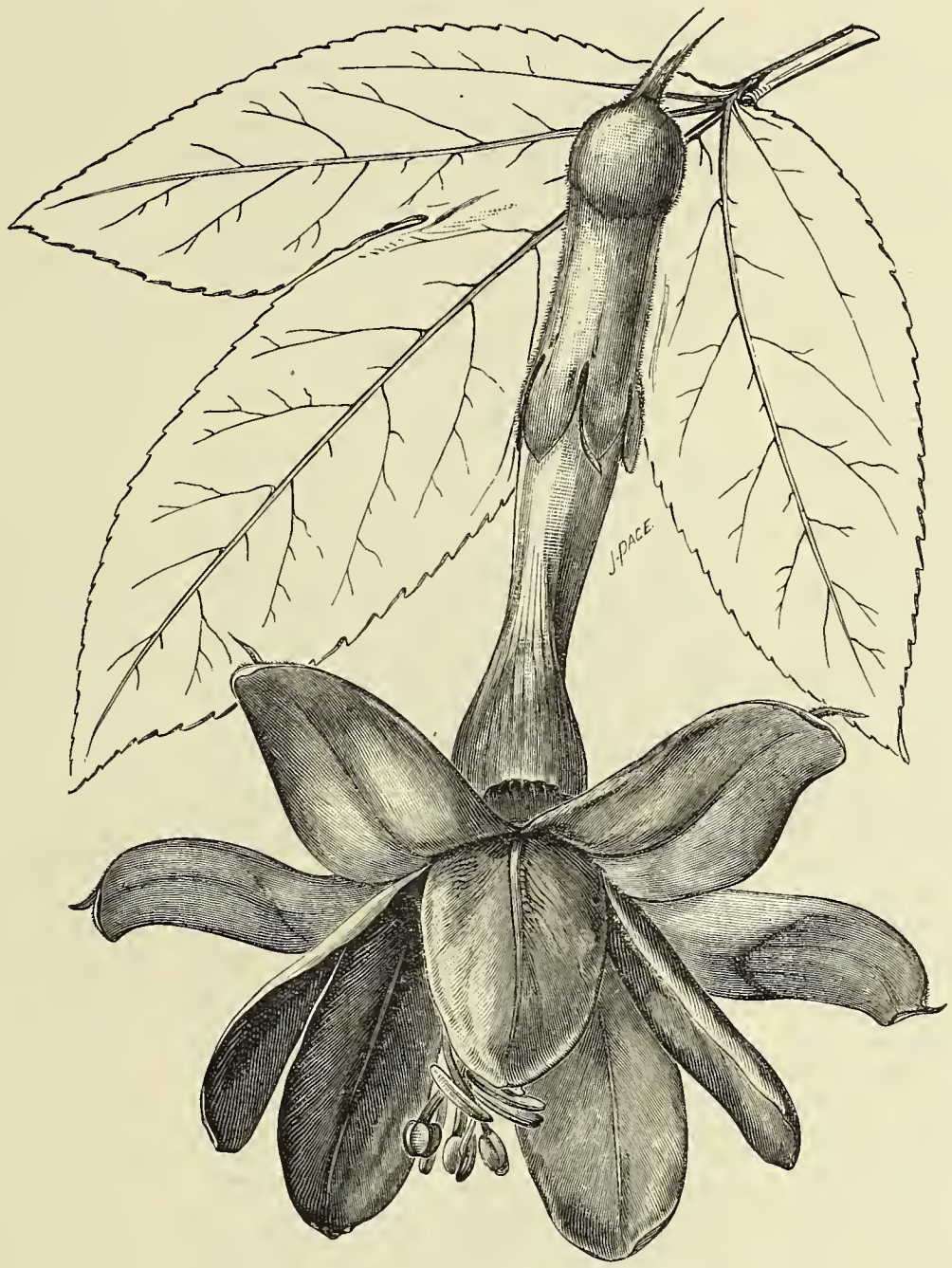
"With regard to the houses in the Gardens the case is different; they, of course, must be closed at times, in order that the necessary watering, cleaning, and like operations may be carried on. But, so far as we are aware, it is not proposed that these should be open earlier than they are at present, so that this objection also falls to the ground.

"There remain only the Gardens proper to be considered. It cannot be seriously contended that the work in them would be interfered with by the admission of the public, any more than is the case in the various parks. The Kew 'bedding' is not so extensive as that, for example, in Battersea Park, which is open all day and every day without let or hindrance; and we have never heard that there, or elsewhere, the people cause any inconvenience to the numerous gardeners engaged. It might, perhaps, be opportune at this juncture to reprint the little pamphlet issued in 1879 by the Defence Association, in which the question is dealt with at greater length than is possible here. But should this be done, we trust that one needlessly offensive passage—that in which it is stated that 'the real reason of the exclusion of the public is that the scientific staff find it agreeable to have for themselves and their friends the exclusive command of these noble Gardens during the best part of the day,' will be expunged, and that no insinuation of this kind will be countenanced by those who have the matter in hand.

"While we are on the subject of Kew, there is another matter which may be mentioned—the absence of an authorised guide to the beautiful Gardens. There was an excellent one at one time, but this has been out of print, we believe, for five or six years. The subject has more than once been brought before Parliament, and Mr. Plunket last May announced that the book was almost ready, and would probably appear during the summer. The satisfactoriness of this assurance was somewhat marred by the reminder that 'a precisely similar answer' was given 'fourteen months ago.' Perhaps Mr. Shaw-Lefevre may be able to expedite its appearance."

TACSONIA SMYTHIANA.

SOME flowers of this fine hybrid Tacsonia made their appearance at the Drill Hall on Tuesday last. They were shown by the raiser, Mr. Wm. Smythe, The Gardens, Basing Park, Alton, Hants, who originally obtained it by crossing T. manicata with T. exoniensis, the latter itself a hybrid. The leaves are deeply three-lobed, serrate, smooth and half leathery in texture. The tube of the flower is 3½ in. to 4 in. long, cylindrical, and slightly widened at the throat. The sepals and petals measure 2½ in. to 3 in. across. Three of the outer sepals are mostly green on the back, but the other two have only a green midrib; the inner face of all is deep salmon red. The petals are broader and of a richness approaching to scarlet, rounded and blunt at the top. Some flowers were shown at the previous meeting, and some more were shown at the last meeting. These latter were in fine condition, and had been taken from a plant grown against a wall in the open air. Should it be hardy enough to withstand the winter in the southern counties of England, it will be a decided acquisition to horticulture, and cannot fail to gain in popularity at no distant date. As it is, plants may be flowered upon an open wall during summer, and there seems no reason why they might not be lifted on the approach of frost, put in a tub, and housed in a greenhouse for the winter. The rampant shoots could of course be cut back, and the old stems tied to a stake so that they would occupy but little space. The accompanying illustration of a flower and a leaf will give a good idea of the form of each. It was awarded a First-class Certificate.



TACSONIA SMYTHIANA.

RUNNER BEANS AT CHISWICK.

A LARGE number of varieties of Runner Beans has been grown on trial this year in the gardens of the Royal Horticultural Society at Chiswick, offering a favourable opportunity of making a selection of the most generally useful and profitable sorts to grow. Judging from their names they have come from all parts of the world, and some of them are entirely unsuitable for our climate, for they refuse not only to fruit, but even to grow with any degree of satisfaction. There are varieties with beautiful and useful pods, others ornamental to say the least of them, while others are ungainly or even positively ugly. Many of them can at least claim to be characteristic and distinct if that is any recommendation; although from a utilitarian point of view it is difficult to see it. There is evidently a striving after fruits of Titanic dimension, if we are to judge from such names as Gigantic, Elephant, Mammoth, Laxton's Titan, Giant Scarlet, New Giant Titan, Mont d'Or, and other appellations. An idea of delicate eating is implied by such names as Broad Skinless Pods, Yellow Podded, White Seeded Sugar, Flageolet Wax, Hungarian Butter, Bulgarian Butter, Speckled Butter, and several others.

Altogether 86 varieties have been grown, making a proper and conclusive examination of them no light matter. The amount of variability amongst them is astonishing, while on the other hand many of the best and more useful are difficult to distinguish by the pods alone. A number of them received three marks at the hands of the committees who inspected the collection. Amongst these the white-flowered Jubilee produces large pods and crops heavily. The more characteristic pod is straight, but occasionally it is curved, and even on the surface is slightly rough. Equally well cropped was Flageolet Wax, with long, narrow, smooth, curved pods of a pale waxy yellow. The stems are of moderate growth, and flowering has pretty well ceased by the beginning of September. More dwarf even is Sutton's Tender and True, with long, narrow, smooth and light green pods of handsome form, and produced in great quantity. It seems that ample encouragement should be given to dwarf growing sorts like this, as the taller growing ones climb to the top of the stakes and then down again, burying half of the foliage, flowers and young fruit, so that the return they make is not proportionate to the amount of foliage and the space they occupy. Another wax-podded variety receiving the same award as the above is Mont d'Or, with smooth, cylindrical, and fleshy pods getting slightly undulated on the surface as they get old. It is also wonderfully dwarf. Hungarian Butter produces cylindrical, smooth, green pods, 6 in. to 10 in. long and in great quantity.

Fine looking pods of great length and moderately wide are produced by Sutton's Prizewinner, but the crop was only moderate about the beginning of last month. On the contrary Giant Scarlet Long bore an excellent crop of broad and straight or slightly curved pods, rather rough on both edges. Hill's Prize, like the last named, is a tall growing late variety with smooth pods of moderate length and breadth, produced in great abundance. As the name would imply, Fillbasket produces bulky pods 6 in. to 12 in. long, but narrow and smooth. As the pods get old they get torulose or undulated showing the outline of the seeds. It closely resembles White Scimitar in several respects. The above are all that were honoured with three marks.

A number received two marks, including The Czar with long, curved pods rather uneven in outline, but very freely produced. Like the last named, Giant White is also a white flowered variety, and has long, curved pods like a scimitar or boomerang; it crops heavily. The smooth, narrow pods of Emperor Frederick are creamy white suffused or speckled with red where exposed to the light. It may be distinct but is not particularly attractive. A tall and late variety is Invincible, but a good cropper; its pods are long, moderately broad and bronzy red on the back when exposed to direct sunlight. New Giant Titan makes the fifth variety receiving two marks. The pods of this, contrary to those of the last, are moderately long and very broad, and deep green. The plant continues growing and flowering till very late in the season.

Many others not honoured with any award are interesting as showing the amount of variation which the Scarlet Runner (Phaseolus multiflorus) is capable of undergoing. It is very difficult to make the general public take to varieties with pods of any colour except green, notwithstanding the delicacy or tenderness of the yellow wax-pod sorts. Still less would a yellow variety splashed with scarlet and named Speckled Butter be accepted, although it must be acknowledged handsome and might be employed on trellises and to cover wire archways in the flower garden and other places for purely decorative purposes. Very singular also is that named Purple, the pods of which are long, slightly undulated, smooth and of a deep blue purple. It crops very heavily, and has purple flowers with the leaves also tinted with bronzy-purple. Equally heavily cropped is Blue Podded, with lighter purple pods than the last named, and dark purple flowers. Both might be used in conjunction with Speckled Butter for ornamental purposes to furnish variety amongst climbing annuals. More utilitarian would be the variety named Princess Van Celst, with long, very narrow pods comparable to those of Canadian Wonder or some other dwarf Bean of the same type. That named Broad Skinless Pod seems to belie its name, for the pods are of medium length, cylindrical and fleshy. Princess yellow Podded or Sugar Pearl is notable for its small creamy yellow pods.

Other instances might be named to show the extent of variation, but the above should suffice, as a multiplicity of variation does not seem to be particularly necessary for the purpose of supplying food. Large shapely pods are wanted for exhibition purposes; but seeing that all alike are cut up for table use, this standard of merit is lost sight of. Fleshy and tender pods of a rich dark green should be kept in view and plenty of them. Beyond that early varieties should be encouraged, and hardiness. The latter characteristic in varieties does not seem to have received an adequate amount of attention. It would assuredly advance the interest and value of a variety, if it was capable of resisting late spring frosts. Excessively tall varieties might be avoided, dwarf ones encouraged, and thinner planting adopted than is often the case.

CHATSWORTH.

I ENJOYED the park at Chatsworth; did not like the terrace, but found, notwithstanding some bad anomalies, the results of Paxton's work in the pleasure grounds more agreeably interesting than I had in some way been led to suppose, or than I remembered them. I suppose this is the result of growth. Justice can often not be done to a landscape gardener's design in less than fifty years after the work has been initiated. Nor then or ever, unless it has been in the hands of one in sympathy with nature.

Reviewing all that I have seen in England, it appears to me that the selection and disposition of trees and plants, the modelling of surfaces and the arrangement of roads and walks and architectural conveniences, with a view to pleasing general effects of scenery, have been of late much confused and often lost sight of in efforts to provide brilliant local spectacles, to display rarities, curiosities and luxuries of vegetation, and to exhibit master-pieces of horticultural craft and costly garden *bric-a-brac*. Vast numbers of trees have been planted without knowledge or soundly formed anticipations of what they will become. Many of them are failing, and many that are not failing are conspicuously offensive, because of their unfitness to combine with the native elements of English scenery. Since my earlier visits the country has lost something of picturesque interest, mainly I think through agricultural and economical improvements; but a little, I am inclined to think, because of some slight and probably temporary turn of public sentiment toward prosaic neatness and formality.

Since my last visit there has been a decided abatement of the bedding-out nuisance, and of all the garish and childish fashions that came in with it. The gardeners and others with whom I have talked have been generally conceding—some with eviden regret—that it was going out of fashion. Any who think that with it their occupation will be gone, had better come quickly to America, where all the beauty that I have been aiming to provide on various grounds is wholly put out of countenance by it. There has never been a square yard of bedding out on any ground under my direction.—*F. L. Olmsted, New York, in The Garden.*

THE PROPAGATION OF ROSES.

IN a paper read at the recent convention of the American Florists' Society, Mr. Pierson said that Roses can be successfully propagated at any time of the year, though experience has taught us that better plants can be produced from wood taken during the late winter and early spring than at other seasons. At that time the plants are in their most vigorous condition, having responded to the longer days and increased sunlight by producing wood that is firm, strong, and healthy; fortunately this is also the season at which we are forced to do most of our propagating for the coming season's stock in order to have plants in proper condition at planting time, so that in this case necessity and advantage go hand in hand. Earlier, the wood is apt to be soft and sappy; later, the plants have become weakened through excessive heat and continued cutting.

In selecting wood from which cuttings are to be made, careful attention should be paid to the selection of only healthy and vigorous shoots. Wood that is mildewed to any extent rarely does well, as the diseased foliage is in a debilitated condition and unfitted to endure the ordeal of the unnatural conditions to which it is to be subjected for the month of its transformation from a fresh cutting into a healthy rooted one ready for its first pot. During this period, when devoid of root the cutting is dependent on the healthy condition and vitality of the wood from which it is made, hence the necessity of care in its selection. Foliage infested with red spider should be avoided, as from the position in which the cuttings are placed in the bench with the foliage close to the sand, it is impossible to syringe the under-side of the leaf where this pest is wont to lurk, and as a result it multiplies so rapidly that by the time the cutting should be rooted, we find it eaten up, or so sapped of vitality as to be worthless.

A cutting should never be made of wood whose foliage is black spotted, for every leaf so infected, whether the spots be large, small, many or few, is certain to sicken, die, and finally drop on the sand of the bench, there (if not removed at once) to breed the dreaded cutting bench fungus, and thus not only does your infected cutting die itself, but spreads disease among its healthy neighbours. If the cutting be made of wood too hard or over ripe, the tissues will have become contracted and the power to absorb water from the sand much reduced, resulting in the foliage quickly turning yellow and drooping; or if the cutting roots at all, it will be observed that the callus forms very slowly, and the roots that finally develop, do so after a much longer period than would be necessary with a proper cutting, and will be slender and lacking in strength, resulting necessarily in a plant wiry and without the vigour so essential to the best results. Again, if wood be taken too soft, the young and tender foliage will evaporate moisture faster than it can be supplied, and the result will be a quickly wilted and ruined cutting. Wood that is half ripe, experience has proven best suited to root quickly and strongly, and hence produce a vigorous plant; a condition that is hard to describe to a novice, but which is easily known at a glance by the experienced.

A good idea may be conveyed by saying that the condition of wood found on shoots whose buds are beginning to show colour is the ideal, and in the best possible stage of maturity; but in my opinion it is not necessary that the shoot from which cuttings are made should terminate in a bud. It will be observed that I have insisted on the selection of perfectly healthy wood, and wood in the proper condition respecting maturity; but I am inclined to differ from the authorities regarding the importance attached to the selection of blooming wood for propagation. My objections to this practice are two-fold; first, it is very expensive. The time when most of us do our propagating is during the first three months of the year, January, February, and March; we may do some earlier, some later, but much the greater amount of it is done in these months when the price of the flower is highest. Let us look at the subject from the standpoint of first cost of the cuttings for a moment, and we shall realise what a great, and I believe needless, expense is here incurred. Flowering canes of the class of Mermet, Bride, Cusin, La France, etc., when cut back so as to leave at least two eyes on the plant, contain as a rule no more than six to eight joints. Adopting the old rule of making the cutting at an eye, requires at least two eyes to each cutting, very often an eye or two will be wasted in making, so that each shoot taken will on an average make no more than three cuttings.

I contend that cuttings made from blind wood not only produce plants fully as good in every way but if there be any difference better plants than usually grown from blooming wood. I do not mean by blind wood all the light, twiggy, wiry stuff that comes, but on almost every variety a certain amount of wood comes blind, and yet short-jointed and firm (there are some exceptions to this rule, Wootton being one variety that rarely produces a blind shoot), but it is true of most varieties, and where such wood can be obtained and taken when in proper condition, I believe it produces the very best possible plants. This wood should be torn from the plant and the knife used as little as possible, the cutting rooting much better when it is torn than when cut. My reason for holding this class of cutting to be the best that can possibly be taken are several: first, such cuttings root much more quickly, three weeks being sufficient; second, the roots are both stronger and more numerous than can be obtained from other wood. I have frequently on digging such cuttings from the propagating bed counted from ten to fifteen strong healthy rootlets started from the heel, and as abundant healthy roots are such important factors in the growth of a strong plant, the value of this point will be readily admitted. Third, this wood is short jointed and full of dormant eyes at the base, giving promise of abundant bottom shoots as the plants develop.

I do not wish to convey the idea that a double eyed cutting made at a sacrifice of a bud will not produce a good plant, but I firmly believe that a blind cutting will produce fully as good a plant, at a saving in the aggregate of many a hard earned dollar, will root quicker and with far less percentage of loss than the other.

In taking the cuttings, care should be used to prevent the foliage from wilting.

In making, the knife used should be keen and the cutting severed by a quick sharp stroke. The wood should not be held against the thumb fur free, to avoid even the slight bruise that is unavoidable if pressure be brought to insert the knife. All very soft foliage should be cut away and the old foliage trimmed back; this will prevent too rapid evaporation and also enable us to place more cuttings in the bench without overcrowding. Our custom is to stick the cuttings about an inch apart in rows, and the rows about two inches apart; of course this is subject to variation as the cuttings may be heavy or light. The bench appears much neater if the foliage all presents the upper side of the leaves towards the

walk. As soon as struck every few lines should be soaked, so that the bed be thoroughly settled and all crevices run together. Watering a propagating bed is largely a matter of judgment; after the first drenching the bed will probably require little water for a day or two, for if properly done at first they will be wet enough; but the foliage should be sprinkled daily, and if the atmosphere is hot, dry, or if windy, should be kept constantly moist. During the first week in the bench, they should be kept rather wet and constant care employed to prevent wilting, and a damp atmosphere maintained though not a close one. After the first week less water should be applied, though the condition of the sand should never be allowed to approach dryness. We use an iron frame bench with slate bottom, on which we place about two inches of ordinary sharp bank sand, well firmed down and perfectly smooth, and believe it pays us to remove all sand after once using and replace with fresh for each successive batch of cuttings. A regular bottom heat, day and night, of not over 65°, and a top heat of 50° to 55°, with a free circulation of air, will supply the right conditions of temperature. Shading is of great importance, as too much sun will bring ruin to a freshly stuck cutting, though a little night and morning is, I believe, beneficial, and as the cutting becomes harder more sunlight can be allowed. It must also be borne in mind that a draught of air is fully as injurious as sunlight; on windy days the beds must be protected or damage will result. I do not believe in shading the glass as often done, for the reason that such shade cannot be removed at will, and of necessity must remain both on cloudy days and at night, when all the light possible is desirable.

Before clnsing, allow me a word in regard to potting. When the cuttings have formed roots from one-fourth to one-half inches long, which will be in from three to four weeks if the wood and the conditions have been proper, they will be ready for potting. I do not believe in potting when the roots are shorter than this, for the reason that many other roots are just about to start and they are not sufficiently strong to take quick hold of the earth, and thus insure rapid growth. On the other hand, if allowed to remain in the bench a day or two too long, the roots become long and wiry, making it much more difficult to pot them, and they lose something of their ability for quick work, which is essential.

The soil used for potting should be the best that can be obtained, the same that is used for planting, and for this first potting should be sifted. If very heavy add a little sand, and see that the soil is neither excessively wet or dry; in the former case it will pack like a brick, and in the latter not enough, and will absorb the moisture from the roots; in both cases retarding rapid potting very much.

Frequent moistening of the foliage will be a great benefit. Do not shade the plants too long after potting; for a day or two they should be shaded from direct sunlight, after which it should be allowed to shine on them morning and evening, gradually increasing the amount, until after a week none will be needed, and the roots will be showing through, growth commenced, and the propagation of the Rose completed.

ROSES IN POTS.

There is always more or less work to be done among pot roses, and the present season is one of the most important in this respect. There is the potting up of old plants, and also those from the nursery grounds. In the case of some plants that have been growing and flowering more or less all the early spring and summer, they will have been stood out of doors to secure the slight rest that all plants require once during the year. As they will now be as nearly ripe as pot plants generally become, it is a good time to overhaul them and repot any that need it. See that the drainage is all sound and trim out the weakly and spindly wood. Look closely to see if any scale exist on the plants, and if so, remove them from the rest and commence to clean with some strong insecticide. You can use a stronger solution now that the plants are more dormant, than could possibly be used while in full growth.

Such plants as may not be much pot bound with roots, or have very few at the surface of the soil, may be mulched with good compost after removing some of the older soil. It is not well to disturb the roots more than you can help, especially if they be wanted for early forcing purposes. Keep them dry at the roots for some time yet, and still let them remain in the open air. Pot Roses are far too often taken under cover prematurely. Frost will not hurt them, and provided you place a little litter among the pots, a few frosts will do the wood an immense amount of good. I do not mean severe frosts, but those we generally get during the latter part of autumn.

Roses that are potted up from the open ground should be placed on the shady side of a hedge or wall, and kept well sprinkled overhead upon all fine or drying days. I would advise their being potted up at once, as the majority of plants are quite ripe enough for this purpose. There is another word of advice I would like to give amateurs, and that is to always allow their plants to come on much more steadily than is generally the custom. You must remember that you are going against nature when forcing Roses early, and that all you can do is to get the plants in a more forward state, so that as soon as the days turn they may be the more ready to take advantage of it.

It is astonishing how very soon all forced plant life alters in appearance directly the sun has turned and is gaining instead of waning in power. Cool and steady treatment at the first will pay well, and eventually catch up and pass those plants that were hurried from the start. You will also get many more and far better quality blooms by letting your plants come on in the steady way here advised, and which is much nearer to nature than introducing them to a high temperature at first. A slight increase early in the year is a totally different thing to giving it them in November, as so many do when trying to get early flowers.—*Experience.*

THE VANILLA.

Notwithstanding the various preparations that have lately been put upon the market as substitutes for the Vanilla for flavouring purposes, a great deal of attention is still directed to the cultivation of the plant, and the preparation of the fruits for commercial purposes. Perhaps the most recent and formidable rival in the cultivation of Vanilla is Fiji, from whence some good samples have more than once been received. The first consignment sent to London brought from the consignees a very congratulatory report on the prices realised, namely, 22s. 6d. per lb. for three-fourths of the consignment, and 21s. 6d. for the remaining fourth. The consignees further say that "unless the quality had been very satisfactory no such price could have been obtained, and if further consignments are up to the quality now sent in, we can say that Fijian Vanillas will command a good price and a great sale. Speaking from an experience of nearly forty years, during which we have handled a considerable quantity of Vanillas, we can unhesitatingly say that the quality of that sent here is equal to any Vanilla grown in the Mauritius or elsewhere. The beans are plump and well cured, and are beginning to throw out splendid crystals. In future consignments it will be necessary to sort the Vanillas and tin them according to lengths, and to take care not to pack the tins too closely."

In connection with the subject of the preparation of Vanilla for market, one of the most striking departures from the ordinary mode of drying the pods seems to be that of keeping them moist or rather wet, for some sample pods have recently been received in London preserved in alcohol. They are described as of fine appearance and good aroma, though, of course, partly exhausted by the action of the spirit, which, it has been suggested, will probably be sold with the beans. It is said "that by placing the pods in alcohol when freshly gathered, a much more fragrant tincture is obtained than by exhausting the cured beans purchased in Europe."—*Society of Arts Journal.*

GARDENING MISCELLANY.

CARYOPTERIS MASTACANTHUS.

Michaelmas Daisies and Sunflowers now reign supreme in the open border, and the amount of variety amongst out-door flowers is considerably reduced. There is room, therefore, for the plant under notice to be received with all due favour. What tells most against it is that the plants are not altogether hardy. It is a native of China, from whence it was introduced in 1844, and has possibly been lost several times and reintroduced. The flowers are of small size individually, but are very freely produced from the axils of the leaves all along the stems, and of a rich violet-blue. Their colour is, therefore, very unusual amongst out-door plants at this season of the year. The stems are herbaceous, about 2 ft. high, thickly clothed with dark green leaves, and keep flowering till late into October, or even longer according to the state of the weather. The plant belongs to the Verbena family, of which very, very few are hardy. When shown at the Drill Hall on Tuesday last by Messrs. J. Veitch & Sons, Chelsea, we recognised an old but comparatively little known friend.

SEEDLING BORDER CARNATION.

We have received flowers of a beautiful white Carnation from Mr. Robert Hindmarsh, gardener to Mr. McIntyre, Hillingworth House, near Newcastle-on-Tyne. He raised it from seeds obtained from Messrs. Sutton & Sons, in the spring of 1890. It has been flowering since midsummer, and is still beautiful although it has recently been subjected to heavy storms of rain and wind. The flowers are of medium size and consequently do not split their pods, and have broad, pure white petals, almost entire at the edges, and not in any way crowded. For bunching and cut flower work generally it is highly suitable, and is almost certain to find many admirers and to be more or less widely cultivated; indeed it has attained a considerable amount of popularity and reputation already in the locality of its origin and for some distance around. It is scented, although not strongly so.

THE LIZARD'S TAIL.

The name above given has been applied to the genus Saururus, consisting of two aquatic species, one of which is a native of North America and is known as the American Swamp Lily, while S. Loureiri comes from Eastern Asia. They belong to the Pepper family, of which they are aquatic representatives, inhabiting marshes, swamps, and similar wet places. The last-named species may be seen in the aquatic tank tank by the herbaceous ground at Kew, where it has been flowering for some time past. The flowers are very small individually, and white, but produced in a dense terminal raceme not longer than the uppermost leaf, and collectively may be termed pretty, although not particularly showy. This raceme of flowers has been fancifully compared to a Lizard's Tail. From a garden point of view, however, some of the uppermost leaves constitute the ornamental feature of the plant. The ordinary ones are heart-shaped and of a rich dark green, while a few of the uppermost are white and netted with slender green veins. These seem to be produced only on those stems which bear flowers. They probably serve as a flag of attraction to draw insect visitors from a distance, as in the case of the Poinsettia and others.

THE BEGONIA AS A WINDOW PLANT.

The tuberous Begonia is certainly "the flower of the future," and deservedly popular—as a bedding plant, a window, or a greenhouse plant. A few days ago I saw some healthy, well-flowered plants in a cottage window; the tubers were given to their present owner in the winter and have been grown entirely in the window without artificial heat, and at the present time are flowering freely, developing fine, healthy foliage, and bid fair to outrival the once indispensable Pelargonium.—*A. P.*

LAPAGERIA ROSEA MACULATA.

Several varieties of the Lapageria are grown in the conservatory and the long corridor connecting the new range of glass houses together at Falkland Park, South Norwood Hill. That under notice bears very large flowers of a soft rose colour. All the segments of the flower are spreading at the mouth, and the inner ones, which are very much the broader at the apex, are conspicuously spotted with white. There are several spotted varieties in cultivation, but L. r. maculata is also noted for the great size of its flowers, almost rivalling the Nash Court variety, but differing in having paler, spotted flowers, and in the segments of the perianth being spreading at the mouth. Those of the Nash Court variety slightly diverge upwards but are not in any way revolute at the mouth.

A STRAWBERRY FESTIVAL.

As I lingered to admire the picturesque rapids in the brook, a slight movement drew my attention to a little projection on a stone not six feet from me, where a small chipmuck sat pertly up, holding in his two hands and eagerly nibbling—was it, could it be, a Strawberry, in this rocky place? Of course I stopped instantly to look at this pretty sight. I judged him to be a youngster, partly because of his evident fearlessness of his hereditary enemy a human being; more on account of the saucy way in which he returned my stare; and most, perhaps, from the absorbing delight, in which there was a suggestion of the unexpected, with which he discussed that sweet morsel. Closely I watched him as he turned the treasure round and round in his deft little paws, and at last dropped the rifled hull. Would he go for another, and where? In an instant, with a parting glance at me to make sure that I had not moved, he scrambled down his rocky throne, and bounded in great leaps over the path to a crumpled paper, which I saw at once was one of the bags with which tourists sow the earth. But its presence there did not arouse in my furry friend the indignation it excited in me. To him it was a treasure-trove, for into it he disappeared without a moment's hesitation; and almost before I had jumped to the conclusion that it contained the remains of somebody's luncheon he reappeared, holding in his mouth another Strawberry, bounded over the ground to his former seat, and proceeded to dispose of that one also. The scene was so charming and his pleasure so genuine, that I forgave the careless traveller on the spot, and only wished I had a kodak to secure a permanent picture of this unique Strawberry festival.—*From a paper on "The Cliff Dwellers in the Canon," in "The Atlantic Monthly."*

YUCCA FILAMENTOSA VARIEGATA.

As a greenhouse plant this is of great decorative value, especially when well grown so that the plant is well furnished with leaves. The variegated form seems, however, to be somewhat tender compared with the typical green form which is hardy in the southern counties. It seems probable, however, that the variegated form is sometimes injured by too close treatment. Gardeners in their anxiety to foster its growth, keep it under a bell glass, and moisture often condenses and lodges in the crown or centre of young leaves, causing them to decay. No such protection is given the plant at Falkland Park, South Norwood Hill, where it is grown in association with other greenhouse plants, and seems very happy. The leaves are thready at the margin as the specific name implies, and have in the variegated form a broad silvery white margin. Most, if not all, of the other species of Yucca in cultivation ultimately have the leaves elevated on a stem, but no stem is developed in this case, and the species is therefore regarded as herbaceous. The flower stem rises to a height of 2 ft. or 3 ft., bearing large, pendulous, Lily-like flowers, and it is matter for surprise that the plant is not more often cultivated on rockeries in the open garden, that is, the green form.

SOCIETIES.

Royal Horticultural, *Oct.* 4.—The chief features of the meeting on Tuesday last were Orchids, hardy herbaceous flowers, and fruit, all of which were wonderfully well represented. The exhibits brought up in competition for the prizes offered for hardy flowers produced a cheerful and effective display.

A Silver Flora Medal was awarded to Messrs. B. S. Williams & Son, Upper Holloway, for a nice group of Palms, Orchids, and Maidenhair Ferns. The group included fine pieces of Dendrobium superbiens, D. Phalænopsis, Miltonia candida grandiflora, Odontoglossum grande, and numerous Cypripediums. A Silver Banksian Medal was awarded to Messrs. Hugh Low & Co., Clapton, for a smaller group of Orchids set on a groundwork of Maidenhair Ferns, numerous pieces of Vanda Kimballiana, some pieces of V. cœrulea, Trichopilia rostrata, and several Cypripediums. A similar award was made to Messrs. F. Sander & Co., St. Albans, for a small group of Orchids, including two pieces of Houlletia Brocklehurstiana, with their curiously striking flowers, also Paphinia grandis, Zygopetalum rostratum, and numerous varieties of Dendrobium Phalænopsis Schroderianum. A small group of Orchids was also shown by Messrs. Pitcher & Manda, Hextable, Swanley, including Oncidium tigrinum, Cypripedium Arthurianum, and a considerable number of others, either species or hybrids. A very singular and curious variety of Cattleya bicolor with a slaty blue lip, and named C. b. cœrulea, as well as Lælia elegans chelsiensis and Cattleya granulosa splendens, was exhibited by Thomas Statter, Esq. (gr. Mr. R. Johnston), Stand Hall, Manchester. A fine flower of Cattleya Hardyana var. Massaiana was shown by W. Wells, Esq. (gr. Mr. R. Hinde), Broomfield, Sale. A fine piece of Stanhopea aurea in a basket was exhibited by C. K. Wild, Esq. (gr. Mr. R. Pallant), Hampstead. A large and floriferous plant of Oncidium ornithorhynchium was exhibited by Wilberforce Bryant, Esq., J.P. (gr. Mr. David Kemp), Stoke Park, Slough.

A Silver Banksian Medal was awarded to Messrs. Barr & Sons, Covent Garden, for a collection of hardy herbaceous plants, chiefly perennial Asters in all the leading and best types. A Bronze Banksian Medal was awarded to Messrs. E. D. Shuttleworth & Co., Fleet, Hants, for a collection of perennial Asters and other hardy subjects. A collection of Asters was also sent by Henry Southall, Esq., The Graig, Ross. Many of them were out of flower and the rest were rather withered, evidently having travelled a long distance. Some Dracænas were shown by Mr. H. Elliott, F.R.H.S., Stourvale Nursery, Christchurch. They were all in excellent condition, and one of them received a First-class Certificate. D. australis aurea striata was also distinct. He also showed a boxful of different varieties of Nerines in bloom. Flowers of Tacsonia Smythiana were shown by Mr. W. Smythe, Basing Park, Alton. Two large plants of the Colorado Blue Spruce and two baskets of Pernettyas were shown by Mr. Anthony Waterer, Knap Hill, Woking, and a Silver Banksian Medal was awarded the group.

A yellow Carnation named Fry's Button Hole was shown by Mr. Geo. Fry, Lewisham. Some perennial Asters were shown by the Rev. W. Wilks, Shirley Vicarage, Croydon, as well as Geranium Shirley Blue to show that it flowers till frost puts a stop to growth. Some Chrysanthemums were shown by Mr. R. Owen, Castle Hill, Maidenhead, and two of them received certificates. Mr. A. Rawling, Romford, Essex, showed flowers of a new Dahlia named Mrs. Vagg. An attractive lot of winter-flowering Carnations, numerous varieties of Nerine, and four plants of the beautiful Iris alata, were exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham. Some fine pieces of Hymenanthera crassifolia and Caryopteris Mastacanthus from the open ground, as well as a large boxful of the new varieties of Streptocarpus were shown by Messrs. J. Veitch & Sons, Chelsea.

A Cultural Commendation was also awarded them for some handsomely grown plants of Amasonia calycina, otherwise known as A. punicea. A group or batch of well-grown Mignonette was staged by Mr. C. Leach, Albury Park. He also had some finely berried pieces of Rosa rugosa, Hippophæ rhamnoides, and Rosa polyantha japonica. A Bronze Banksian Medal was awarded to Mr. W. Wells, Earlswood Station, Surrey, for a collection of Japanese and early flowering Chrysanthemums, Asters, Sweet Peas, Pompon Chrysanthemums, and other subjects were shown by Mr. John Crook, gardener to W. Evans, Esq., Forde Abbey, Chard. A beautiful stand of Saxifraga sarmentosa tricolor superba was exhibited by Messrs. J. Laing & Sons, Forest Hill. Messrs. H. Cannell & Sons, Swanley, Kent, had a stand of Zonal Pelargoniums set up in bunches, and another of Begonia Rosebud.

The prizes offered to amateurs for hardy perennials brought out some fine exhibits. The first award for eighteen bunches was deservedly awarded to Mr. G. H. Sage, gardener to the Earl of Dysart, Ham House, Richmond, who had some grand bunches of perennial Asters, Sunflowers, Phloxes, etc. The first prize for twelve bunches was awarded to W. E. Hall, Esq. (gardener, Mr. Hidley), Coker Court, Yeovil, who had some nice bunches of Asters, Sunflowers, Phygelius capensis, etc. The second prize in this class went to Mr. James Gibson, The Oaks Gardens, Carshalton. The first award for eight bunches was taken by Mr. Jas. Hudson, gardener to the Messrs. de Rothschild, Gunnersbury House, Acton. Miss Debenham, St. Peter's, St. Albans, took the second place in this class.

At a meeting of the Fruit and Vegetable Committee, a Silver-gilt Knightian Medal was awarded to Messrs. J. Cheal & Sons, Crawley, for a very extensive collection of Apples, many of which were handsomely coloured, including Worcester Pearmain, Hollandbury, Wealthy Scarlet Tiffin, Brabant Bellefleur, and others. They also had a fine lot of Pears, of good size. A Silver Knightian Medal was awarded to A. H. Smee, Esq. (gardener, Mr. G. W. Cummins), The Grange, Carshalton, for a smaller collection of Apples, in grand condition and size. A similar award was made to the Dowager Lady Freak (gardener, Mr. Rickwood), Fulwell Park, Twickenham, for a collection of Apples and Pears. Smaller lots of Apples were shown by Mr. John Crook; by Mr. Chas. Ross, gardener to Col. Archer, Welford Park, Newbury; by Mr. Geo. Edmonds, The Grange, Gillingham; by Mr. A. J. Brown, the School of Handicraft, Chertsey, and by Messrs. Stephen Spooner & Sons, Hounslow Nurseries. Some Tomatos that had been grown amongst ashes, were exhibited by Mr. Jas. Hudson; Mr. R. Owen also showed Maincrop and Perfection Tomatos. Some new Grapes and Apple King Harry were brought up from the Royal Horticultural Society's gardens at Chiswick. The Grapes included the White Gros Colmar, Chasselas Vibert, both white varieties, and some others.

ORCHID NOTES AND GLEANINGS.

Varieties of Cattleya Hardyana.

Not only do we find a variability amongst the Cattleyas that may be classified under C. Dowiana, and C. D. aurea, but there is now a considerable amount of variation in C. Hardyana. Amongst them is one named C. Hardyana Massaiana which was exhibited at the Drill Hall, on Tuesday last, by Mr. Hinde, gardener to W. Wells, Esq., Sale, Manchester. The sepals of this were very pale, but the petals were heavily netted with dull rose on a white ground, the latter merely showing itself in the form of spots giving the whole a tessellated appearance. The lip was the main feature of the flower however, and may be described as taking after C. Dowiana aurea in the lamina being of a rich crimson, with large, oblong bright yellow blotches extending from the throat down the sides towards the apex. The lip of C. Hardyana Young's var. shown at the same time and place by Reginald Young, Esq., Fringilla, Linnet Lane, Liverpool, was of great size and more after the style of C. gigas both in size and also in colour. The base of the lamina and the interior of the tube was richly lined and netted with yellow alternating with dark crimson; the upper portion of the lamina itself was of a rich crimson purple but not maroon as in C. Hardyana Massaiana, and the yellow blotches were more strictly confined to the throat, yet edged with white just inside the rich purple margin. The large petals were reflexed longitudinally along the middle, and of a warm rose, lined and netted with white veins. The sepals were suffused and tesserated with rose on a white ground especially along the edges, the centre being very pale. A painting of Mr. Reginald Young's variety was also shown, and which was done from the plant when it had about a dozen flowers upon it.

Grammangis Ellisii.

Occasionally this is seen in British gardens under the name of Grammatophyllum Ellisii, and proves a much more satisfactory plant to grow and flower than G. speciosum. The short, stout pseudo-bulbs are fusiform, angled, rather distinct in appearance, and bear numerous, narrowly strap-shaped leaves along their sides and tops. The flower scape bears a dense raceme of flowers, and assumes an ascending direction from the plant, while the flower bearing portion is drooping, and the whole is therefore surmounted or overtopped by the leaves. The flowers are of great substance with a waxy look about them, although the sepals and petals are green. The middle lobe of the lip is yellow spotted with crimson on the lower portion, and tipped with that colour. The interior and the side lobes are white and marked or striped with violet. It is a native of Madagascar, where it was discovered by the Rev. William Ellis, who made three visits to that island in 1853, 1854, and 1856. There is a coloured illustration of it in the *Lindenia*, *pl.* 338.

WHAT TO DO IN THE GARDEN.

Dracænas.—Tall and leggy specimens may be ringed around the top and a handful of moist sphagnum tied round the cut portion, or a small pot may be cut in half and placed round the stem, filling it with light sandy soil. Troublesome kinds to root may be dealt with in this way without fear of the loss that might sometimes occur when the tops are immediately cut off and put in to root.

Allamandas, Clerodendrons, &c.—Where these are trained under the roof they should now receive a good thinning out, or in the case of Clerodendron Balfourianum, closely pruned back nearly to the old wood. This will allow the light to play more freely upon the other occupants of the house. Plants in pots as well as those of Bougainvilleas and Dipladenias may be unfastened from their stakes and slung up loosely near the glass to encourage the ripening of the wood.

Pandanus.—Where the plants have grown inconveniently large suckers should be taken and rooted, so that the old plants may be dispensed with. The best coloured shoots of P. Veitchi should be taken in preference to the more robust and green ones. Pot them in rather poor soil, as they retain their variegation much better under those conditions than when grown in rich material.

Gardenias.—Before introducing the more forward of the Gardenias into heat they should be thoroughly cleansed from mealy bug if any adhere to them, as it is more difficult to deal with that pest without injury to the plants after they have started into fresh growth and are tender. At present they may be thoroughly syringed with about a wineglassful of paraffin to 4 gallons of water.

Azaleas, Eupatoriums.—Preparations should be made for taking these things indoors at the shortest notice, for the nights now get very cold and we may expect frost at auy time. The same applies to Epacris, Heaths, Boronias, Cytisus, and other greenhouse subjects for winter and spring flowering.

Vineries.—The earliest Vines should now be leafless and resting. They may therefore be pruned and the rods dressed. Pull off all loose bark that may be removed with the fingers, but do not use a knife, and wash the rods with Gishurst Compound and water at the rate of 6 ounces of the former to a gallon of the latter.

Tree Carnations.—A supply of flowers will now have to be looked for from plants in pots. Old plants are sometimes used, but a better plan is to take cuttings or layer the shoots in January, and grow the plants on. Those that have been treated in this way should now be in 8 in. or 9 in. pots and well advanced; they will soon come into bloom if placed in a warm greenhouse temperature near the glass. Fumigate them if any green fly is present.

Seedling Gladioli.—As the foliage dies away the small corms may be lifted, carefully separated from the soil and stored away in bags amongst moderately dry sand. They will keep better in this way than if stored without some such protection to prevent them from getting unduly dried up.

Pinks.—Pot up all the plants intended for winter flowering in good fibrous loam with plenty of sand to ensure porosity. Stand them in a cold frame and keep the latter moderately close for a week till the plants get established. A little air night and day will however prove beneficial even at this stage.

Roses.—If new plantations are intended to be made, select a deep rich soil, if possible, even if it is inclined to be clayey. Trench this two feet deep, and if in any way of a light character, incorporate plenty of good cow manure with it. Some good loam should be put round the roots of every plant when put in the hole prepared for it. Plants received from the nurseries should be unpacked without delay and planted to prevent the drying up of the roots.

Auriculas.—Very little water will now be required by Auriculas, as the object should be to keep them as quiescent as possible to prevent their throwing up flower scapes in autumn, thereby preventing the production of good trusses in spring. Look over them frequently to remove decaying leaves. They may be kept in their cool summer quarters on a northern aspect till the weather is decidedly cooler.

Strawberries in pots.—Where large quantities are grown in pots for forcing purposes it would be out of the question to house them all; but a few intended to form an early batch or two might be transferred to cold frames, where with the shelter thus afforded and plenty of ventilation the crowns will be encouraged to ripen and plump up sooner than they would otherwise do.

Bedding Plants.—Frosty nights now give warning to secure a stock of all tender subjects that are most likely to be destroyed should a sharp frost occur. It is much easier to establish them in pots if lifted before they are crippled. This applies to all the choicer sorts of Pelargoniums such as bicolors, tricolors, bronzes, Lobelias, Iresines, Alternantheras, Mesembryanthemums and others of that class.

Obituary.

We deeply regret to record the sudden death, early on the morning of the 30th ult., of Mr. Charles H. Sharman, for many years manager of the seed business of Messrs. James Carter & Co., of High Holborn. Mr. Sharman, who was forty-eight years of age, had passed through two very serious attacks of illness within the last few months, but was in Holborn on the day previous to his death, and expressed himself to friends as then feeling stronger and better than he had done for some time. He appears to have gone home in the evening, and was subsequently seized with an apoplectic fit, in which he expired shortly after 1 a.m., leaving a widow, four daughters, and a son to mourn the loss of a kind-hearted and indulgent husband and father, and the firm he served for over thirty years a most loyal and invaluable servant.

We also regret to learn of the death, on Monday last, of Mr. William Steel, nurseryman, of Richmond, Surrey, aged 78 years. Mr. Steel, who was much respected in the trade, only survived his elder brother by 15 months.

QUESTIONS AND ANSWERS.

*** *Correspondents are requested, in order to avoid delay, to address all communications to* "The Editor" *or* "The Publisher," *and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed* "*Bambusa, London.*"

Various.—*Omega*: 1.—A span-roofed house would be the most useful, 2.—If the trees are small, the trench may be cut all round, but if of any size, it is best to do one-half this season and the other half the next. The object of root-pruning is to prevent over luxuriance of growth, and consequently to reduce the necessity for top-pruning. We cannot decipher your last question.

Double Antirrhinum.—*Quintin McGill*: We have not seen a double Antirrhinum, but do not think it would be an acquisition nor pretty, although it would in all likliability be a great curiosity. The irregularity of the flower we fear would prevent the neat arrangement of a second corolla, and the large, closed palate of the normal flower would also greatly interfere with the symmetry of a double flower. We should be pleased, however, if you would send us a bloom.

Judging Tomatos.—*Fair play*: It was not necessary to disqualify the dish containing the decayed fruits, but the juges under the circumstances should certainly have revised their decision, assuming that the other prize winners had sounder examples. Prizes are not offered for unsound fruits, and it is the duty of a judge to examine carefully all that comes before him, in order that no injustice may be done to any competitor.

Root Pruning.—*Robert Catto*: The present is the best time to undertake such work. Judging from what you say the trees are of large size, and, we should presume, old. In such a case it would be unwise to complete the root pruning of such trees in any one year; and doing one half of a tree this autumn and the other in the following autumn would be preferable. Take out a trench about 5 ft. from the bole of the tree, and carry this half round the same. Then use a fork to remove the soil so as to avoid cutting or injuring the roots as much as possible. All the fibrous roots should be carefully preserved. Those that go beyond 5 ft. should be shortened back to that length, cutting the end with a clean, sharp knife, and treating all bruised roots in the same way. Those that dip down deeply into the soil and all tap roots should also be cut through. If of large size a saw may be used, afterwards cutting or shaving the sawn end smooth with a sharp knife. This completed throw back some soil beneath the roots till the latter lie in a horizontal position, then cover them with fine soil that may easily be worked in amongst them.

Grubs on Caterpillars.—*H. Jack*: The peculiar phenomenon of which you speak is quite common. Both the larvæ of the large white and the green-veined white butterflies are subject to the attacks of parasitic ichneumons, which pierce the soft-bodied larvæ and deposit a large number of eggs within them. These grubs feed in the interior of the larvæ until full grown, when they pierce their way out, and spin each a small silken cocoon, in which they remain till the following spring, when they issue forth to commence their work afresh. They have not attacked the caterpillar from without, but have come from inside, which they do very rapidly when full grown. They destroy the caterpillars of the butterfly, and serve to keep the latter in check. The parasite is known by the name of Microgaster glomeratus.

Parsley in Winter.—*A. S.*: Several methods might be adopted to preserve a quantity of this useful garnishing or flavouring vegetable through the winter where the soil is naturally heavy and unsuitable. The best thing you could do at this season of the year is to lift a quantity of healthy young plants and set them out in a frame specially prepared for their reception A cold frame is all that is necessary with about 4 in. or thereby of fairly good soil. Plant, water, and keep the sash pretty close for a day or two, and if the sun is bright, shade the frame during the middle of the day. The plants will soon become established and keep growing while the weather remains open. Another method is to pot up a number of plants (but this entails more labour), and stand them in a cold frame. A good plan adopted in some gardens is to make a sowing in June or the beginning of July at the foot of a wall or in some dry position, and water occasionally if the weather is dry till the seedlings are well up. The plants keep better in a dry than a wet soil, and also when young and of moderate size.

Hardy Fernery.—*G. Alexander*: The hardier and robust, strong-growing kinds might be planted at any time during the course of this month; but we should prefer spring for the smaller and choicer kinds, for they then have the season before them in which to get established. The larger the rootstock, generally speaking, there is the less risk of loss during removal. Besides the purely British species there are several others, either continental or American, that would suit your purpose as they are hardy. Amongst them are Struthiopteris germanica, Onoclea sensibilis, Osmunda Claytoniana, O Interrupta, O. cinnamomea, Cystopteris bulbifera, Lomaria alpina, Aspidium munitum, Lastrea Goldieana, and some others; but those would help you to make a good start at forming a collection.

Names of Plants.—*North*: Campanula pumila alba.—*Omega*: Spiræa japonica alba. The white flower is Chrysanthemum Parthenium flore-pleno.—*J. H. R.*: Lonicera involucrata.—*P. M.*: 1, Aster acris; 2, Aster Novi-Belgii densus; 3, Aster Linosyris; 4, Aster lævigatus; 5, Polymonium cœruleum variegatum: 6, Arabis albida; 7, Sedum spectabile; 8, Abutilon Thompsoni.

Inarching Grapes.—*North* Both Lady Downe's Seedling and Gros Maroc would do well inarched on the Black Hamburgh.

Bryony.—*C. M.* wishes to know where she can get plants of the male and female Bryony, particularly the latter.—The plants grow wild and are plentiful in many parts of the southern counties, but are not to be obtained in the trade.

Seedling Petunia.—*F. E.*: Your double flowered seedling is indeed a very pretty one, a full compact flower of a pleasing shade of rose, deeper in the centre. If of good habit and a free bloomer, it is certainly worth growing, but why give it a French name, if you raised it yourself?

Rhodanthes and Mignonette.—*Young Gardener*: To have plants of these in bloom by the beginning of May you should sow the former in January, and the latter in November or February. We should prefer sowing in February, three months being quite long enough to do Mignonette well.

Propagating Honeysuckle.—*Omega*: The Honeysuckles are propagated by means of seeds, layers and cuttings. Seeds may be sown in spring, layers may be made in autumn or spring by bending down some of the shoots, making a cut in the stem at the bend, and then covering them with soil after securing them in position by means of pegs. Cuttings may be taken now, taking them off at a joint where they will be solid or with a heel. Shoots of moderate thickness and length may be used, putting them in pots of sandy soil, and plunging the pots in ashes in a cold frame, where the cuttings will be partly rooted before spring. If you have the command of a little bottom heat in spring the rooting process will be greatly accelerated. The bottom of a frame might be filled up with fermenting dung, a little soil placed over it and the pots plunged in the soil. This will answer in the absence of better accommodation.

Mildew on Leeks.—*John Russel*: The fungus or mildew destroying your Leeks is the same as that which attacks Onions, in some seasons completely destroying them. The mycelium, or vegetative portion of the fungus, grows inside the tissue of the leaves; consequently it is difficult or impossible to destroy it by means of any application, without destroying the Leeks at the same time. The only thing you can do is to prevent the spread of the pest. Damp places are very favourable to the fungus, so that you should have the soil well drained if not naturally so. Or, on the other hand, you should avoid sowing the Leeks in naturally wet soil. Give them plenty of room between the plants and also between the lines, for when they are crowded to-

gether the fungus spreads rapidly in warm and showery weather. Lastly, whenever any of the leaves show that they are attacked, cut them off and burn them, to prevent the healthy plants from getting infected. The name of the fungus is Peronospora Schleideniana.

COMMUNICATIONS RECEIVED.—J. M.—A. H.—C. M.—R. G. W.—G. C.—S. & S.—H. J. V. H.—J. R B.—M. McL.—Dr. Stuart—P. B.—E. P. (many thanks)—R. S. & Co.—J. L.

TRADE CATALOGUES RECEIVED.

G. PHIPPEN, Reading.—General Nursery Stock.

J. R. PEARSON & SONS, Chilwell, Notts.—Fruit Trees, Trees, and Shrubs, etc.

GEO. CHAUNDY, New Marston, Oxford.—Carnations and Picotees.

W. WELLS, Earlwood, Surrey.—Chrysanthemums

LONDON SEED TRADE.

October 4th, 1892.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a fair business doing in Winter Tares at prices current last week. Supplies short. Rye is cheaper, and meets a steady demand. Rye grasses unchanged.

COVENT GARDEN MARKET.

October 5th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d	s. d.		s. d.	s. d.
Grapes..... per lb.	0 6	1 6	Pine apples.		
Kent Filberts 100 lb.	75 0		—St. Michael's, each	2 6	6 0
„ Cobs ...100 lb.	75 0		Apples...per ½ sieve	1 0	3 6
Peaches ... per dozen	2 0	6 0	Plums...per ½ sieve	1 3	2 6
Melons ... . each	1 0	1 6			

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, per lb.	0 6		Lettuces ...per dozen	1 6	2 0
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Cauliflowers, Eng. dz.	3 0	6 0	Radishes... per dozen	1 6	
Celery.....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers .....each	0 3	0 6	Spinach, per strike ...	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	0 9
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Asters .....per doz.	4 0	6 0	Fuchsia, ...per doz.	3 0	6 0
Begonias ...per doz.	6 0	12 0	Heliotrope, per doz.	4 0	6 0
Cyperus .....per doz.	4 0	12 0	Lilium lancifolium...	12 0	24 0
Dracæna term., doz.	24 0	36 0	Marguerites, per doz.	6 0	12 0
Dracæna viridis, doz.	9 0	18 0	Mignonette, per doz.	6 0	12 0
Evergreens, invar. doz	6 0	24 0	Palms in variety, each	2 6	10 0
Ferns, invar., per doz.	4 0	18 0	Palms, Specimen ...	15 0	63 0
Ferns, small, per 100	6 0	10 0	Pelargoniums, per doz.	6 0	12 0
Foliage Plants, doz.	12 0	60 0	—scarlet .....per doz.	3 0	6 0
Chrysanthemum, doz.	4 0	9 0	Solanums.....per doz.	9 0	12 0
— large, doz.....	12 0	30 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s d		s. d.	s. d.
Arum Lilies, 12 blms.	4 0	6 0	Pelargoniums, 12 sps.	0 6	0 9
Asters.....doz. bun.	4 0	6 0	— scarlet.....12 bchs.	4 0	6 0
Bouvardias, per bun.	0 6	1 0	Primula, double, bun.	0 6	0 9
Carnations, 12 blooms	1 0	3 0	Pansies, doz. bchs ...	1 0	2 0
Chrysanthemum, dz bn	3 0	6 0	Pyrethrum doz bnchs	2 0	4 0
— .....doz. blooms	1 0	3 0	Orchid Bloom in var.		
Eucharis ...per doz.	3 0	5	per bloom, from	0 3	1 0
Gardenias 12 blooms	1 6	3 0	Roses, doz bunches	4 0	6 0
Gladioli...doz. spikes	1 0	2 0	Roses, yellow, dozen	2 0	4 0
Heliotropes, 12 sprays	0 3	0 6	— Red..... doz. blms.	1 0	2 0
Lilium Harrisii,			— Saffrano...per doz.	1 0	2 0
doz. blooms	3 0	6 0	— Tea ..... per dozen	1 0	2 0
Lilium var., dz. blms.	1 0	3 0	Stephanotis, dz. sps.	2 6	4 0
Maidenhair Fern, 12 bs.	4 0	6 0	Sweet Peas, dz. bns.	1 0	3 0
Marguerites, 12 bun.	1 0	3 0	Tuberoses, per doz	0 3	0 6
Mignonette... 12 bun.	2 0	4 0			

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READERS OF ADVERTISEMENTS

in these pages will greatly oblige and assist us by mentioning

THE GARDENING WORLD

when writing to our Advertisers.

FLOWER SHOWS, &c., 1892.

[*The Editor will be greatly obliged if Secretaries of societies will communicate to him the dates of their exhibitions as soon as fixed.*]

OCTOBER.

12.—National Chrysanthemum Society's Show at the Royal Aquarium (3 days).
18.—Royal Horticultural Society: Committee Meetings at Drill Hall.
25.—Fruit Show at Earl's Court (3 days).
26.—National Chrysanthemum Society: Meeting of Floral Committee.
27.—Alverstoke and Gosport Chrysanthemum Show (2 days).

NOVEMBER.

1.—Royal Horticultural Society: Committee Meetings at Drill Hall.
1.—Kent County Chrysanthemum Show (2 days).
1.—Brixton Chrysanthemum Show (2 days).
1.—Barnstaple Chrysanthemum Show (2 days).
1.—Brighton and Hove Chrysanthemum Show (2 days).
2.—Ascot Chrysanthemum Show (2 days).
2.—Ealing Chrysanthemum Show (2 days).
2.—Portsmouth Chrysanthemum Show (3 days).
2.—Croydon Chrysanthemum Show (2 days).
3.—Steyning Chrysanthemum Show.
4.—Crystal Palace Chrysanthemum Show (2 days).
4.—Bolton Chrysanthemum Show (2 days).
5.—Crewe Chrysanthemum Show.
7.—St. Neots Chrysanthemum Show.
8.—National Chrysanthemum Society at Royal Aquarium (3 days).
8.—Kingston and Surbiton Chrysanthemum Show (2 days).
8.—Enfield Chrysanthemum Show (2 days).
8.—Sevenoaks and West Kent Chrysanthemum Show (2 days).
8.—Leeds Chrysanthemum Show (2 days).
8.—Batley Chrysanthemum Show (2 days).
8.—Waterloo (near Liverpool) Chrysanthemum Show.
9.—Bath Chrysanthemum Show (2 days).
9.—Birmingham Chrysanthemum Show (2 days).
9.—South Shields Chrysanthemum Show (2 days).
9.—Cardiff Chrysanthemum Show (2 days).
9.—Bournemouth Chrysanthemum Show (2 days).
9.—Hornsey Chrysanthemum Show (2 days).
10.—Chelmsford Chrysanthemum Show.
10.—Birkenhead and Wirral Chrysanthemum Show (2 days).
10.—Finchley Chrysanthemum Show (2 days).
10.—Spalding Chrysanthemum Show (2 days).
11.—Leicester Chrysanthemum Show (2 days).
11.—Sheffield Chrysanthemum Show (2 days).
11.—Eccles and Patricroft Chrysanthemum Show (2 days).
11.—Wellingborough Chrysanthemum Show (2 days).
11.—Dundee Chrysanthemum Show.
11.—Bradford and District Chrysanthemum Show (2 days).
15.—Royal Horticultural Society: Committee Meetings at Drill Hall.
15.—Liverpool Chrysanthemum Show (2 days).
15.—Plymouth Chrysanthemum Show (2 days).
16.—Bristol Chrysanthemum Show (2 days).
16.—Hull Chrysanthemum Show (2 days).
16—Rugby Chrysanthemum Show (2 days).
17.—Edinburgh Chrysanthemum Show (3 days).
17.—Neath Chrysanthemum Show.
18.—Chorley Chrysanthemum Society (2 days).
18.—Stockport Chrysanthemum Show (2 days).
22.—Dalkey Chrysanthemum Show.
24.—National Chrysanthemum Society: Meeting of Floral Committee.

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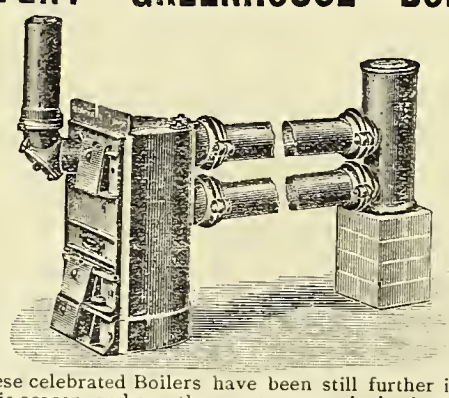

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Customers will be allowed to compete for Potato prizes with tubers no grown from our seed; and may exhibit more than one l in any class, bu will not be awarded more than one prize in each class.
CONDITIONS.—All exhibits to be grown from seed supplied by us (Potatos excepted), and to be delivered the day preceding the Show (Tuesday, Nov. 8th); afterwards to be retained by us to exhibit on our Stands at subsequent Shows, and will not be returned unless previously arranged for.
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This Advertisement will not be repeated.

For Index to Contents see page 106.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Oct. 17th.—Sale of Nursery Stock at St. John's, Worcester, by Protheroe & Morris (5 days).
Bulb Sale at Protheroe & Morris' Rooms (and every day in the week).
Bulb Sale at Stevens' Rooms.
TUESDAY, Oct. 18th.—Royal Horticultural Society: Meeting of Committees at 12 o'clock.
Sale of Imported Orchids at Protheroe & Morris' Rooms.
WEDNESDAY, Oct. 19th.—Bulb Sale at Stevens' Rooms.
THURSDAY, Oct. 20th.—Sale of Plants from Belgium at Protheroe & Morris' Rooms.
Bulb Sale at Stevens' Rooms.
FRIDAY, Oct. 21st.—Orchid Sale at Protheroe & Morris' Rooms.

The Gardening World.
Edited by BRIAN WYNNE, F.R.H.S.
SATURDAY, OCTOBER 15th, 1892.

THE CHISWICK TRIALS.—The disputed point raised recently in reference to the granting of Certificates of Merit at the gardens of the Royal Horticultural Society at Chiswick, to subjects of all description sent there and grown for trial seems to be now settled by a minute of the Council which will be found in another column. That minute, whilst not fully meeting the requirements of the case, for the Committee should have the same powers vested in them at Chiswick as at the Drill Hall, still will effectually prevent so grave an anomaly as that one person should send some variety for trial to Chiswick, when it shall receive three marks for excellence, but no Certificate; and another person shall immediately show the same variety at the Drill Hall and carry off the Certificate. It is thus seen that a little boldness and courage in one direction has been instrumental in forcing a declaration which puts matters on a more satisfactory basis.

The trouble has arisen in great part from the Council's departure from an old and well-established rule by giving marks at Chiswick, instead of Certificates, and their recent minute dealing with this point does not satisfactorily remove the grievance which exists in the trade in connection therewith. The three marks which the Committee are only empowered to give at

Chiswick are or are not the equivalent of a Certificate of Merit. If they are, what possible reason can there be for not actually giving the Certificate? If they are not, what inducement is there for sending things to Chiswick for trial, if the coveted award can be obtained at the Drill Hall only? We have always considered a certificate gained at Chiswick, where the things are seen growing, and can be compared with others growing side by side and under the same conditions, of much greater commercial value than a certificate gained at the Drill Hall, where the means of comparison seldom exist, but the Council by its recent minute does not appear to share in this opinion, and we regret it, because we can appreciate the amount of harm which their depreciatory resolution will do to Chiswick.

It is obvious to all who send things to Chiswick for trial that the Certificate of Merit is the only possible award that can be of any use or value to them, and if any difficulty be placed in the way of obtaining such Certificates then not only great unfairness results, but much disappointment also. The Council should remember that Certificates obtained at Chiswick have a considerable trade value, or the senders of subjects for trial would not be so eager to obtain them, and we should be glad to see them encouraging this spirit, as of old, and not repressing it, as the new rules undoubtedly will do.

We have always upheld the integrity of Chiswick and its trials, and certainly the more it is understood that subjects sent there for trial will receive the fullest consideration, and that awards made will receive every publicity the better will it be for all concerned. The rule used to be, to give Certificates when they were deserved, and to publish the results of the trials immediately after their conclusion. We hope the Council will be able to see their way to a reversion to the old order.

Amateurs and the Royal Horticultural Society.—We are entirely in accord with our correspondent of last week, Mr. D. B. Crane, and those who preceded him, as to the need that exists for a revision of the Society's present definition of an Amateur. When commenting recently upon the lack of exhibitors for the Society's prizes at the Drill Hall we were fully aware that the term "amateur" so clashes that it includes in this case every person who gardens other than an actual trader. That is an old R.H.S. definition; it was framed many years ago, when amateur gardening to the extent that it is carried on now did not exist, and in its day it was a definition that served the Society's object admirably. But it has become out of date by the effluxion of time and the changes that have taken place in the gardening fashions and in the habits of the community, and is now out of harmony with the received practice of almost all other societies in the kingdom. It is, in fact, a *commencement de siècle* rather than a *fin de siècle* definition.

Most societies now define an amateur as being one who is other than a trader, a professional gardener, or one employing a professional gardener regularly. A true amateur is now generally understood to be one who is engaged in some other vocation for a livelihood if needful, yet finds time and pleasure in working in his garden, and so far as possible attends to the requirements of the things which he grows himself. There are thousands of this class of amateur now to hundreds that existed when the Society's definition was framed, and of course are not included in the sphere of the Society's operations to the same extent as they deserve to be.

It should be the aim of the Council to move with the times, and to encourage this important section of horticulturists. We believe it would greatly strengthen the old Society if some scheme could be devised whereby these enthusiasts could be brought within the fold. As a tentative move in this direction, we should be glad, should the Council decide to offer prizes another year, if they would class the professional gardeners and amateurs separately. Such a procedure would be no hardship to the former, but would open the door to vast numbers of the latter who now consider their chances of competing successfully as next thing to hopeless. In any case a season's trial can do no possible harm, but may—and we believe would—be productive of much good. All the same, seeing to what a great extent the trade help to make the Society's meetings interesting and successful, it is worth taking into consideration their claims to some encouragement also.

The Apples at Earl's Court.—What has been without doubt the finest and most impressive exhibition of garden products held at Earl's Court is now over, and with it the last of the series for the present year. What another year may bring forth none can tell, but we at least in common with all gardeners are very grateful for the exhibitions that have been furnished. We remarked that the recent Show was the most impressive of the series. That such was the case admits of no disputation, because above all others it presented a display of human food material.

We have never seen a grander lot of Apples anywhere, and rarely so fine a show of Potatos, whilst Pears and other products were excellent. The Apple, above all things, however, commanded most attention. For size, beauty, colour and finish, we have never before seen the like. Even the famous exhibition held at Guildhall did not give such a brilliant Apple display as was seen at Earl's Court. The average of excellence was unusually high. Some lots were indifferent, but there ever will be found some exhibitors so full of egotism as to believe that their productions are all diamonds. What must have struck any ordinary observer, however, was the fact that if we can produce fruits absolutely unequalled in the whole world, how is it that we still depend so largely upon Canada and other of our colonies for our mid-winter and spring supplies? What can be produced by bushels ought to be produced by tons.

Then it is evident that so superb are our scores of varieties there is little room or need for room for new ones. How is it possible to obtain finer, handsomer, richer coloured, more productive or better flavoured sorts than we now have. It seems as if it were folly to expect to secure better. Still new varieties will come yet without doubt. The Apple Show merited the praise of being a national demonstration of our capabilities to produce the finest hardy fruits in the world.

The Late Potato Show.—Although it seems to us that the Potatos shown at Earl's Court last week, were not fully up to the fine average of quality and finish seen at the later Potato Exhibitions at the Crystal Palace, still it was a remarkably fine display, and showed that, let who may go and who may come, there are plenty of good Potato growers in the kingdom. Of course there were many samples of the highest excellence, and there were some that would have been best under the table, still these latter were very few indeed. The finest and brightest samples served to educate the growers of the rough ones, and they have helped once more to define in an object lesson what are the properties of good class exhibition Potatos.

It was a very happy circumstance, and showed how much of care had been exhibited in the judging, that no one seemed aggrieved. The question naturally was asked, "When shall we have such another Potato Show as this?" Would that we could reply, "Again next year." The re-institution of the International Shows if in good hands and well supported would be hailed with great heartiness. Those of old were always very pleasant re-unions, and always secured the most interested attention.

There is in this country a big future for the Potato. It now comes as vegetable food for man, second only to wheat, and the consumption is truly enormous. We ought to exalt the Potato highly, and in no way can we do so more completely than by holding Annual International Exhibitions of the noble tuber. Fine as are the sorts now in cultivation it is not possible to say what grand varieties may yet be evolved from out of the womb of time.

Mr. D. Findlay, for the past three years foreman at Westmount, Kelvinside, has been engaged as gardener at Muirend House, Cathcart, Glasgow.

Mr. Frederick Kneller, nephew of Mr. Kneller, of Malshanger, has been engaged by the Marquis of Ripon as gardener at Studley Royal, Ripon, Yorkshire.

The Hartlepool's Chrysanthemum Society's Show is announced to be held on November 15th and 16th.

Kew Gardens.—The Richmond Town Council at their meeting on Tuesday night adopted a resolution in favour of the earlier opening of Kew Gardens on week-days, and decided to approach the First Commissioner of Works on the subject. Although efforts have been made from time to time by the local governing bodies of Richmond and other places in the neighbourhood with the view of opening the Gardens at an earlier hour than at present, the opposition of the officials has hitherto proved too strong; their contention being that the admission of the general public before the usual hour of 12 o'clock would tend to interfere with the work of the students and of the gardeners and workmen.

"Gardening" is the title of a new claimant for popular favour among the amateur gardeners of the United States. It is to be published bi-monthly, and the first number, before us, was issued on September 18. It is published by the Gardening Co., Monon Buildings, Chicago, at the price of twopence each, English currency, and is edited by our old friend Mr. William Falconer, of Glen Cove, N. Y. The copy before us gives promise of a useful and successful career, and we congratulate editor and printer alike on its production.

The R.H.S. and its Certificates.—The attention of the council having been drawn to a difficulty in the awarding of Certificates, etc., to plants which have received X X X at Chiswick, passed the following minute at its meeting on the 14th inst.:—"The council request that in future whenever any plant (fruit, flower, seed, vegetable, etc.), shall have had X X X given it by a committee meeting at Chiswick, the superintendent of the Gardens will (if it be possible) bring it forward at the next (or nearest possible) general meeting of the society at Westminster or elsewhere, in order that it may, if still thought deserving, receive a more definite award." The council also passed the following minute:—"The definite award made under the above minute of council will be given (as all the society's awards are made) to the *plant* in question, and the custody of the certificate or other award will vest in the person sending the plant, etc, to Chiswick for trial."

Woolton Mutual Improvement Society.—This Society opened its winter session on Thursday, the 6th inst., with a grand floral concert at the Parochial Hall, Woolton. The Committee secured the best Liverpool talent, which was highly appreciated by nearly 500 persons. The stage was a floral picture and highly creditable to the members of the Society whose handiwork it was. In the front of the stage, standing on the floor, were single stemmed and well-coloured Crotons, intermixed with fair-sized Palms, the pots being hidden by Fern fronds. On the stage

Panicum variegatum and Adiantum cuneatum was continued above the plants on the floor, with another row of drooping Crotons. Scarlet Pelargoniums were interspersed with the Fern and single Sunflowers, forming a light and beautiful bank. Large Palms were placed against the back wall and on either side of the stage; whilst overhead, a splendid wreath rising to about 20 ft. in the centre, studded with bunches of scarlet and white flowers, also a smaller one of Fern and red and white Sapagerias, forming a picture that fully deserved the high praise which it received from the large audience. The proceeds amounted to over £20; and the profit, which it is hoped will reach nearly £10, is to be equally divided between the Gardeners' Royal Benevolent Institution and the Gardeners' Orphan Fund. Mr. Holbrook Gaskell, J.P., President of the Society, occupied the chair. During the evening a ready sale was found for buttonhole flowers, etc.

International Exhibition at Ghent.—The programme of the thirteenth International Horticultural Exhibition of the Royal Agricultural and Botanical Society of Ghent has been sent us, and shows that prizes are offered in 660 classes for all sorts of plants that may be grown in a garden for use, ornament, or commerce, excepting vegetables, which are entirely ignored. They are classified into twenty-seven groups, such as Orchids, new plants, stove plants, Aroids, Palms, Cycads, Ferns, flowering and non-flowering greenhouse plants, soft wooded and herbaceous plants, evergreen plants, bulbous and tuberous plants both tender and hardy, Azaleas, Camellias, Rhododendrons, hardy and tender, ornamental plants of the greenhouse and open air, Agaves, Aloes, Yuccas, Conifers, preparations for the teaching of botany, bouquets, crowns, and other floral devices, and horticultural art and industry. The exhibition will open on the 16th April next and continue till the 23rd, that is, for a week. The following classes of exhibitors are admitted, namely, amateurs, horticulturists, horticultural and floricultural societies, as well as the public establishments of botany and horticulture. Collective lots of societies belonging to several exhibitors cannot be admitted. When the programme does not make special mention to the contrary, the classes are open to amateurs and nurserymen alike. Exhibitors, under the pain of exclusion from the exhibition, must state the character and extent of their exhibits on a form to be sent on application, and returned to the secretary, Mon. A. L. Rosseel, at the latest by seven p.m. on the 20th of March.

NEW PLANTS CERTIFICATED.

The flowers and plants mentioned below were exhibited at the meeting of the Royal Horticultural Society at the Drill Hall on Tuesday of last week, and were awarded the certificates attributed to them.

Dracæna australis rubra.—A vigorous plant of this, 3½ ft. to 4 ft. high, raised from home-produced seeds, and grown in a pot, was exhibited by Mr. H. Elliott, F.R.H.S., Stourvale Nursery, Christchurch. The leaves are broad, deep green, with a red midrib, and all the younger leaves more or less tinted with a bronzy red on the upper surface. It will no doubt prove very useful for decorative purposes, but a more appropriate name might have been given it. A First-class Certificate was awarded it.

Hymenanthera crassifolia.—In some gardens this may be seen year after year with hardly a fruit upon it. Messrs. J. Veitch & Sons, of Chelsea, who exhibited it, may therefore be congratulated upon the success attending their cultivation of it, for the branches were literally laden with white berries, having a large black or bluish black blotch surrounding or encircling half or three parts of each fruit. The contrast of the two totally diverse colours is both singular, curious, and interesting. The shrub is of spreading, stiffly branched habit, thickly clothed with small oblanceolate or spathulate, leathery leaves of great substance, as the specific name implies. It is hardy in the south of England at least, more especially if grown in a rather dry situation. The plant belongs to the Viola family, notwithstanding the dissimilarity in habit from that of the Pansy. A First-class Certificate was accorded it.

Rhododendron multicolor Neptune.—This belongs to the class known as hybrid greenhouse Rhododendrons, and to the dwarf and bushy section, and may consequently find favour with cultivators who dislike the more robust and quick growing ones of another well known group. The leaves are in keeping with the habit of the plant, small, lanceolate, leathery and deep bronzy green with a red midrib. The flowers as far as size is concerned are a great improvement upon the small blooms of the previously acquired varieties of the multicolor type. They are of an intense red, and borne in trusses of six or seven, surrounded at the base by straw-coloured leathery bracts.

Chrysanthemum General Hawkes.—For description of this English raised variety see those certificated by the National Chrysanthemum Society. An Award of Merit was accorded it.

Chrysanthemum Lady Brooke.—At present this looks like a Japanese reflexed variety of considerable beauty. The florets are broad and bright yellow in the half expanded centre of the bloom, but as they get older and droop, they soon become primrose yellow, then creamy, and ultimately almost white. The blooms are of medium size. Like the previously named early variety this was also exhibited by Mr. Robert Owen, Castle Hill, Maidenhead, and each received an Award of Merit.

Dahlia Mrs. Vagg.—The blooms of this show variety are of large size, and very full but slightly concave in the centre, which, however, is well filled with small florets. The whole bloom is pretty uniformly coloured, with the base of the florets of a deep purple shading to a lighter hue at their margins. An Award of Merit was accorded it when shown by Mr. A. Rawlings, Romford, Essex.

Begonia Lady Dunsany.—Great improvements continue to be made amongst the tuberous Begonias, especially the double varieties, of which that under notice is one. The flowers are large, perfectly full, yet not crowded; and the broad, rounded sepals are arranged round a common, and of a beautiful salmon-pink. Some plants of it were shown by Messrs. J. Laing & Sons, Forest Hill, in their group at the International Horticultural Exhibition at Earl's Court last week, when it was awarded a First-class Certificate.

A STUDY IN EUONYMUS.

Wick Hall, Brighton, the residence of Sir G. Smyth, is so surrounded by trees that, although in the midst of houses, it is quite a sylvan retreat. This fact, however, is not altogether satisfactory or conducive to the well-being of matters floricultural; hence in those parts which are affected more or less with an absence of Sol's redeeming rays, the planting of Euonymus has been largely substituted. A garden laid out and designed after the manner of the Italians without the concomitant sweet odours, curious carvings, statuettes, and shimmering sunshine, would seem to lack its chief constituents, not to say its peculiar charm and poetic power. An Italian garden minus the clipped trees, aromatic flowers, and

"A pillared shade,
With echoing walks beneath," etc.,

seems an abnormity; and yet here all or much has been reversed, and Mr. Turner, the gardener, has confined his attention to the Euonymus alone. Theoprastus, to whom the Euonymus owes its name would indeed be astounded could he revisit the scenes of his maturity, to find such an admirable display and so many beautifully variegated forms of the common type of E. japonicus. Yes, Euonymus, and Euonymus only occupy the vantage points of this miniature Roman garden. There are E. radicans variegata, E. albo-marginatus, E. aurea-marginatus, E. latifolius-albus, E. latifolius-aureus, and E. buxæfolius. This latter one, as its specific name implies, is box-like, dwarf, bushy, and green leaved. Used as a band, margin, or division to the variegated forms, it is extremely effective. Moreover, this particular style of gardening possesses the great merit of permanency, costing little labour, and adapting itself to all weathers.

Tertullian and Clement of Alexandria in the second century, who inveighed with all their eloquence against the use of flowers for decorative purposes would, doubtless, have agreed that the emerald, golden, and silver hues of our modern Euonymus were more in keeping with those stern tenets on which the Church insisted.

In addition to a marble fountain, which diffused cool vapours and adorned the centre, four beautiful figures, representing the seasons, stood round about, and at a still more respectful distance large vases, filled with our ubiquitous friend, of course, completed the harmony, enriched the picture, and gave solemnity to the classic scene. A few paces—Roman paces perchance—and we come upon the gardener's domestic offices literally foliaceous with the favourite shrub. Euonymus everywhere! even, apparently, climbing heavenwards. Thus, while the green variety embosoms the house and occupies the background, on either side of the approach to it the dwarfer and more variegated forms are utilised to fill the space between the path and the taller-growing subjects in the rear.

Verily a study in Euonymus; and a modest and unpretentious picture withal. A cheerful and pleasant sight in mid-winter, and a cool and refreshing one under the summer's sun.—*C. B. G., Acton, W.*

FORMS OF APPLE TREES.

When looking through the gardens at Sherborne Castle, Dorset, where an old friend, Mr. Pragnell, has for some thirty-nine years been the gardener, I was particularly struck by the forms into which nearly all, if not all, the Apple trees in the gardens are trained. Practically they are hard pruned mops, if I may employ such a term without disrespect. Every gardener is entitled to grow his trees in his own way, and prune them into whatever shapes he may please, provided of course that good crops result. The Sherborne trees are about seven feet in height, and perhaps four to five feet through. They are of rounded form, and although of course not clipped, seem to be almost as regularly surfaced over as if they were. Naturally this form wears an odd aspect. It is obtained chiefly by summer pruning, and Mr. Pragnell assured me that it answered well.

There were on the trees when I was there remarkable crops of Lord Burleigh, Scarlet Nonpariel, King of the Pippins, and others. Not very large fruits perhaps, but still of good table size. Very many of the trees were not bearing or had the fruit gathered, but still there did not seem to be the crop relatively that I had seen elsewhere. I could not help mentally comparing this produce and the style of the trees with those grown so well, yet comparatively so freely, at Maiden Erleigh, where Mr. Turton, as his recent successes at Earl's Court and elsewhere show, has produced grand crops of very fine fruits. The Sherborne trees are growing very much on chalk or limestone, and that may conduce to density of growth, and apparent want of robustness. The method of pruning does not seem to be natural, and I am far from thinking that, taking the average of seasons, it is the best one. There is or was at Syon a large number of very hard, spurred Apple trees or bushes very close pruned, and mop-headed, and so far as my experience of them has gone I have seldom seen on them good crops or fine samples.

The point I raise is as to which is on the whole the best method of training or pruning Apple trees or bushes for the production of good crops and samples. Is it best to have them hard spurred as referred to, or is it better to allow the growth free play, simply thinning the branches as desired. If trees be planted so close together that they each have only a few feet of space, or if planted close to the margins of walks, then there seems to be no other course open but to hard spur or prune. But then it seems wrong to plant trees under such conditions, because the treatment necessarily forced upon the grower is unnatural. Top growth and soil rooting go on equally, and if the one be cramped the other must be starved, yet it is a fact upon which stress must be laid, that the espalier style of training suits many Apples well, in fact for some twenty years at least, although beyond that age they are apt to become snagged and sterile.

Of all the questions which crop up in relation to Apple culture, whether for home consumption or for market purposes, few have more of interest than has this one of style of training or pruning, especially for trees on the Paradise stock. Perhaps diverse sorts need diverse treatment. Perhaps some sorts in nearly all soils admit of diverse treatment, but for securing longevity and equable fruitfulness there seems to be no method more suitable than is the free growth one, tempered by moderate thinning from year to year. What a capital plan would it have been could all the exhibitors of Apples other than nurserymen at the great Earl's Court Show have stated in some way on what form of tree, and how old the tree, was each dish produced. As it is we find no information in that direction afforded.—*A. D.*

FRUIT NOTES.

APPLE ST. EDMUND'S PIPPIN.

Well-grown samples of this dessert Apple are of medium size, round, narrowed, slightly twisted towards the eye, even and symmetrical in form. The whole surface is covered with a lignt brown russet, giving the variety much the appearance of Golden Russet, but it lacks the golden russety hue of that variety, and ripens much earlier. It is, in fact, the earliest russet variety in this country, ripening in October, whereas Golden Russet is in season from December to March. The variety does not yet seem to be common in cultivation, although it was first brought to the public notice in 1875, that is, seventeen years ago, when it received a First-class Certificate from the Royal Horticultural Society. The flesh is yellowish, tender, juicy, and, like the Golden Russet, possesses a rich aromatic flavour. The variety was raised by Mr. R. Harvey, of Bury St. Edmunds, hence its name. The fruit should be used this month, otherwise it will pass out of season and get shrivelled, thus proving its distinctness from that variety. Good samples of it were exhibited at the International Horticultural Exhibition recently by Messrs. J. Veitch & Sons.

APPLE BARCHARD'S SEEDLING.

In size and colour this bears a strong general resemblance to Kentish Pippin, but it is more conical in outline. It has also been compared to the old Nonsuch. The fruit is small, or at least below the average size, ovate or somewhat conical, bluntly angled, and terminating in little elevated knobs round the eye. When well exposed to light the skin is heavily suffused and splashed with bright crimson, but on the shaded side is of a light greenish-yellow. It may be regarded as suitable either for table or cooking purposes, and has acquired some popularity amongst the market growers for the London markets on account of its fine appearance and free fruiting character. The flesh is yellowish-white and sweet, with a slight but agreeable acidity. It does very well in the gardens of the Royal Horticultural Society at Chiswick.

New Fruits Certificated.

THE following new fruits were certificated at the last meeting of the Fruit Committee of the Royal Horticultural Society:—

GRAPE WHITE GROS COLMAR.—The berries of this variety are globular, smaller than those of the black or typical sort, and of a pale or white colour suffused with a grey bloom. The flesh is firm, but juicy, sweet and of more delicate and agreeable flavour than Gros Colmar itself. A First-class Certificate was awarded it.

GRAPE CHASSELAS VIBERT.—The berries of this Grape are small, globular, yellowish white, watery and sweet with a slightly piquant flavour. It was grown in a cool house and would seem a suitable variety to grow by those who have not much artificial heat at command, and delight in richly flavoured grapes notwithstanding their small size. An Award of Merit was accorded it.

APPLE KING HARRY.—For description of this useful but comparatively little known dessert Apple, see p. 70. It received au Award of Merit. Both the Apple and the two varieties of Grapes were brought up from the gardens of the Royal Horticultural Society at Chiswick.

APPLE RIVERS' CODLIN.—The fruit of this variety is large, oblong or oval, sometimes inclined to be rather conical. The skin is greenish yellow, with a flush of red on the exposed side, sometimes spotted or mottled with that hue and thinly mottled with grey. The eye is open with the sepals reflexed above the middle. The variations in size, shape and colour is notable. A basketful of fruits was exhibited by Messrs. T. Rivers & Son, Sawbridgeworth, Herts, when a First-class Certificate was awarded the variety.

APPLE No. 2.—This is one of two very different looking Apples both obtained from Golden Reinette, No. 1 very much resembled Golden Noble, but was smaller, with a soft flesh. That under notice is globular, but obtusely 5-angled near the top like Margil or a small Ribston; but of course it is different from either. The skin is greenish yellow, flushed and spotted with red over the greater part of the surface. The eye is half closed, but the segments or sepals are very narrow and set in a shallow, even cavity. The stalk is very short and stout set almost on a level with the base, or it may be slender and set in a shallow cavity. An Award of Merit was accorded it when shown by Mr. Chas. Ross, gardener to Col. Archer, Welford Park, Newbury.

THE VEGETABLE GARDEN.

General Work.

THE wet weather of the last week has sadly hindered kitchen garden work, but advantage must be taken of every fine day to clear away weeds as much as possible. Some gardeners may have a sufficient staff to be always clear of weeds, but the majority have not and are to be commiserated with by their more fortunate fellow workers. All old Peas should be cleared off, and the sticks should be stacked away for future use if good enough. The Scarlet Runners with us are not yet touched by frost, and so will be allowed to remain for a time yet. Any ground that is cleared of the crops should be manured and dug over as rough as possible, or if time will permit it can be double dug or trenched. The depth must depend on the quality of the soil below and the depth of the surface soil, but do not turn up a lot of bad soil to the surface.

Any autumn Cauliflowers or early Broccoli should be watched and carefully covered either with their own leaves broken over them, or lifted and put into cold frames, as we may have very sharp frosts now at any time, perhaps when we least expect them. Some gardeners when the winter Broccoli are growing strongly give them a check now by slightly lifting them with a fork; this stops the growth, and makes them harder, and more likely to stand the winter. This may be followed next month by laying them down with their heads to the north. This should be done by taking out a spadeful of soil on the north side of the plant and pressing the plants over.

Any Lettuces ready for use may be covered with odd lights, so that they may be used as long as possible to save those already stored away in frames as directed in a previous letter. Celery should receive the final earthing, taking advantage of a dry day for the operation. Apples and Pears that are not already gathered should be attended to at once, and great care should be taken not to store away any damaged ones, as they will soon rot. I never remember to have seen so many Apples with maggots in them as this year, but I think the majority of those had fallen off by the time the main crop was gathered.—*G. H. S.*

New Vegetable Certificated.

THE following new Onion and Celery, and the several varieties of Potato enumerated, received First-class Certificates or Bronze Medals as indicated at the recent Exhibition at Earl's Court:—

ONION SOMERSET HERO.—The bulb of this variety is large and somewhat flattened but deep, firm, and ripens well. The outer coats or skins are of a pale straw-colour, somewhat flushed with red. A quantity of it was exhibited by Messrs. Jarman & Co., Chard.

CELERY MAMMOTH RED.—The heads or sticks (as they are called) of this variety as shown by Mr. Thos. Wilkins, Inwood Gardens, Henstridge, near Blandford, were nearly 2 ft. long, and although the blanching was not complete, it will be so in the course of a few weeks. The size of it at this season of the year left nothing to be desired. The petioles were pinkish-red, and the whole stick very compact.

Potatos.

LYE'S ADVANCE.—The tubers of this variety are round, somewhat flattened, and white with a rough skin, and the eyes are not too drop, A Bronze Medal was awarded it as the best in a class for a dish of nine tubers of a seedling round white variety. It was exhibited by Mr. James Lye, Market Lavington.

OXFORD SURPRISE.—This round white sort is also slightly flattened, and nearly smooth, or slightly rough on the skin. The eyes are moderately deep as a rule. It was exhibited by Mr. E. S. Wiles, Edith Road, Oxford, and received a First-class Certificate.

LAXTON'S MURPHY.—Although this may be described as round and slightly flattened, it is occasionally inclined to be oblong. The skin is white, slightly rough, and the eyes are shallow. It was shown by Mr. Thos. Laxton, Bedford, and received a First-class Certificate.

RECRUIT.—The tubers of this new variety are round and flattened, or sometimes oval or pebble-shaped and neat in outline. The skin is very rough, a condition generally considered indicative of good table quality. A First-class Certificate was accorded it when shown by Mr. Charles Ross, gardener to Col. Archer, Welford Park, Newbury.

BOSTON Q.Q.—The letters Q.Q. mean quantity and quality. A description of it is given at p. 67. A First-class Certificate was awarded it when shown by Messrs. W. W. Johnson & Sons, Boston, Lincolnshire.

SEEDLING FROM ABUNDANCE.—The latter is well known as a pebble-shaped white variety. The seedling from it is altogether different, being large, round or slightly flattened, slightly rough on the skin, and deep purple. It is therefore of the same type as The Dean, and even more closely resembles Purple Perfection, but by comparison with those two is considered distinct from either. A Bronze Medal was awarded it when shown by Mr. W. Kerr, Dargarvel, Dumfries, in a class for a dish of a coloured round Potato not in commerce.

PINK EYED PERFECTION.—This is round or slightly flattened and white with a bright pink or purple eye, and rather a fine looking Potato in this class. A First-class Certificate was awarded it when shown by Mr. E. S. Wiles.

LILLIE LANGTRY.—The tubers of this sort are of moderate size, round and white or yellowish, variously splashed with pink, thinly marked with round purple spots and having pink eyes. It was shown by Mr. Hiram Fletcher, Annesley, Notts, and was awarded a First-class Certificate.

NEW INTERNATIONAL.—The seed parent of this variety was Fidler's Reading Giant crossed with Snowdrop. The former is noted for its size and yellow, rough skin, while Snowdrop is narrower, or thinner, smooth and white. The seedling (New International) combines the characters of the two. It is a white kidney with a smooth skin, shallow eyes and averaging four inches in length. It is a mid-season variety. A Bronze Medal was awarded it in a class for a dish of a seedling white kidney not in commerce. The exhibitor was Mr. J. H. Ridgewell, Cambridge.

LORD WOLSELEY.—The tubers of this white kidney are oblong, of equal width throughout, or they may be more or less narrowed to one end. The skin is slightly rough. A First-class Certificate was awarded it when shown by Mr. C. W. Howard, Bridge, Canterbury.

RISING STAR.—Tubers of medium size, kidney-shaped, oblong, and nearly of equal width at both ends. The skin is white or yellowish and finely netted or rough. A First-class Certificate was awarded it when shown by Mr. Chas. Ross.

OXFORD GIANT.—The average length of this white kidney is 5 in. or 6 in., and therefore agrees with the name given it. The skin is smooth or slightly rough. It was awarded a First-class Certificate when exhibited by Mr. E. S. Wiles.

LORD RAGLAN.—This is a cross between Woodstock Kidney and Blanchard, showing more of the habit of growth of the latter than the former. The tubers are obovate or pebble-shaped, smooth, yellowish-white, and splashed with purple round the eyes of the apex. Whether of good table quality or not it may be described as pretty, and is a second early. In a class for a dish of a coloured kidney Potato, it was awarded a Bronze Medal as the best coloured kidney not in commerce. The exhibitor was Mr. Ed. Chopping, Milton, near Sittingbourne.

SEEDLING FROM ABUNDANCE No. 2.—Many of the Potatos in cultivation must be of very mixed character by frequent crossing judging from the seedlings obtained from them. That under notice has oblong, smooth tubers, of a deep rose or red, more or less flattened, and about equally wide at either end. In short it strongly resembles Mr. Bresee and Peerless Rose, more especially the latter. It is said to be of good quality when boiled. A First-class Certificate was awarded it when shown by Mr. W. Kerr.

A New Vegetable.

MAIZE ADAMS EARLY.—The cobs are of good average size, and the seeds when shown in the unripe condition as fit for use were white, soft, juicy, and sweet. It had been grown out of doors, and was exhibited by Mr. J. Willard, Holly Lodge Gardens, Highgate, at the last meeting of the Fruit Committee of the Royal Horticultural Society, when an Award of Merit was accorded it.

THE CULTURE OF THE FUCHSIA.*

It is frequently remarked, and with some truth, that the Fuchsia is not grown so well or so extensively as it used to be, and that the wretched specimens one sees at flowers shows now are mere shadows of what were grown at one time. Personally I can vouchsafe that the Fuchsia stands as high in my estimation now as it did when I first took up its culture twenty or more years ago. As a window plant it is a universal favourite with cottagers, and I anticipate that it will find a place in their windows and little greenhouses when many of its contemporaries have passed out of cultivation and are forgotten. It is rather singular that the first Fuchsia introduced to this country was grown for a time in a cottage window. It was brought by a sailor from Chili in 1746, and was growing in the window of his mother's dwelling when it attracted the attention of Mr. Lee, nurseryman of Hammersmith, who after sundry offers ultimately procured it for eighty guineas on condition that he would return a plant after a stock had been secured. The incident was related to me more than once whilst in the neighbourhood of London, and I have seen it in print more than once since, so we may conclude that it is quite correct.

This plant was named Fuchsia coccinea. Some eighty years later hybrids were raised, and since then scores of varieties have been raised and sent out, and subsequently ousted out of cultivation by better sorts. All the varieties are beautiful, and many form natural drooping pyramids, and two—Wave of Life and Sunray—have pleasing variegated leaves. The doubles have not such good habit as a rule as the singles, but with a little manipulating they can be trained to any form.

Propagation.

Cuttings may be rooted any time from June to September, but they root sooner and with greater certainty in the spring than in the autumn providing there is the accommodation of a house or pit with a temperature of 60° to 70°. In the latter temperature I have had them ready for potting into 3-in. pots in ten days. The usual method of rooting them is to insert several in small pots filled with nice sandy soil and a layer of sand on the surface, a portion of which trickles down and follows the cutting. The sand does not hold so much water between its particles as soil, consequently the cuttings are not so liable to decay. The pots are either plunged in bottom heat and covered with glass, or stood on the stage and covered with hand-lights according to convenience. At times the cuttings do not succeed so well, and many decay and perish probably from want of due adjustment of heat and moisture, and though the latter would appear to be their greatest enemy it is notorious that the Fuchsia will root in sand and water with the greatest freedom; scarcely a cutting missing. I fill a few garden saucers with sand and make it fairly sloppy with water, then the cuttings are thrust in without the aid of the dibber. In the early months of the year the cuttings require no shade, neither will they flag if the sand is kept moist.

Unlike those inserted in pots, which invariably have many of their roots broken when they come to be parted for potting, those in the sand can be pulled out and potted without breaking a single root. In order to have cuttings ready in January it is necessary to start some plants in heat in December. Our rooted cuttings are first potted into 3-in. pots in nice sweet sandy loam, leaf soil, and a sixth of burnt earth, or a less portion of charcoal dust. For a few days the young plants will remain in the house they were rooted in, but as soon as they have got hold of the soil and are on the move a temperature of 55° to 60° will suit them better than 60° to 70°, from now until they are in flower and their growth completed.

The structure must not be an airy one, and the plants must be kept constantly on the move by maintaining a moist growing atmosphere produced by syringing and sprinkling the floor and other surfaces. Probably our present day glass structures which are nearly all glass and very little wood, are not so suitable for the Fuchsia as those of less modern build. Many of these ancient structures with their small squares of glass, sunk paths and other internal structural arrangements, had naturally a moist growing atmosphere, which enabled our forefathers to grow the plant with greater ease than we can, and will in a measure account for any decline there may be in its culture. The best plants I ever grew were located in a deep sunk brick pit, the bottom of which was always moist and cool. The plants in their early days were on a temporary stage, and as they grew were lowered until they ultimately reached the floor.

I am convinced that from the end of May the Fuchsia would do better out of doors—plunged in a shady sheltered corner, in some material to prevent the wind from blowing them over—than it does in many houses. To keep the plants steadily growing they must not be allowed to get the least pot bound, and though it is not safe to give dates as to when they should be potted, it may be fairly assumed that those rooted in January, and potted into 3-in. pots, will in March or April be ready for 5-in. or 6-in. pots. The next potting will be into pots 3 in. larger, and must take place ten or twelve weeks before they are wanted to flower. If they have been properly attended to the plants by July should be quite 3 ft. in diameter, and 6 in. more in height, bushy, furnished with shoots overhanging the pots, and loaded with flowers. If larger and later flowering plants are aimed at they must be again moved into still larger pots, but if say September flowering plants must be confined to 9-in. pots, the best plan will be not to strike the cuttings until March.

I rarely grow any of the plants in pots the second year, but make a practice of planting them in the open air in beds. They, however, do very well the second year in pots, and after the leaves are off they must be pruned and stored in any frost proof structure that is not too dry. As soon as they show a disposition to grow, shake the soil from the roots and pot into a smaller pot, and after this is filled with roots, pot again.

Compost.

This should consist of fresh turfy loam with one fourth leaf soil, a sixth of sand, and a tenth part of fresh horse droppings passed through a ½ in. sieve. It is always safe to add charcoal to the compost for Fuchsias, and if charred soil is at hand it will prove highly beneficial, and may replace a portion of the loam. Rotten manure is frequently recommended as a part of the Fuchsia compost, but I discard it, because the high vitality to be maintained in the Fuchsia requires a large supply of nitrogen, which has been dispersed by fermentation and long exposure to the atmosphere from the decayed manure, and I contend that a handful of fresh droppings is worth a spadeful of decayed substance for the Fuchsia.

Stopping the Shoots.

All varieties inclined to run up without branching must be pinched when 8 in. or 9 in. high, and if wanted for exhibition the shoots will require training downwards by being tied to sticks, or to a piece of mat run round the pot. These laterals must have the points pinched when 6 in. long, and all future growths every three joints. This process must be carried on until eight or nine weeks before the plants are required to flower, and any flowers that may appear are as well pulled off exhibition plants until a fortnight before the show day; for it is evident that a flower developed so long beforehand will be of little service after being conveyed to the show. Exhibitors of Fuchsias overlook this fact, and allow their plants to flower for weeks before the show, consequently their glory has departed, and on the show day the grower has to make the apologetic remark that they were much better at a certain date precedent to the show. Yet perhaps it would be difficult to name a plant the time of flowering of which can be gauged to such nicety as the Fuchsia. All the plants will require a sound stake in the centre, and for exhibition the side branches will need supporting.

Feeding the Plants.

In addition to the food provided in the soil the plants are growing in, they must have additional support in the way of liquid manure, and its application may commence in about six weeks after the last potting, as by then the roots will have extended to the sides of the pots. The growth of the plants from this date will be most marked, and far more rapid than when depending solely for their sustenance on the soil, however rich it may be. Liquid manure, if of the right sort, that is, containing the necessary fertilising properties, is a food that can be readily taken up by the plants, and if the roots are in good health they greedily absorb it. The best sort of liquid manure unquestionably is that collected from the drainage of mixed manure heaps, with the urine from the various animals, which in too many instances runs into the drains. This, however, is not within the reach of every one, consequently we must look for the best substitutes we can find. Their names are of little importance providing that they contain ammonia, the source from which plants derive their nitrogen, a highly important element in the formation of the green or young parts of plants. The best way to apply liquid manure is to give it weak and often, and not occasionally and strong.

It is quite possible that the method or time of propagating the Fuchsia detailed above may not be suitable to the convenience of amateurs and cottagers. I will therefore mention another plan of propagating and growing the Fuchsia. The cuttings may be rooted any time during late spring and summer months and the plants grown on and potted until they are in a 6-in. pot. The leader and side shoots may be stopped once. Just when they show signs of growth in the early part of the year cut them back to where they were pinched or stopped in the autumn, then shake the soil away from the roots and pot into pots sufficiently large to accommodate the roots without cramping them. The after treatment must be the same as already advised. Any one wishing for large plants in June full of vigour and covered with flowers must root the cuttings some time between the last days of July and the early days of September the previous year. These plants must be kept growing through the winter in a temperature of 50° to 60°. A shelf near the glass with a layer of cocoa fibre, sand, or fine ashes for the pots to stand upon, will suit them well.

Shading.

This must be attended to as soon as the flowers expand and at times during the plant's growth, much depending on the nature of the structure and its aspect. The plants make such rapid growth, that after a series of dull days, followed by a sudden outburst of sunshine, they are almost sure to droop. Then is the time to shade. From the time the flowers begin to expand the plants must have more air, and syringing or overhead watering must cease; but the floor and staging must be damped two or three times daily to compensate for the rapid evaporation that is going on.

Staking.

Insert a sound stake in the centre, and those plants with naturally pendulous habit will need the lower branches staked to prevent the flowers rubbing against the stage. Beyond this, plants for home decoration need no stakes, but it is different with those that may have to be conveyed over rough roads to exhibitions, for not only should the main branches be carefully supported with stakes, but all the most floriferous branches should be slung in sheets of tissue paper, these being tied to temporary stakes. In this way they oscillate without taking much harm, whilst in the absence of tissue paper they are dashed against each other to such an extent that most of the flowers are spoiled before reaching the exhibition tables. Large plants in comparatively small pots are apt to topple over in the exhibition van in spite of nails and blocks. To prevent this I have taken the precaution to drop the pots into a size larger and fill up the space between with moss.

Insects.

Whilst in good health and kept apart from plants already affected with insects, the Fuchsia gives very little trouble. Green-fly is the most common enemy of the Fuchsia, but it is easily got rid of by fumigating. An arid atmosphere with dryness at the roots a few times will bring on thrips and red spider. As soon as the latter makes its appearance syringe the plants a few times with soapy water and a handful of sulphur to every three gallons. Thrips may be destroyed by fumigating two or three nights in succession, which is preferable to one strong dose.

Varieties.

The varieties of the Fuchsia are numerous, but I will not attempt to describe them or name the best. The following are a few of those which I have grown, and which I can recommend:—Lord Falmouth, General Gordon, Gazelle, Sir John Campbell, Lord Clyde, and Try Me O! The latter was once a great favourite with market growers, Diadem Clio, Guiding Star, Mrs. Marshall, Margiuata, Rose of Castille, and an improved variety of it, Swanley Gem, Rhoderic Dhu, and Lady Heytesbury. These are names of sorts that still find their way into the exhibition tent, and for general usefulness it is a question if they can be surpassed.—*W. P. Roberts.*

* A paper read at the last meeting of the Preston and Fulwood Horticultural Society, by Mr. W. P. Roberts, Cuerdon Hall Gardens, Preston.

FLORICULTURE.

Auriculas in the South.

It is pleasant to see that a very promising school of young growers of the Auricula is coming to the front, and some of them taking places close up to some of the older cultivators who made their mark years ago. There is the Reading School for instance: Messrs. T. E. Henwood, C. Phillips, W. L. Walker, W. Badcock, and G. Wheelwright among competitors, and Messrs. T. Fife and J. Gibson among those who cultivate collections; but as they do it in cold frames, rarely, if ever, are they in bloom by the annual show in April. We may say of Mr. Henwood that he is now pretty equal to that past master in the art art of Auricula culture, the Rev. F. D. Horner, and any meeting on the exhibition table between these two doughty champions is certain to be one full of interest. At Southampton a kind of branch school in Auricula culture is being formed. Already Messrs. Keen, Nutt, and Rebbeck, all Southamptonians, have given us a taste of their quality—and good quality too—as Carnation growers; and now they are taking up the Auricula. Mr. Keen has already exhibited with some success; and the taste for distinction grows with him, and he is seeking to add a few cracks to his collection. He therefore well deserves a helping hand from anyone who has an overflow of good varieties.

But Southampton, open to the balmy influences which makes the Isle of Wight such a pleasant winter resort, is mild and early, and while some growers experience difficulties in getting their plants in bloom early enough, the quickening influences of the awakening spring-time seem to reach him too early, even though his plants are in an ordinary frame, and so he has entered this autumn upon what he terms a new routine. Mr. Keen states, "I am away all day long, and therefore unable to give my plants so much air as I should like, so I have had a small house made facing the north, and where no sunshine can fall upon the plants, with moveable glass side, so that by leaving the sides and door open, and pulling down the top lights a few inches, this keeps off the rain, and the Auriculas are practically in the open air. The result has far exceeded my expectations, the plants are very fine, dwarf, and yet vigorous, and what is more important, there is no sign of autumn blooming." Mr. Keen purposes keeping his plants in this house all the winter and spring, and he believes the change of position and aspect will make the difference of a fortnight in blooming. Let us hope it will be so, and that when this lusty young fighter goes forth again from Southampton to the field of battle, he may return joyously, bringing with him a pocketful of prize money.

I heartily sympathise with Mr. Keen and his brother growers over the lament they make as to the difficulty of obtaining new and choice varieties with which to strengthen their collections. We see every year huge strong plants exhibited, with to all appearance plenty of off-shoots; and we wonder what becomes of them. Application to the growers of large collections brings little comfort and less plants, and we wonder again what becomes of the increase. We cannot think they delight in keeping them in their own hands in order to have an advantage on the exhibition table? Perish such a thought so suggestive of mere selfishness, and yet during the past ten years new varieties have been certificated, and must have increased; but where are they? and we cry to the gods of the floral Olympus in vain for help and none comes. I sometimes think that it would be but fair play all round if only those plants put publicly into commerce, and therefore affording a chance of being obtainable by all, should be allowed to be exhibited. Have classes for new varieties and seedlings by all means. What do growers say?

Will those two grand greens, Barlow's Mrs. Henwood and Douglas' Abbe Liszt, be put into circulation? We are badly in want of companion varieties to the Rev. F. D. Horner, Colonel Taylor and Prince of Greens, though both strong in some points are so lamentably weak in the tube, that it is time they were replaced, and yet it may be years before we get an Auricula with the brilliant edge of green of Colonel Taylor. Talisman is almost a failure; it is well alive to the importance of the edict to increase and multiply, and seems to do it at the expense of size.

Has anyone bloomed James Hannaford? It is a green edge, out a year or so ago, by Mr. B. Simonite, of Sheffield. A plant of it has just come into my hands, and the sender states it is very fine. A new variety named Thomas Lansdown, raised at Swindon, is said to be in the way of the Rev. F. D. Horner, but with a stronger tube. We may perhaps hope to see these two next season.

I think so far we have had a good Auricula season during the past summer, and the plants, as far as I see and hear, are entering upon their autumn course with confidence. Heaven send a favourable winter, less fog and more brightness; a balmy and traditional spring, warm, genial, and seasonable, and a good show in April.—*R. D.*

A BLUE CARNATION.

When Dr. Johnson was once told that a piece of music, to whose execution by a young lady on the harpsichord he had been listening, was a most difficult one, he replied, "Sir, I wish it had been impossible." I for one am not sorry to hear that in the opinion of Mr. Chaundy, who has evidently given attention to the subject, the attainment of the blue Carnation, unlike the performance that so exercised the sage of Bolt Court, is not merely difficult, but impossible.

Some floral nabob, sighing for a new floral pleasure, may be ready to bestow an untold guerdon on the man who should provide him with with a blue Rose, a blue Dahlia, or a blue Carnation, and the trade grower may perhaps rub his hands in secret at the thoughts of the golden harvest that might be garnered by him who should first get such "novelties" into his hands. But lovers of these flowers, if I mistake not, don't pine for them.

Nature, which is so bountiful in everything, has been apparently chary in her bestowal of flowers of a really blue tint—the Gentian, the Salvia, the Delphinium will occur readily to most people as almost exhausting the list.

Massive flowers like the Dahlia and the Rose, and even the Carnation, seem unsuited to this true blue colour. The density of their material is incompatible with a colour the characteristic of which, with all its depth, is always lucidity and brightness. It seems better left as nature has given it us, among the single and the smaller flowers. A blue Primrose or a blue Auricula—self or white edge—we might expect to be beautiful flowers, as against them the same objection could not be urged.

But I am also glad to see Mr. Chaundy's letter on other grounds. He is evidently "making the best of both worlds" as he finds them at Oxford. Having profited so well by the exceptional opportunities he has had there as a cultivator and a seedling raiser of the Carnation, he has not forgotten that it has its other side for him as a centre of learning, where the stores of scientific research—for some time keenly directed on this subject of colouration in flowers—lie to the hand of him who will avail himself of them.

The union of cultivator and scientist is one that should in due time be productive of good results. Not the least interesting among them—for florists at least—would be the solution of our abiding mystery "Why Carnations run?" May it fall to the lot of our young friend to give it to us.—*M. Rowan.*

Thanks, many thanks, to our mutual friends, Dean and Chaundy, for their observations on the grey-ground Carnation and the possibilities of obtaining a blue one. I have known and grown the grey-ground variety at various times during the last forty years, but I have never seen any approach to a blue one nearer than purple or violet. Still I would never doubt the possibility of Nature at some time or other leaving out the red and conserving the blue, grey being formed of red and blue (the two essential constituents of purple) laid on a white ground.

Nearly half a century ago, from a batch of Continental seedlings I selected a delicate grey satin self, of such purity of colour and perfection of form that I was induced to call it the Quakers' grey satin. The purity of the neutral tint, together with the brilliant satin texture, was so remarkable that I continued its culture for some years; but it found such scant favour with my friends the florists, its want of brightness in colour not satisfying their taste, and eventually I lost it with some other good things obtained from the same source. As time went on, fashion nearly banished the Carnation from our gardens; still I held in remembrance the gloriously beautiful colouring and grotesque markings of the flowers possessed by our Continental friends, and whenever I could obtain a few seeds of the fancy strain from a reliable source I was ever on the look-out for good things, and not unfrequently renewed my acquaintance with the greys. The difficulty of getting good seed, however, was so great that I had almost given up Carnation culture, when Mr. Dodwell some fifteen years ago began the revival which has led to such grand progress as has since been made. The old love came back, and I took up with the standard English florists' varieties. I had still a hankering after the soft, delicately coloured flowers favoured by the French, German, and Italian florists, and fortunately became possessed of a packet of seed from Mr. Benary, of Erfurt. The result was the revival of the yellow grounds and the popularising of the fancy colours. I have since that time raised thousands of seedlings annually, and the results have been so invariably satisfactory that I just treat them now as I would any other hardy biennial or perennial, sowing seeds at various intervals from January to May, and growing the seedlings on in the first year in the kitchen garden. In the autumn they are transferred to the home garden as soon as the ground is cleared of the old plants, which are given away or otherwise got rid of; as, unless there is something extraordinarily good among them, I do not trouble to increase them by layering.

Of course I grow a fair number of the standard varieties to name in pots, including the Benary fancy and yellow grounds, but the greatest delight is to watch and wait for the development of the blooms of the seedlings in the open ground, as they come on in succession. I have still a number in bloom, and others I have taken up and potted which I anticipate will carry me on with flowers during the winter and spring. Of course these come from the late sowings.

If "R. D." had given me a call during the season, he might have seen the greys in bloom in variety from the delicate silver grey to the densest slate colour, some tinted with carmine or heliotrope, and others flaked with bright orange-scarlet. With such fanciful freaks who can doubt the possibility of nature giving us a blue Carnation. As to the yellow grounds, they are, as the ladies say, "sweetly pretty." The blooms of Mrs. R. Sydenham, shown at the Midland Carnation and Picotee Society's show, marked such an advance in the yellow Picotee section, as to lead us to hope that ere long we may get a yellow ground with a heavy edge of maroon.—*William Wardill, Luton.*

AUSTIN'S ECLIPSE TOMATO.

From an all-round point of view this Tomato is one of the best I have seen or grown among other favourite varieties. The specimens of fruit are of good size, handsome in shape, which is globular, and the colour is of fine glossy description. It is also a good cropper, and well adapted for early work. Contrary to the experience of another grower, I could not detect the slightest trace of disease among the plantations, of which I had successions for early, mid-season, and late supplies.

The objectionable scar so prominent in some other varieties just where the flower chips is scarcely perceptible in Eclipse, which renders it more suitable for exhibition purposes. For early supplies we grew it along with Lorillard and Northern Beauty on raised benches against the back wall of a forcing house, and they all ripened about the same time, although Lorillard is said to be a specially good forcer. For later crops narrow borders along the foot of the back walls of vineries were utilised, and in one house where the vines are young and the roof not too much shaded exceptionally fine examples of Eclipse were produced. The compost of the borders and the beds which the plants occupied were made up of ordinary garden soil void of rank manure, to which was added fully a third part of old lime rubbish, the beds being left tolerably firm when finished. In common with the usual applications of special manures as soon as the first fruits set, timely attention to the removal of lateral growths, as well as thinning the clusters when needful are essential in securing a circulation of air, thus promoting the health of the plants and benefiting the crops. We

do not overlook the advantage gained by leaving a few inches of air on all night in conjunction with moderate heat kept up in the pipes. An uniformly moist condition of the soil should be maintained. I do not assume that experienced growers neglect to carry out the cultural details latterly referred to; they are added principally in the interest of beginners who may have recently been disappointed with their crops, resulting from improper management.—*M., Ayrshire.*

AUTUMN FLOWERS.

The leaves are fast turning to gold and ruddy brown, and in sheltered lanes and copses, where the underwood is thick, there is already the curious autumnal odour in the air—that smell of fallen leaves and over-ripe berries, of wet lush grass and steaming earth, which now is rather pleasant than otherwise, but in another month will be all but offensive, to sensitive nostrils. In towns, the Virginia Creeper—sole beauty of the streets in autumn—is hanging in glorious crimson festoons from balcony to balcony. Here, in the country, the feathery Old-man's-beard or Traveller's Joy runs riot from tree to tree, its heavy masses covering many an old stump with a lovely veil of greenish white filaments, which if you shake them before the fire, will turn into balls of snowy fluff before their time. Great heart shaped purple leaves of the Bryony, with its clusters of malignant-looking berries, half green, half red, trail over the dewy hedges, beneath which, almost hidden under the shining fronds of the Hart's Tongue—already, alas! browning at the tips—glow the orange berries of the Wild Arum. The Mountain Ash is bent beneath the weight of its load of brilliant berries; the bright crimson leaves of the wild Guelder Rose, and its still brighter fruit, make gorgeous patches of colour here and there in the woods; and yonder, the Rose thickets, that were masses of delicate pink in the early summer, are gleaming orange. Of a truth, there are plenty of materials at hand wherewith to deck our tables and our rooms.

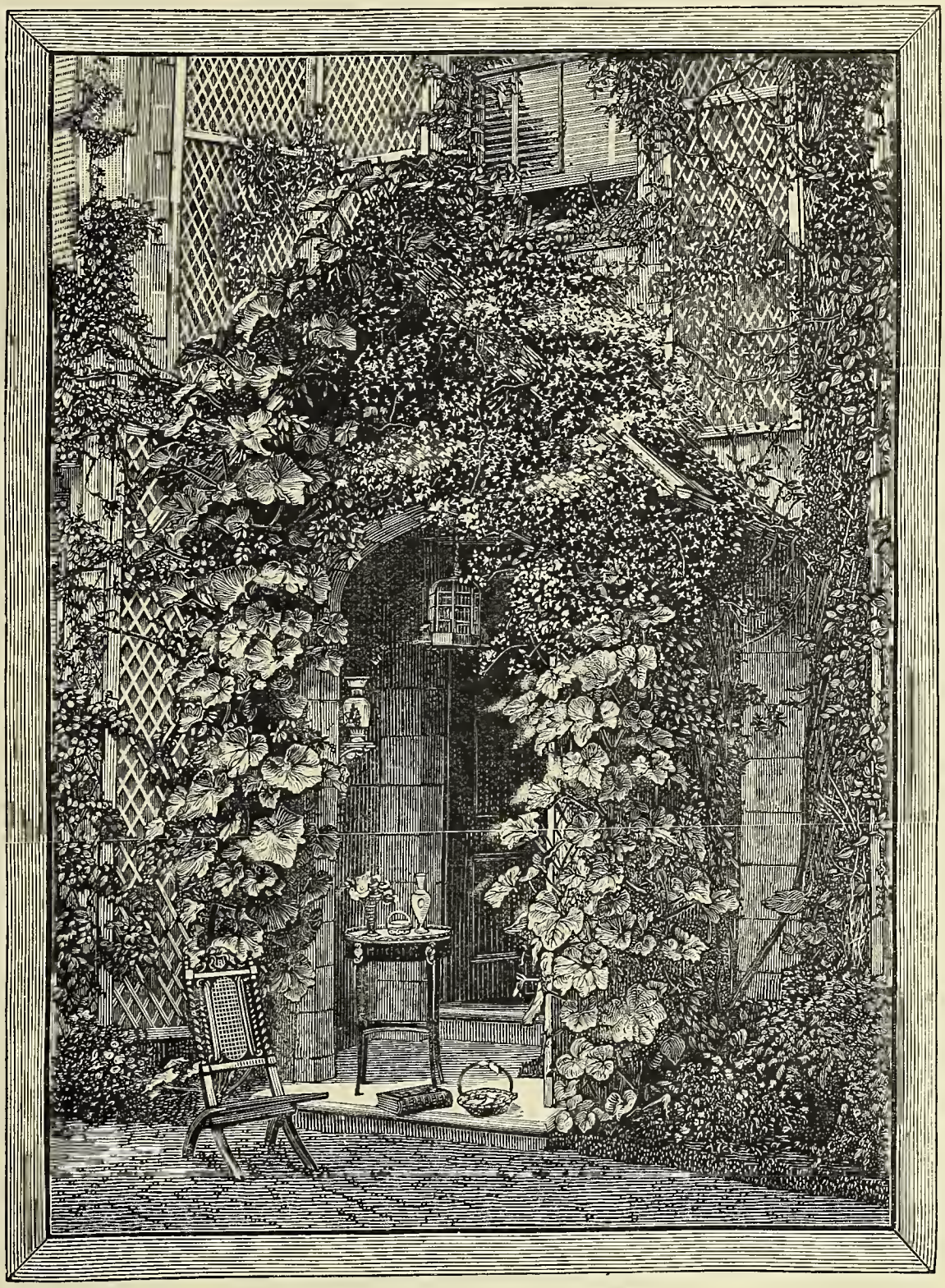
Let us suppose that we have five big bowls of old blue and white china, and that we have filled them with russet leaves of all kinds—Blackberry (with here and there a belated berry), Dogwood, Maple, Sycamore, hardy Azalea, and Herb Robert, a few sprays of Honeysuckle (sweet-scented blossom and bright berry), and the seeding bracts of the Hemlock. Place one in the centre of the snowy damask cloth, edged with a deep band of drawn work, and scented with lavender, and the others at the four corners of the table, and connect them by trails of Hops and Bryony, Traveller's Joy, and Bramble leaves, laid on the cloth, dotting here and there between the trails quaint little blue and white saucers filled with bonbons, and old-fashioned silver candlesticks, with shades of amber gauze wreathed with pressed leaves. Another pretty scheme can be carried out with a mirror centre, bordered with a bank of leaves and berries, fairy-like Star Thistles, grasses of all kinds, and russet-tinted Ferns.

On the mimic lake are set birch-bark canoes, filled, some with more foliage and berries, others with sweets; and in the centre is an island of moss and leaves, from which rises a tall candelabrum, its stem wreathed with Clematis and Bryony, and whence to four smaller candelabra, set at the corners of the table, festoons of the same creepers swing. Wheat-ears and Poppies too—the second crop of the latter will yield flowers yet awhile—in amber Salviati glasses on a centre spread of tawny velvet, or one of the new cloths of creamy hand-woven linen, embroidered with gold thread, will look exquisite.

The old-fashioned garden is full of treasures at this time of the year. Japanese Anemones, snowy-white and rosy pink; Sunflowers of all kinds, from the double ones like orange rosettes, to the pale lemon-coloured ones with black centres: Aster lævis, "farewell summer," as it is called by the country folk, with its horizontal spikes of tiny white stars; flaming Tritomas; drooping branches of crimson-belled, brown-leaved hardy Fuchsias—all these and many more, make the garden a perfect paradise of beauty.

A handful of deep yellow single Dahlias and white Pyrethrum uliginosum mixed with a few russet-tinted feathery Carrot-tops, and placed in a trumpet-shaped vase of clear green glass, round the stem of which a trail of Japanese Honeysuckle, or the quaint brown-rosetted "Mother of Thousands," is twined, makes a lovely picture against a pale green wall or hanging. Or if one possesses a round rustic basket of unpeeled osiers, with a twisted handle—such as can be bought for a few pence in any Devonshire village—it will form a charming decoration for the centre of a luncheon table when filled with spikes of golden-starred Harpalium rigidum, Berberis leaves, scarlet Cactus Dahlias, sprays of rose hips, and clusters of Hops, Poppies and Corn and wild Oats, in vases of hammered copper or brass; branches of red-foliaged, dark-berried Cornel, mingled with flowering Reeds and brilliant-seeded Iris pods, in a tall, three-handlded jar of brown pottery—these are but a few of the many lovely examples of floral decoration which are possible when

Autumn, nodding o'er the yellow plain,
Comes jovial on. *R. E. Head, in "The Queen."*



A Cottage Porch and its Climbers.

CLIMBERS FOR COTTAGE PORCHES.

No less in autumn than in summer does the beauty of climbers stand out pre-eminently, more especially when associated with certain objects, and never more pleasing or suggestive than in association with human habitations, such as rural or suburban cottages and villa residences. The illustration accompanying this will give an idea of the way in which a few well-known or even the commonest of garden subjects may be employed. The vine in some form or other is very popular with cottagers, and in this case vines and Clematis Flammula are associated together, covering the porch of a cottage. The Virginian Creeper and its companion Ampelopsis Veitchi may be used for the same purpose with admirable effect in summer, when the long pendant festoons of greenery lend a charm to the cottage supporting them, dangling down over doorways and windows, even invading them. Clematis Flammula is very frequently employed, often the more gorgeous C. Jackmanni, or the white C. montana, and others more seldom; but almost any hardy sort may be used. Aristolochia Sipho with its magnificent and unbrageous leaves, always bespeaks coolness when seen rambling over porches or doorways in summer. All of the above are deciduous, and therefore naked in winter, and although there is an appropriateness about their being so, yet an extensive list of evergreen species might be given equally suitable for the purpose as the above. To begin with, there are no end of Ivies, green, variegated, and golden, that might be employed. Then there is the Fiery Thorn, which, when loaded with its myriad clusters of scarlet berries, serves to brighten up the place all the winter, where hungry and starving birds are not too plentiful. Cotoneaster microphylla, C. Simmonsi, and several others are easily obtainable and suitable. The common Jasmine (Jasminum officinale), Ayrshire Roses, the common Passion-flower, Smilax aspera, S. tamnoides, and others furnish a varied list of easily grown and beautiful evergreen subjects.

Rose, Mme. Caroline Testout, is claimed by an American grower to be a gem of the first water. It is a clear satiny pink, somewhat lighter than La France, longer bud, and of more symmetrical form, and deliciously fragrant.

UNITED HORTICULTURAL BENEFIT AND PROVIDENT SOCIETY.

The annual dinner of this society took place at the Cannon Street Hotel on the evening of the 5th inst., under the presidency of Mr. John Fraser, of Lea Bridge, who was supported by the leading metropolitan nurserymen, seedsmen, and gardeners to the number of about one hundred. As usual at this annual social gathering of the members and supporters of the society the tables were most charmingly decorated by Mr. Chard and other friends, and a splendid dessert was provided; indeed so abundant were the contributions of fruit that there was a considerable surplus, which was thoughtfully sent to one of the hospitals.

The usual loyal toasts having been duly honoured, the Chairman gave the toast of the evening, "Continued success and prosperity to the United Horticultural Benefit and Provident Society," and in so doing remarked that he accepted the post of chairman that evening with some trepidation, because he remembered that some twenty-seven years ago his friend Mr. William Marshall and himself sat side by side to promote the formation of the society, but for some cause or other they had both of, late years lost touch with the society. They met, he remembered, at the old Green Dragon in Bishopsgate Street, and history repeated itself that night in their both being present supporting the same good cause. The birth of the society was attended with many difficulties. One of these difficulties was that he was treasurer at the time, and the bank failed in which their money was placed, but by some fortunate circumstance they recovered their small nest egg, and neither the society nor himself lost anything by the failure. After a time the society emerged from the obscurity of its birth, it was removed from the cold shade of adversity, and planted in the sunshine of prosperity—it was, to use a gardening phrase, grafted on a good healthy stock, and consequently had thriven well ever since. It was unquestionably a sound and useful institution, a society to which every young gardener should make a point of joining, because most useful to the poor and needy of the gardening community as were the Gardeners' Royal Benevolent Institution and the Gardeners' Orphan Fund, this society differed from them in that the members in times of adversity had not to submit to election before they could get assistance, but could claim it as a matter of right, the basis of their rules being the admirable principle of self-help. The ramifications of the society had been wide and deep, it had done much good in the past and would do more in the future. Its growth had been most satisfactory, and he appealed with confidence to the gentlemen present to support the society by contributing of their means in aid of the management fund which depended in the main upon the annual subscriptions of the honorary members. He had much pleasure in coupling with the toast the name of Mr. George Baker, of Membland, one of the original members and a past treasurer of the society, whom they were all pleased to see among them once again.

Mr. Baker, in acknowledging the toast, remarked that the great advantage of this over all other benefit societies was that a balance was struck each year, which showed each member how much stock he held, such stock being the surplus of the benefit contributions for the year after all claims had been met. In this way they not only were able to help one another in times of sickness, or being out of employment, but also put something by for those who came after them, and which was not forfeited to the society when membership ceased. In other benefit and so-called friendly societies a man might pay in for years, and if he enjoyed good health might not receive anything back. In his old age, he might from some cause fail to adhere to the rules and so be struck off the roll, leaving all that he had paid in behind him. In their society that could not happen, and he hoped all head gardeners would impress upon their young men the advantages of such a society, and the desirability of their becoming members of it.

Mr. Nathan Cole gave "The Honorary and Life Members," which was acknowledged by Mr. Sherwood, who congratulated the society on the growth of the Convalescent Fund, which he had the pleasure of starting a year or two ago, and announced contributions which he had collected in aid of the same to the amount of £24. The Chairman then gave "The Treasurer," and on behalf of the members presented Mr. Hudson with a handsome gold watch and chain, as a slight acknowledgment of the valuable services which he had rendered to the society during the past ten years, and a token of their esteem and regard. Mr. Hudson suitably acknowledged the compliment. Other toasts followed, including "Kindred Institutions," to which Mr. Marshall replied for the Gardeners' Orphan Fund, and Mr. G. J. Ingram for the Gardeners' Royal Benevolent Institution; "The Officers of the society," proposed by Mr. H. J. Veitch, and acknowledged by Mr. J. Wheeler, Mr. N. Cole, and Mr. W. Collins, the society's indefatigable secretary; "The Chairman," proposed by Mr. Marshall; "The Visitors," proposed by Mr. J. Cheal, and responded to by Mr. Fisher, of Handsworth, Sheffield; and "The Press," acknowledged by Mr. B. Wynne. It was announced before the proceedings closed that Mr. Peter Veitch, of Exeter, had kindly consented to be chairman at the next annual meeting.

NATIONAL CHRYSANTHEMUM SOCIETY.

The first October show of Chrysanthemums inaugurated by this Society, opened on Wednesday, was pronounced to be a marvellous success with Japanese Chrysanthemums at this period of the year. Many of the blooms would have been difficult to beat, even if possible, in November. The new varieties, chiefly French, as well as of recent English origin, must be held accountable for this to a great extent. For instance, the winning group of Chrysanthemums arranged for effect contained about twelve old varieties, all the rest being new. This was exhibited by Messrs. Reid & Bornemann, Sydenham. The very fact of the October flowering varieties being confined to the new sorts necessarily limited the number of competitors entering the lists, as the new sorts have not had sufficient time to get disseminated. The first award for 24 Japanese blooms in not less than 18 varieties was awarded to Mr. W. Higgs, gardener to J. B. Hankey, Esq., Fetcham Park, Leatherhead. His boards seemed almost as crowded with the large blooms as they would be a month later. Boule d'Or, W. H. Lincoln, Condor, Mons. Bernard, Violet Rose, Gloire de Rocher, Louis Bœhmer, and Miss Anna Hartshorn were sorts calling for attention on account of size and variety. Mr. E. Rowbottom, gardener to W. R. Williams, Esq., The Priory, Hornsey, was the first prize-winner in the class for 12 Japanese blooms of distinct sorts. The prizes offered for incurved blooms did not succeed in bringing out a single good exhibit. The best blooms in two classes consisted of the new variety, Mr. R. Bahuant, and the best old one was Jeanne d'Arc.

Some of the miscellaneous exhibits called for attention, as showing what flowers may be turned to account at an October show. Mr. H. J. Jones, Hither Green, Lewisham, had a group of cut flowers of Chrysanthemums set up with Palms and Maidenhair Fern. Messrs. J. Laing & Sons, Forest Hill, set up a bold and effective group of tuberous Begonias, backed by Palms and finely coloured Dracænas. They also had an extensive collection of Apples and Potatos. Messrs. Cheal & Sons, Crawley, also showed a collection of Apples, all very highly coloured. Michælmas Daisies and Dahlias were shown by Mr. Norman Davis, Lilford Road, Camberwell. Dahlias were shown by Mr. M. V. Seale, Sevenoaks, and Chrysanthemums were staged by Mr. W. Wells, Earlswood Station, Surrey. Messrs. H. Cannell & Sons, Swanley, had a table of decorative and Cactus Dahlias. Messrs. Pitcher & Manda, Hextable, Swanley, had a collection of Chrysanthemums and perennial Asters. The prizes offered by Messrs. Sutton & Sons. Reading, brought out some wonderfully fine exhibits of vegetables. We will report more fully next week, as the show opened just as we were going to press.

GARDENING MISCELLANY.

THRINAX RADIATA.

Few of the fan Palms are more gracefully elegant than the species of Thrinax, more particularly T. radiata. All parts of the plant, but particularly the leaves and their petioles, are slender and graceful. The lamina is deeply cut into narrow segments that are unable to support themselves, and droop over gracefully. Like all other Palms they are raised from seeds, which should be sown in a compost of loam, peat, and sand, and after they make a few leaves transferred to a stronger compost consisting chiefly of good fibrous loam and sand. There seems no reason why this species should not become as popular as Areca lutescens, Howea Forsteriana, H. Belmoreana, and some others which are now very extensively used for decorative purposes. The species is also known under the names of T. elegans and T. gracilis in gardens. We noted it in the gardens at Falkland Park, South Norwood Hill.

SKIMMIA JAPONICA.

The male plant of this is known in gardens as S. fragrantissima, and several other names are given to plants which are hardly, if at all, distinct. There has also been some confusion with regard to them. The dwarf species that used to be known in gardens as S. japonica was really misnamed, for it was an undescribed species, and has since been described under the name of S. Fortunei out of compliment to Robert Fortune who introduced it. The true S. japonica, on the contrary, used to be called S. oblata. The berries are ineeed oblate in form, that is, broader than long, of a bright shining red, and produced in great abundance. For conservatory work it is rather better than S. Fortunei on account of its more robust habit and larger bunches of berries. When grown in pots and well fruited, as it is at Falkland Park, South Norwood Hill, it serves to brighten up the subjects in the greenhouse or conservatory during the autumn and winter months.

CALLUNA VULGARIS HAMMONDI.

Numerous as are the varieties of the common Ling or Heath in cultivation, few if any of them are so extensively planted as their merits deserve. That under notice is a white one, but several very distinct white-flowered varieties are grown. In a wild state, white varieties, chiefly the common C. v. alba, are frequently to be met with on wide tracts of heathy moor, and get picked up because they strike the traveller as distinct from the acres of the purple-flowered and typical form around them. C. v. Hammondi is notable for its strong-growing and rather upright habit, with long spikes of pure white flowers. Many of the sorts that have been picked up and grown as distinct are of dwarf and stunted habit, but that under notice grows upright forming a good bush, so that whether planted by itself in beds or as clumps amongst shrubbery, it is very effective and worthy of all due attention. Many of the Heath family, such as Rhododendrons, Azaleas, Kalmias, and Heaths, do well in the soil of the garden at Falkland Park, South Norwood Hill, so that all this class of plants receive a due share of attention. The abundance of peaty or humic matters in the soil is due to the fact that much of it has long been covered with trees, and the fallen leaves allowed to decay there.

ABUTILONS AND SPARMANNIA AFRICANA.

Both of these flowering shrubs from the Cape of Good Hope are among the simplest and most showy plants amateurs can grow for the ordinary greenhouse or conservatory. Mine were in the open air all the summer until Sept. 7th, when I had them removed to a cool-house to avoid the early frosts, and to await such time as I can see to their drainage and any other requirements. If these plants are struck early in the spring, and headed a few times as fast as they make young growth, they will form nice bushy stuff in the autumn. Pot them on into well-drained soil, and treat them liberally as regards manure water. Grow them, in fact, very much the same as you would a Chrysanthemum, even including open-air treatment. This will induce riper and better matured growth, and if you cease to head them by the end of August, you will have numerous young growths that will continue to supply enormous quantities of flowers all the winter and spring. They require plenty of water, and if kept free from frost no complaints will be made of their floriferousness. A greater display of blossoms may always be had in the course of a fortnight or so if you give them an increased temperature; the flowers will also come with longer stems and be much more useful for cutting from. As there are now such a variety of colours among the Abutilons, and they are so simple and easy to cultivate, I consider they ought to be much more generally grown, especially by the amateur.—*Experience.*

NEMESIA STRUMOSA SUTTONI.

THE prettiest and most useful of recent introductions in the way of annuals is the endlessly varied and ever beautiful Nemesia strumosa Suttoni. It has been flowering for more than four months past in the open ground with Messrs. Sutton & Sons, Reading, and is still flowering freely, the tips of the shoots being covered with flower buds, many of which must be prevented from opening should cold or frosty nights supervene. The species is an introduction from South Africa, where about 20 of them are known to science, varying with white, yellow, violet, or parti-coloured flowers. Different individual plants already show a most interesting variation of separate and mixed colours, such as shades of cream, yellow, blush, pink, bright yellow, deep orange, and bright scarlet or orange-scarlet, the darker ones having a crimson eye-like spot under the upper lip and some markings of the same colour lower down, while the orange-coloured flowers are more or less heavily striped with red or crimson externally. In shape the flowers somewhat resemble a Mimulus, while the colours remind one of what occurs in that genus, as well as in the section Diplacus and in Verbena. If the colours come true from seed, Messrs. Sutton would do good service to horticulture by assorting them, so that the varieties might be sown separately as well as in mixture. We are much mistaken if this beautiful annual does not quickly acquire great popularity.

WHAT TO DO IN THE GARDEN.

Crotons.—After the season is over it will be found that many of the plants will have got tall and leggy. The tops should be taken off, and after seeing that they are perfectly clear of insects, put singly into small pots just sufficient to give them a proper hold of the soil. It may be that some of them will require staking to keep them steady. Plunge them in a brisk bottom heat in a propagating frame, and they will soon root and make useful stuff for spring and early summer work, or until they get too tall again.

Cyperus alternifolius and C. laxiflorus.—The former is readily increased from the flowering panicles, which should be taken off while still in a fresh and green state. Buds will be developed, and after being allowed to root and develop little crowns may be separated from one another and potted singly. They form bushy and serviceable little plants in a short time. The other species is naturally dwarf and bushy, and a supply of plants to meet the requirements can generally be obtained by division.

Fittonias.—Owing to the quick growth and trailing habit of F. argyroneura and F. Verschaffeltii, they get untidy by the end of the season and require a considerable amount of space. The best plan therefore is to take cuttings, putting them in pots or pans of light sandy soil. After it is seen that they are going to root, the old plants may be dispensed with.

Gymnogrammes and Cheilanthes.—The cultivator will now have to be careful with this class of Ferns. They are evergreen, and delight in plenty of water at the root, but must not on any account be syringed overhead, otherwise the fronds will soon get damped and disfigured. Those that require a high temperature should be placed at the warm end of the stove close to the glass.

Adiantums.—Attention must be given to the batch of A. cuneatum intended to furnish a supply of fronds during the winter. Cut away all old and useless fronds so as to give the young ones all the advantages of light and air to get properly hardened. A judicious amount of ventilation will also prove beneficial and make them more durable. The same applies more or less to all of the species, only some require a higher temperature than others.

Aspleniums.—Those species which produce buds on the fronds may be propagated in that way to any extent desired by pegging down some of the old fronds on pans of sandy loam with or without a little peat.

Peaches.—The leaves will mostly have dropped from the trees in the earliest house, and the trees may therefore receive their final pruning, an operation of the simplest if the trees have been properly attended during the summer months. Fire heat may be discontinued in succession houses as the young wood gets ripened.

Melons.—Less moisture in the atmosphere will be necessary at this period than earlier in the season, so that if there are two or more sets of plants in the same house, a medium condition as to moisture will suit all alike, although it could not have been done in the summer time without injury to the younger plants. Take advantage of bright weather to give ventilation during the middle of the day, at the same time allowing the heat to run up to 80°. A little damping down may be given during the middle of the day unless some of the fruits are on the point of ripening. The latter may be cut, however, before they are finished and placed in a warm house with a temperature of 70°, where they will mature nicely.

Lettuces.—Late batches of plants that have been growing in the open ground should be lifted and placed in cold frames to protect them from frost, which may be expected at any time. Water, to settle the soil, and keep rather close for a few days till the plants commence to grow in the fresh soil, after which abundance of ventilation should be given on all favourable occasions.

Broccoli, Cabbages.—The decayed and the older rough leaves may be removed and conveyed to the rubbish heap. This will prevent any offensiveness arising from decaying vegetation, and will also allow a freer play of air about the plants to ripen and harden the stems. The lower leaves of Brussels Sprouts may also be removed in the same way to the advantage of the sprouts.

Asparagus.—The stems should be cut before the berries fall, otherwise the beds will be infested with seedlings. In collecting some berries for seed, the best only should be saved from the strongest and best exposed stems, as such give rise to better and stronger seedlings.

Herbaceous Plants.—The present offers a grand opportunity for rearranging the plants in the borders. If the latter can be trenched and manured at the same time so much the better. The heights can be ascertained at this season, so that a judicious and effective arrangement can be made.

INTERNATIONAL HORTICULTURAL EXHIBITION.

THE prizes and medals offered for various exhibits on the 5th, 6th, and 7th inst, brought out a display such as it is seldom our good fortune to behold in autumn, even in London. The show was really a double or a triple one, consisting in the first place of hardy fruit and autumn flowers; secondly of Potatos, of which there was a vast assemblage from all parts of the country; and thirdly, a very extensive show of miscellaneous exhibits, mostly all of great commercial importance, and in many instances an extension of the fruit and Potato shows.

FRUIT AND HARDY FLOWER SHOW.

The premier award for a collection of Apples, not exceeding 100 dishes of distinct varieties, was carried off by Messrs. Geo. Bunyard & Co., Maidstone, whose collection included all the leading varieties, of magnificent size and all handsomely coloured, with a clean and shining skin. The appearance of the fruit would make one wonder why British fruit is not placed in the first rank by the public generally. The second prize was taken by the English Fruit and Rose Co. (John Cranston, Limited), King's Acre, Hereford. Mr. John Scott, Royal Nurseries, Merriott, Crewkerne, had a finely coloured lot, and took the third place, and Mr. H. Berwick, Sidmouth, Devon, and Mr. H. Becker, 13, Beresford Street, Jersey, were both highly commended, and the fact that there were 7 entries in this class should show the widespread interest taken in fruit culture. Mr. H. Becker took the leading place with Pears, and his magnificent samples of Catillac and Belle de Jersey is sufficient evidence of the suitability of the climate of Jersey for growing Pears. Mr. George Woodward, The Gardens, Barham Court, Maidstone, was second, and Mr. A. G. Thomas, Rodmersham, Sittingbourne, came in third. The leading place for the trophy of vegetables, arranged for effect, was taken by Mr. Wm. Pope, Highclere, Newbury; his Cauliflower, Leeks, Carrots, Beet, and Celery were grand, and Stachys tuberifera created a considerable amount of interest. The second place was taken by Mr. J. Gibson, gardener to Mrs. H. B. James, Carshalton, whose exhibit was also fine. All of the above were open classes.

Ten classes were open to amateurs only, but gentlemen's gardeners were included in the term "amateur." The first award for a collection of 50 dishes of distinct varieties of Apples was taken by Mr. G. Woodward, whose exhibit was magnificent as to the size and colour of the fruits. Mr. Thos. Turton, gardener to J. Hargreaves, Esq., Reading, was second with a scarcely inferior exhibit. The third place was taken by Mr. George Goldsmith, gardener to Sir E. E. Loder, Bart., Horsham. The first award for 24 dishes of Apples went to Mr. John McKenzie, gardener to F. S. W. Cornwallis, Esq., M.P., Linton Park, Maidstone. Mr. F. Smith, Loddington, Maidstone, was second, and Mr. Thos. Turton third, with fruit which for size and colour was simply grand. The same might be said of all the winning exhibits in the class for 12 dishes of Apples. In this case Mr. George Woodward was first; Mr. Austin T. Killick, Maidstone, second; and Mr George Chambers, Mereworth, Maidstone, third. The soil in the neighbourhood of Maidstone must be well adapted for fruit. If Pears are not plentiful this year, they are certainly fine. The first prize for 12 dishes was taken by Mr. George Goldsmith, who had fine samples of Pitmaston Duchess, Doyenne Boussock, General Todtleben, and others. Mr. A. Offer, gardener to J. Warren, Esq., Crawley, was second; and Mr. J. Nicholson, gardener to J. W. Melles, Esq., Chingford, came in third. Mr. R. Smith, gardener to Lady Frances Fletcher, Yalding, Kent, had the best 6 dishes of Pears. He was followed by Mr. C. West, Landford, Salisbury; and Mr. J. G. Dean, gardener to L. Leveson-Gower, Esq., Limpsfield, was third. Mr. T. Wilkins, gardener to Lady Theodora Guest, Inwood House, Blandford, had the best collection of 12 dishes of vegetables; Mr. R Lye, gardener to W. H. Kingsmill, Esq., Newbury, being second; and Mr. J. Friend, gardener to the Right Hon. P. C. Glyn, Rook's Nest, Godstone, took the third place. In the open class for a collection of Michaelmas Daisies, Mr. Norman Davis, Lilford Road Nurseries, Camberwell, took the leading award with a varied and attractive lot. Messrs. Barr & Son, Covent Garden, were second; and Mr. G. H. Sage, gardener to the Earl of Dysart, Ham House, Richmond, was third. Messrs. Barr & Son took the leading place for Sunflowers, and Mr. G. H. Sage followed. In the Covent Garden show the prizes offered for Apples and Pears were taken by Mr. W. Poupart, Twickenham, Mr. H. Becker, and Mr. J. Hudson, Gunnersbury House, Acton.

THE POTATO SHOW.

As was anticipated, the prizes offered for Potatos brought out an admirable competition, and many extensive exhibits were staged not for competition. All the prizes for 12 dishes of Potatos were offered by Messrs. Sutton & Sons, Reading. The first award was taken by Mr. J. H. Ridgewell, Cambridge, with fine samples of Snowdrop, Satisfaction, Reading Giant, Come to Stay, The Dean, Edgecote Purple, Queen of the Valley, Perfect Peachblow, Pink Perfection, Mr. Bresee and others, all in excellent form. Mr. Wm. Pope, Newbury, took the second award with fine samples of Reading Ruby, Reading Russet, Purple Perfection and others. Mr. A. V. Cross, Shutford, Banbury, was third; Mr. W. Kerr, Dargarvel, Dumfries, was fourth; and Mr. G. Galt, Oxford, came in fifth. The prizes for 9 dishes were also offered by Messrs. Sutton & Sons. In this case Mr. Jas. Simkins, Shillington, Hitchin, was first, showing fine samples of Snowdrop, The Dean, Reading Giant, Sutton's Seedling, &c. The second award went to Mr. Arthur Coombes, Dudley; Mr. R. Lye was third; Mr. C. J. Waite, Glenhurst, Easher, came in fourth; and Mr. A. V. Cross was fifth. The first prize for six dishes was offered by Mr. Alderman and Sheriff Tyler, Queenhithe. This was taken by Mr. James Simkins, who showed several very fine samples including Fidler's Reading Giant, the best dish in the show, for which an additional Silver Medal was awarded. Mr. Wm. Pope took the second place with a good exhibit. He was followed by Mr. J. H. Ridgewell and Mr. R. Lye respectively. Prizes were offered for three dishes of white round Potatos by the Right Hon. Sir David Evans, K.C.M.G., Lord Mayor of London. Here Mr. G. Galt took the premier award with fine samples of Satisfaction, Abundance and London Hero. Mr. Ed. Chopping, Milton, near Sittingbourne, was a good second, and was followed by Mr. R. Lye and Mr. J. H. Ridgewell respectively. The first prize for three dishes of coloured round Potatos was offered by W. T. Brown Esq., Ludgate Hill, and this was taken by Mr. J. H. Ridgewell, who showed

fine samples of Reading Russet, Pink Perfection and Vicar of Laleham. The second award went to Mr. A. V. Cross; the third was taken by Mr. J. Friend; and the fourth went to Mr. R. Lye. Edgar F. Jenkins, Esq., Doctors' Commons, London, offered the first prize for three dishes of white kidney Potatos and this went to Mr. J. H. Rigdewell, who had beautiful samples of Snowdrop, Fidler's Reading Giant, and Fidler's Purity. Mr. James Lye, Market Lavington, was second, and Mr. Ed. Chopping came in third. In the class for three dishes of coloured kidneys the first prize was offered by Arthur L. Coles, Esq., Upper Thames Street, and this was taken by Mr. J. H. Ridgewell, who showed Edgecote Purple, Mr. Bresee, and White Elephant, all noble tubers. The second place was taken by Mr. G. North, Buckingham, showing a pretty variety named Peerless Rose, etc. Mr. G. Galt and Mr. Ed. Chopping were third and fourth respectively. John Evans, Esq., Hartridge's, London, offered the prizes for a dish of any round white Potatos. The first award was taken by Mr. J. Wilkins, who had fine samples of London Hero He was followed by Mr. James Simkins, Mr. J. H. Ridgewell, and Mr. J. Bradford, 70, Grosvenor Road, Twickenham, respectively.

The first prize for a dish of any coloured round Potato was offered by Messrs. J. C. Wheeler & Sons, Gloucester, and this was taken by Mr. James Simkins, with The Dean. Mr. R. Lye was second with Sutton's Reading Russet; Mr. G. Galt was third; and Mr. John Whatley, Stroud, Gloucester, was fourth. C. Val. Hunter, Esq., London, offered the first prize for any white kidney, and this went to Mr. J. H. Ridgewell, who had fine samples of Snowdrop. Mr. Ed. Chopping was second; Mr. Pope was third and Mr. Geo. Wheeler, Thatcham, Newbury, Berks, an amateur with 18 poles of garden ground planted with fruit and vegetables, took the fourth place with Reading Giant, in a keen competition of 40 exhibitors. The first prize for a dish of any coloured kidney was offered by Mr. Alderman Green, Upper Thamer Street, and this was taken by Mr. Tom Tooley, 22, Albert Street, Banbury. Mr. Wm. Pope was second; Mr. J. Wilkins was third; and Mr. J. H. Ridgewell took the fourth place. The prizes for six dishes of Potatos put into commerce since 1886 were offered by Messrs. Sutton & Sons. The first award was taken by Mr. James Simkins with Sutton's Abundance, Sutton's Seedling, Sutton's Satisfaction, Sutton's Windsor Castle, Reliance and Fidler's Reading Giant. Mr. J. H. Ridgewell was second with Daniel's Reliable, Pink Perfection, Come to Stay and others. The third prize went to Mr. James Lye, who had Clipper, King of Russets, Best of All, Rural New Yorker, Victory, &c. The fourth and fifth prizes were taken by Mr. A. V. Cross and Mr. R. Lye, respectively. The first prize for three dishes introduced since 1886 was offered by Messrs. Gower, Dodson & Co., Old Jewry, and was taken by Mr. J. H. Ridgewell, with Sutton's Satisfaction, Pink Perfection, and Fidler's Reading Giant. Mr. Tom Tooley was second with Sutton's Windsor Castle, Alderman and Sutton's Triumph. Mr. E. S. Wiles, Edith Road, Oxford, was third with Fidler's Marvel and others already mentioned; and Mr. A. V. Cross was fourth. There is evidently a great amount of enthusiasm amongst the growers and raisers of new Potatos, judging from the number of them shown. Prizes were offered in four classes for seedling varieties of Potatos of sufficient merit and not yet in commerce. Medals and certificates were awarded the best of them, and a description of them will be found in another column (p. 98). The Gold Medal offered for the most meritorious collection of Potatos in the exhibition was won by Messrs. Sutton & Sons, Reading, who had an extensive collection occupying a table almost the entire length of the building. It consisted of close upon 4,500 tubers in 222 varieties set up in 11 heaps, 10 dishes, 218 plates, and was composed largely of those varieties introduced by the firm, such as Satisfaction, Abundance, Windsor Castle, Nonsuch, Perfection, Triumph and Ringleader.

MISCELLANEOUS EXHIBITS.

As at previous exhibitions at Earl's Court, the miscellaneous exhibits were very extensive, and constituted a great additional feature to the hardy fruit and Potatos. A Gold Medal was awarded to Messrs. J. Veitch & Sons, Chelsea, for an extensive collection of Apples, Pears, Plums, and ornamental Crabs. Along the back of the table were handsome baskets of Sandringham, Stirling Castle, Seaton House, Lane's Prince Albert, Peasgood's Nonsuch, Bismark, King of the Pippins, Winter Hawthornden, Lord Suffield, and other Apples, while between these were fruiting canes of Superlative and Belle de Fontenay Raspberries. A similar award was made to Messrs. T. Rivers & Son, Sawbridgeworth, for a collection of Apples and Pears in pots, as well as fruits of the same in dishes and likewise Grapes. A beautiful and effective group of Tuberous Begonias, backed up with Palms, Dracænas, Crotons, and other fine-foliaged plants, was set up by Messrs. J. Laing & Sons, Forest Hill. The Begonias were often grouped in masses of a colour, and at either end of them were collections of Apples. A Gold Medal was awarded the group. Messrs. Wm. Paul & Son, Waltham Cross, had a similar award for some groups of Conifers, Hollies, Portugal Laurels, and other subjects in the main exhibition building.

Messrs. George Bunyard & Co., Maidstone, exhibited a handsome collection of Apples, many of which were wonderful samples for size and colouring, including Peasegood's Nonsuch, Northern Dumpling, Bismark, Stirling Castle, and others (Silver-gilt Medal). Messrs. J. Cheal & Sons, Crawley, had also a large collection of Apples, including The Queen, Golden Noble, Emperor Alexander, and Pears, as well as fruiting branches of Apples and ornamental Crabs (Silver-gilt Medal). A large group of highly-coloured Crotons, Dracænas, and other fine-foliaged plants was set up by Messrs. B. S. Williams, Upper Holloway (Silver-gilt Medal). A very extensive collection of vegetables, including Onions, Leeks, Cabbages, Parsnips, winter Greens, and Potatos were shown by Messrs. Sutton & Sons. Of the 32 varieties of Potatos introduced by the firm there were 65 dishes of Satisfaction, 43 of Windsor Castle, 27 of Abundance, and 20 of Reading Russet in the show. Messrs. Ed. Shuttleworth & Co., 256, Peckham Rye, exhibited a large group of fine-foliaged plants, including large specimens of Palms behind, with Crotons, Dracænas, Coleus, Grevilleas, Heaths, Ferns, etc., all tastefully arranged. The firm had also a table of Michaelmas Daisies, etc. (Gold Medal). Mr. H. Deverill, Banbury, showed a large collection of Onions, some of them, such as Cocoanut, Anglo-Spanish, Royal Jubilee, and Ailsa Craig, being of huge size (Silver-gilt Medal). Messrs. Chas. Lee & Son, Hammersmith, had a fine collection of Apples, including Bismark, King of Pippins, Lord Suffield, Warner's King, Worcester Pearmain, Duchess Favourite, etc. (Silver-gilt Medal). A collection of Apples, Asters, and Roses was shown by Messrs. Wm. Paul & Son (Silver-gilt Medal). A collection of salad plants, such as Endive, Lamb's Lettuce, Chicory, and Dandelion, as well as Celery and Celeriac, was shown by Messrs. Vilmorin, Andrieu & Co., Paris (Silver-gilt Medal).

A fine exhibit of Gros Maroc Grapes in baskets and also on the usual stage boards was shown by Mr. Wm. Iceton, Putney Park Lane, and elicited admiration from the visitors (Silver Medal). Sixteen large fruits of Hero of Lockinge Melon, and eight of a seedling, were shown by Mr. Geo. Reynolds, gardener to the Messrs. de Rothschild, Gunnersbury Park, Acton (Silver Medal). A group of Palms, Chrysanthemums, and Eucharis was shown by Mr. Geo. Wythes, gardener to the Duke of Northumberland, Syon House, Brentford (Silver Medal). Sunflowers, Asters, Anemones, and other autumn flowers were shown by Mr. C. Turner, Slough (Silver Medal). A fine lot of Peaches was staged by Mr. Geo. Woodward, Barham Court, Maidstone (Silver Medal). Nine bunches of black Grapes in fine condition were shown by Mr. S. T. Wright, gardener to C. P. Campbell, Esq., Glewston Court, Ross (Silver Medal). Apples, Pears, Plums, Apricots, and other English fruits dried were shown by Mr. W. A. Trotter, gardener to F. Ricardo, Esq., Bromsberrow Place, Ledbury (Silver Medal). Table decorations were shown by Mr. J. R. Chard, Stoke Newington (Silver Medal). A large collection of self and fancy Pansies were shown by Mr. H. Wrede, Lüneburg, Germany (Silver Medal). A table of Onions, and a collection of Apples set up with the leaves of Mahonias and other subjects, was arranged by Messrs. Jarman & Co., Chard, Somerset (Silver Medal). A collection of Apples, Filberts, Cobs, etc., was exhibited by Messrs. H. Lane & Son, Berkhamstead (Silver Medal). A collection of Pears of great weight and handsome proportions was exhibited by Mr. H. Becker, Jersey (Silver Medal). Mr. A. H. Rickwood, gardener to Lady Freake, Twickenham, had a collection of Apples and Pears in fine condition (Silver Medal). A collection of thirty dishes of Tomatos in nearly as many varieties was staged by Mr. Rider, Orpington, Kent, and all were finely finished and generally rich in colour (Silver Medal). A collection of Apples, many of large size and well coloured, was staged by Mr. Will Tayler, Hampton Court (Silver Medal). A collection of eighty-seven dishes of Apples was exhibited by Messrs. S. Spooner & Sons, Hounslow (Silver Medal). A collection of Cider and other Apples was shown by Mr. John Watkins, Pomona Farm, Withington, Hereford (Silver Medal). A varied collection of Michaelmas Daises and other hardy herbaceous plants was staged by Messrs. Barr & Son, Covent Garden (Silver Medal). Cut foliage of various trees and shrubs was brought up by Messrs. W. Barron & Son, Borrowash (Silver Medal).

A Bronze Medal was awarded to Messrs. John Peed & Sons, Mitcham Road, Streatham, for a collection of Apples, including fine samples of Peasgood's Nonsuch, The Queen, Emperor Alexander, etc. Flowers of Zonal Pelargoniums in bunches and Begonia Rosebud were shown by Messrs. H. Cannell & Sons, Swanley (Bronze Medal). Peasgood's Nonsuch, Worcester Pearmain, and Lord Suffield Apples in heaps were shown by Mr. B. Wells, Crawley (Bronze Medal). A group of Chrysanthemums, Begonias, Ferns, etc., was set up by Mr. Chas. Holding, Ealing (Bronze Medal). Pears were shown by Mr. E. Meads, gardener to G. A. Loveday, Esq., Iver Heath, Bucks (Bronze Medal). Cider and Cider Apples were shown by Messrs. Gaymer & Son, Banham, Attleboro. Twenty-three dishes of Apples were shown by Mr. Bytheway, Marlborough (Bronze Medal). A collection of Runner Beans and Potatos was exhibited by Mr. R. Dean, Ranelagh Road, Ealing (Bronze Medal). A collection of Japanese, Pompon, and single Chrysanthemums was staged by Mr. W. Wells, Earlswood Station, Surrey (Bronze Medal). A sample of an enormous cropping and finely flavoured Potato named Prodigious was shown by Messrs. R. Veitch & Son, Exeter.

Some medals were awarded for collections of Potatos in connection with that exhibition. A fine and somewhat extensive collection was exhibited by Mr. Ed. Chopping, who had fine samples of Edgecote Purple, Sutton's Seedling, Favourite, Mottled Beauty, Victory, etc. (Silver-gilt Medal). Messrs. W. W. Johnson & Sons, Boston, Lincolnshire, also had a fine collection, including Crimson Beauty, Prime Minister, and Boston Q. Q. (Silver Medal). Mr. C. Fidler, Reading, also showed a collection of the leading sorts, with a pile of Fidler's Reading Giant in the centre (Silver Medal). Messrs. Harrison & Sons, Leicester, had a collection, including Early Short Top, Harvester, of beautifu shape and a great curiosity in tubers of Reading Giant, twelve months old (Bronze Medal).

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

CATTLEYA HOUSE.—The reintroduction of the autumn flowering Cattleya labiata in such large quantities has enabled many amateurs to purchase a good batch at a very small outlay. Such a free grower is it, that out of eighty small plants we have over sixty sheaths, and so distinct are some of the plants that we expect great variety among them. The best plants are grown in baskets, which suit them well, as they appear to require all the light and air possible to do them justice. Although small pieces in 60's and 48's in some instances have made strong flowering growths, only the strongest plants will be allowed to develop their flowers, and these will only carry them for a day or two, so as not to weaken the plants.

Cattleya Bowringiana, if not so attractive or so variable as the above, is nevertheless valuable on account of its flowering at a time when Orchid bloom is scarce and the quantity of bloom which it has to a spike. We find it does best when potted in peat alone and somewhat confined as to root room. It requires plenty of moisture at the roots during its

growth, and at no time should it be allowed to become shrivelled. Vanda Kimballiana has been flowering with great freedom in this house, and is without doubt a real gem, and should be in every collection.

Flowers for the New Year.—If Orchid flower is wanted in quantity early in the new year a few plants of Dendrobium Wardianum, D. nobile, etc., that have been resting in the vinery or greenhouse should be placed in heat. By placing a few in at intervals of a fortnight a good succession may be had for a long time if grown in quantity, which is much better than having them all in bloom at once.

The Cool House will soon be gay with the free-growing Oncidium tigrinum. This should be largely grown by amateurs on account of its easy culture and floriferousness. After the blooming season is over it should receive a good rest until it starts into growth, when a liberal course should be pursued until it again repays the cultivator for the pains taken with it by producing strong good spikes of bloom. As a precautionary measure I would advise that the Masdevallias be dipped in a weak solution of Tobacco water, as with the use of fire heat comes the dreaded yellow thrips, which can only be kept under by allowing them no quarter. The same remark also applies to Miltonia vexillarium.

There will no necessity to lower the temperatures in any of the divisions while the weather keeps bright and mild, but should it become frosty a reduction of a few degrees will do no harm.—*C.*

Zygopetalum graminifolium.

In general appearance this species closely resembles Z. maxillare, particularly in the flowers, but it differs in the thinner rhizomes, smaller pseudo-bulbs, and narrower leaves. The erect flower scape bears a raceme of five to seven flowers of appreciable size. The sepals and petals are deep brown with a few transverse irregular stripes or markings; sometimes they may merely be heavily blotched with brown on a green ground. The lip is the showiest organ of the flower and of a nearly uniform warm purple hue, and has a large, half cup-shaped, darker coloured crest, ridged on the edges. It was introduced from South Brazil some years ago, and was tossing about with or without a name. A plant was exhibited at Brussels last April under the name of Z. Imschootianum, when it received a First-class Diploma of Honour. A coloured figure of it now appears in the August number of the *Lindenia pl.* 339.

Fine variety of Cattleya Loddigesii.

Cattleya Loddigesii was the first of the genus introduced to this country, or even to the Old World. This took place early in the present century, and the species was named Epidendrum violaceum by the Messrs. Loddiges, of Hackney, who introduced it from Rio de Janeiro. Since then several very distinct varieties have been brought home and named. A very beautiful form has just been sent us by Captain Robert Twiss, Birdhill House, Birdhill, Limerick, and which does not seem to agree exactly with any of the named sorts. The sepals and petals are of a warm deep purple, lightly tinted with violet. The tube of the lip externally is several shades paler, but internally a mixture of cream and pale purple gives a flesh-coloured hue. The side lobes are of the same hue, and the terminal lobe is more decidedly creamy, with a slight tint of purple at the apex, while the disc is orange. Four toothed ridges run along the centre of the lip, giving it a corrugated appearance. This latter character shows that the flower sent us would come under the variety C. L. Harrisoniæ; but the sepals and petals are darker, reminding us of C. L. violacea, but then the lip is paler and corrugated, so that it does not agree exactly with either. An appropriate way of naming it would be to call it C. Loddigesii Harrisoniæ Birdhill var. It is certainly fine, and richly coloured.

Obituary.

With deep regret, which will be shared in by all who knew him, we have to record the sudden death of Mr. Robert Bullen, Curator of the Botanic Garden, Glasgow, early on the morning of the 4th inst. On the previous day he had attended a meeting of the City Council and in the evening paid a visit to a sick friend, in whose house he was suddenly seized with apoplexy and broke a blood-vessel on the brain. He never spoke again, and expired early on the following morning. Poor Bullen! A more amiable or kinder hearted man never lived, and he had few superiors as a plantsman. Keenly indeed will his loss be felt by all his old friends. He was born in 1833 at Latham House, Ormskirk, and received his early training there under his father, who was gardener to the Earl of Latham. Subsequently he served in the gardens at Knowsley, and in the nurseries of Messrs. Rollison & Sons, Tooting, and Messrs. James Veitch & Sons, Chelsea. Eventually he became gardener to A. Turner, Esq., of Leicester, with whom he made a name for himself as a skilful cultivator of Orchids, a class of plants that most gardeners then knew little about. He was a frequent and successful competitor at the London shows, and wound up his career as an exhibitor by winning the first prize for twenty Orchids at the ever-to-be-remembered International Horticultural Exhibition of 1866. Two years later—the summer of 1868—he gained the appointment of curator of the Glasgow Botanic Garden, in succession to the late Mr. Peter Clark, and quickly gained the confidence and respect of the Directors. During his period of curatorship the collection of plants has largely increased, and the houses entirely rebuilt and enlarged. For a number of years previous to the acquisition by the Corporation of the Gardens, he had to struggle with the difficulty of a short-handed staff, and it is no exaggeration to say that it is greatly owing to his personal influence and activity that the large collection of plants passed in such a satisfactory condition into the hands of the city. When we saw him in our office but a few weeks ago he expressed himself as heartily grateful for the happy termination of his troubles at the garden, and was most hopeful for the future. Alas! his beloved plants will know him no more. He was buried at the Western Necropolis, Maryhill, on the 7th inst., and the greatest sympathy is felt for his widow and family.

Questions and Answers.

*** *Correspondents are requested, in order to avoid delay, to address all communications to "The Editor" or "The Publisher," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa, London."*

Carnations not Layered.—*H. Anderson*: If not overgrown in rich soil, they will stand the winter in the open ground just as well, if not better, than layers transplanted during the present month, more especially if they are varieties of naturally vigorous growth and strong constitution. Of course it is understood that the soil is naturally well drained and not too much inclined to clay. In moderately light soil, Carnations make, as a rule, short-jointed and stiff shoots, naturally well adapted for passing through the winter, and the roots being well established in the soil, the plants are not liable to be thrown out of the ground by frost. Grown in this way Carnations form fine clumps, and produce flowers in great quantity. It will depend upon the condition of the plants as to the quantity of good grass, if it would be advisable or safe to trust to them for a supply of flowers the third season. They behave very differently in different soils; and if the stems are getting long and straggling the third season it would be advisable to layer all the best shoots about the beginning of August. Of course if you wanted to grow for exhibition purposes, it would be necessary to make layers every year; but for cut flowers, and plenty of them, it is quite a different matter.

Good Show and Fancy Dahlias.—*Dahlia*: The undermentioned show Dahlias are all first class for exhibition; but giving the list from memory it would be rash to say that it includes all the very best. In fact there are so many good varieties now-a-days that there would be little difficulty in doubling the length of the list with really good things. There can be no question, however, that the list here given includes many of the cream of Dahlias judging by the frequency with which they turn up in fine condition at exhibitions. Gloire de Lyon is a grand white, but liable to come with a double centre when highly fed; John Walker is much smaller and white, but nearly always good; others are Mrs. Gladstone and Queen of the Belgians, both soft pink; Harry Keith, violet-purple; Mrs. Douglas, bright scarlet; Duke of Fife, red; Buttercup, yellow; Maude Fellowes, lilac; Glow-worm, scarlet; Antagonist, purple; John Hickling, R. T. Rawlings, yellow; Arthur Ocock, scarlet; Alice Emily, buff yellow; Ethel Button, lilac; John Standish, bright red; W. H. Williams, scarlet; Mr. Glascock, purple; Coronet, scarlet; and Prince of Denmark, nearly black. Niobe, crimson; Kathleen, lilac-pink; and Gwendoline, deep crimson are fine new varieties, but they probably do not excel those already given. Lists of the best show varieties ten or fourteen years ago included very few of the above. The following are a few of the leading varieties of the fancy types of the present day, namely, Mrs. Saunders, yellow, tipped white; Mrs. John Downie, buff yellow, striped and spotted crimson; Dazzler, with fewer spots on a yellow ground; Hercules, Buffalo Bill, similar, but different shades; Gaiety, yellow, splashed with bronzy-orange, and H. W. Wards, yellow with a crimson tip. Some might include the latter amongst show varieties, but it is rather arbitrary.

Cactus Dahlias.—*Dahlia*: We are well aware that a proper distinction between true Cactus and decorative varieties is seldom made, and that much confusion prevails generally with regard to this matter. There are numerous varieties so exactly intermediate in character that it is often difficult to draw the line. The following varieties include many of the very best in cultivation, although a number of them are new and probably rather expensive as yet but it must be remembered that true Cactus varieties are yet comparatively scarce:—Robert Cannell, rich purple; Sir Roger, orange-scarlet; Kaiserin, yellow: Countess of Radnor, lilac-purple on a yellow ground; Bertha Mawley, red flushed with scarlet; Baron Schroder, similar; Panthea, orange; Launcelot, orange-scarlet; Delicata, pink; Avalanche, white; Matchless, maroon-crimson; and Juarezi, scarlet. It is difficult to say why some of them should be open in the centre, and others with hard, green centres, as florists say; but we have noted that some of the very large-flowered varieties are very liable to this defect, so that Beauty of Brentwood does not stand alone in this respect. Florists themselves cannot prevent it, so that you should select varieties with moderate sized flowers. Several of the above mentioned always come good as far as we have seen them, but a longer trial must be given them.

Tuberous Begonias.—*Dahlia*: You do not give any particulars as to the treatment you give your plants under glass. Some growers fail by keeping their plants too close and moist with the idea of getting them well forward. Of course they require the warmth of an intermediate house or a stove to start them freely, dependent upon whether they are started early or late in the year, but as soon as growth has fairly started they must be repotted—that is, assuming they have been kept in the old pots through the winter. Then keep them as near the glass as possible in the same house to encourage growth in the fresh soil, and at the same time to prevent drawing. When they have made some growth, and the weather is getting mild outside, you must take them to a cooler and more airy house, so that they may grow slowly and make sturdy, short-jointed stems. Should the weather outside be cold and raw, a mild and genial heat must be kept up by artificial means, always remembering to give plenty of ventilation if the weather is at all favourable outside. You say your plants were raised from seed, and if they have been raised this year you could not expect great things from them the first year out of doors at least, although you ought by this time to have made a fair show indoors, with the plants of moderate size. Even in the London nurseries the plants out of doors raised from seeds have not made great progress, owing to the dry weather in June, and later on owing to the cold and sunless weather which we have experienced just as you have. The best thing you can do is to go over the beds and mark all the varieties worth saving. Start them about the end of March or the beginning of April in a mild temperature, harden them off towards the end of May, and plant out about the beginning of June if the weather is favourable. Three or four-inch pots will be large enough according to the size of the tubers. They will do better the second year, owing to the tubers being larger to begin with.

Carnation.—*Wesley Kaye*: The flower answers to the description of Van Dyck, and though it is past its best we have little doubt it is that variety.

Apprenticeship, etc.—*Print*: (1) The contract lapsed with the death of your employer, and you have no claim whatever upon anyone. (2) Miss Ormerod's "Insects Injurious to Agriculture, etc.," published by Swan, Sonnenschein & Co. (3) You can get a good microscope for £5 from any of the leading opticians.

Rhodochiton volubile.—*P. Cogger*: Without some definite knowledge as to the condition of the roots of your plant it is not possible to give much advice. If the plant is in good sandy soil, carefully watered, and the shoots regularly thinned out to encourage new growths on which the flowers appear, there is no reason why it should not do well one season as well as another. The soil is either too dry or sodden, and either condition will explain the cause of your non-success.

Gardeners' Review and Register.—*X. Z.*: We do not know. You should write to the Editor or publisher.

Names of Plants.—*J. W.*: The red-leaved Croton is C. Earl of Derby; narrow-leaved Croton is C. augustifolium; the narrow green leaves are those of Elæodendron orientale, usually called Aralia Chabrieri in gardens; the broad green leaf is Clerodendron Thomsonæ, or the variety C. T. Balfourianum; the finely-divided leaf is Paulinia thalictrifolia. You should attach a number to each leaf or

plant you send, and better specimens and flowers are in many cases necessary to identify them.—*P. M.*: 1, Pulmonaria saccharata; 2, Stachys lanata; 3, Selaginella Martensi variegata; 4, Oplismenus Burmanni variegatus, usually called Panicum variegatum in gardens; 5, Selaginella Kraussiana aurea; 6, Selaginella Kraussiana variegata; 7, Selaginella Kraussiana.

NAMES OF FRUITS.—*A. G.*: 1, Stirling Castle; 2, King of the Pippins; 3, Duchess Favourite; 4, Pear Beurré d'Amanlis; 5, Glou Morçeau; 6, Marie Louise.—*H. K.*: 1, Catillac; 2, Louise Bonne of Jersey; 3, Yellow Ingestrie; 4, Peasgood's Nonsuch.

COMMUNICATIONS RECEIVED.—M. R.—F. K.—G. A.—E. D. S. & Co.—A. T.—W. P. R.—D. & Co.—C. M.—H.H.—W. P. R.—Omega.—B.W.—E. C.—W. B. B.

TRADE CATALOGUES RECEIVED.

JOHN PEED & SONS, Mitcham Road, Streatham, S.W.—Roses and Fruit Trees.

DICKSONS, LIMITED, Chester.—Select Roses.

LONDON SEED TRADE.

October 11th, 1892.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a large business in Red Clover owing to unfavourable weather having damaged English crop. White Clover is dearer owing to short supplies. Alsike and Trefoil steady. Rye grasses firm.

COVENT GARDEN MARKET.

October 12th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Grapes..... per lb.	0 6	1 6	Pine apples.		
Kent Filberts 100 lb.	75 0		—St. Michael's, each	2 6	6 0
„ Cobs ...100 lb.	75 0	80 0	Apples...per ½ sieve	1 0	3 6
Peaches ... per dozen	2 0	6 0	Plums...per ½ sieve		
Melons ... . each	1 0	1 6			

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
ArticbokesGlobe doz.	3 0	6 0	Horse Radisb, bundle	2 0	4 0
Beans, French, perlb.	0 6		Lettuces ...per dozen	1 6	2 0
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Cauliflowers, Eng.dz.	3 0	6 0	Radisbes... per dozen	1 6	
Celery.....per bundle	2 6		Smallsalading,punnet	0 4	
Cucumbers .....eacb	0 3	0 6	Spinacb, per strike ...	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	0 9
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Cbampions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Asters .....per doz.	4 0	6 0	Fuchsia, ...per doz.	3 0	6 0
Begonias ...per doz.	6 0	12 0	Heliotrope, per doz.	4 0	6 0
Cyperus .....per doz.	4 0	12 0	Lilium lancifolium...	12 0	24 0
Dracæna term., doz.	24 0	36 0	Marguerites, perdoz.	6 0	12 0
Dracæna viridis,doz.	9 0	18 0	Mignonette, per doz.	6 0	12 0
Evergreens,invar.doz	6 0	24 0	Palms in variety,each	2 6	10 0
Ferns, invar.,per doz.	4 0	18 0	Palms, Specimen ...	15 0	63 0
Ferns, small, per 100	6 0	10 0	Pelargoniums,perdoz.	6 0	12 0
Foliage Plants, doz.	12 0	60 0	—scarlet .....per doz.	3 0	6 0
Chrysanthemum, doz.	4 0	9 0	Solanums.....per doz.	9 0	12 0
— large, doz.....	12 0	30 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s d		s. d.	s. d.
Arum Lilies, 12 blms.	4 0	6 0	Pelargoniums, 12 sps.	0 6	0 9
Asters.....doz. bun.	6 0	8 0	—scarlet.....12 bchs.	4 0	6 0
Bouvardias, per bun.	0 6	1 0	Primula, double, bun.	0 6	0 9
Carnations, 12 blooms	1 0	3 0	Pyrethrum doz bnchs	2 0	4 0
Chrysanthemum,dz bn4	0	9 0	Orchid Bloom in var.		
— .....doz. blooms	1 0	3 0	per bloom, from	0 3	1 0
Eucharis ...per doz.	3 0	4	Roses, doz bunches	4 0	6 0
Gardenias 12 blooms	1 6	3 0	Roses, yellow, dozen	2 0	4 0
Gladioli...doz. spikes	1 0	2 0	— Red..... doz. blms.	1 0	2 0
Heliotropes,12 sprays	0 3	0 6	— Saffrano...per doz.	1 0	2 0
Lilium Harrisii,			— Tea ..... per dozen	1 0	2 0
doz. blooms	4 0	9 0	Stepbanotis, dz. sps.	2 6	4 0
Liliums var., dz.blms.	1 0	3 0	Sweet Peas, dz. bns.	1 0	3 0
MaidenhairFern,12bs.	4 0	6 0	Tuberoses, per doz	0 3	0 6
Marguerites, 12 bun.	1 0	3 0			
Mignonette... 12 bun.	2 0	4 0			

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FLOWER SHOWS, &c., 1892.

[*The Editor will be greatly obliged if Secretaries of societies will communicate to him the dates of their exhibitions as soon as fixed.*]

OCTOBER.

18.—Royal Horticultural Society: Committee Meetings at Drill Hall.
25.—Fruit Show at Earl's Court (3 days).
26.—National Chrysanthemum Society: Meeting of Floral Committee.
27.—Alverstoke and Gosport Chrysanthemum Show (2 days).

NOVEMBER.

1.—Royal Horticultural Society: Committee Meetings at Drill Hall.
1.—Kent County Chrysanthemum Show (2 days).
1.—Brixton Chrysanthemum Show (2 days).
1.—Barnstaple Chrysanthemum Show (2 days).
1.—Brighton and Hove Chrysanthemum Show (2 days).
1.—Watford Chrysanthemum Show (2 days).
2.—Ascot Chrysanthemum Show (2 days).
2.—Ealing Chrysanthemum Show (2 days).
2.—Portsmouth Chrysanthemum Show (3 days).
2.—Croydon Chrysanthemum Show (2 days).
3.—Steyning Chrysanthemum Show.
4.—Crystal Palace Chrysanthemum Show (2 days).
4.—Bolton Chrysanthemum Show (2 days).
5.—Crewe Chrysanthemum Show.
7.—St. Neots Chrysanthemum Show.
8.—National Chrysanthemum Society at Royal Aquarium (3 days).
8.—Birmingham Chrysanthemum Show (3 days).
8.—Kingston and Surbiton Chrysanthemum Show (2 days).
8.—Enfield Chrysanthemum Show (2 days).
8.—Sevenoaks and West Kent Chrysanthemum Show(2 days).
8.—Leeds Chrysanthemum Show (2 days).
8.—Batley Chrysanthemum Show (2 days).
8.—Waterloo (near Liverpool) Chrysanthemum Show.
9.—Battersea Chrysanthemum Show (2 days).
9.—Bath Chrysanthemum Show (2 days).
9.—South Shields Chrysanthemum Show (2 days).
9.—Cardiff Chrysanthemum Show (2 days).
9.—Bournemouth Chrysanthemum Show (2 days).
9.—Hornsey Chrysanthemum Show (2 days).
10.—Chelmsford Chrysanthemum Show.
10.—Birkenhead and Wirral Chrysanthemum Show (2 days).
10.—Finchley Chrysanthemum Show (2 days).
10.—Spalding Chrysanthemum Show (2 days).
10.—Tiverton Chrysanthemum Show.
11.—Leicester Chrysanthemum Show (2 days).
11.—Sheffield Chrysanthemum Show (2 days).
11.—Eccles and Patricroft Chrysanthemum Show (2 days).
11.—Wellingborough Chrysanthemum Show (2 days).
11.—Dundee Chrysanthemum Show.
11.—Bradford and District Chrysanthemum Show (2 days).
15.—Royal Horticultural Society: Committee Meetings at Drill Hall.
15.—Liverpool Chrysanthemum Show (2 days).
15.—The Hartlepools Chrysanthemum Show (2 days).
15.—Plymouth Chrysanthemum Show (2 days).
15.—Twickenham Chrysanthemum Show (2 days).
16.—Bristol Chrysanthemum Show (2 days).
16.—Hull Chrysanthemum Show (2 days).
16.—Rugby Chrysanthemum Show (2 days).
17.—Edinburgh Chrysanthemum Show (3 days).
17.—Neath Chrysanthemum Show.
18.—Chorley Chrysanthemum Society (2 days).
18.—Stockport Chrysanthemum Show (2 days).
22.—Dalkey Chrysanthemum Show.
24.—National Chrysanthemum Society: Meeting of Floral Committee.

DECEMBER.

7.—National Chrysanthemum Society: Meeting of Floral Committee.
13.—Royal Horticultural Society: Committee Meetings at Drill Hall.

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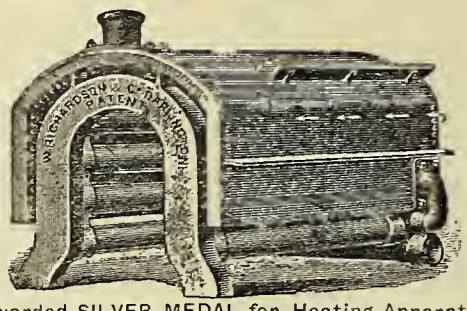

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Oct. 24th.—Bulb Sale at Protheroe & Morris' Rooms (and every day in the week).
Bulb Sale at Stevens' Rooms.
TUESDAY, Oct. 25th.—Sale at Trinity Road Nurseries, Wandsworth, by Protheroe & Morris (2 days).
WEDNESDAY, Oct. 26th.—National Chrysanthemum Society: Meeting of Floral Committee.
Sale at Perry Hill, Cliffe, Rochester, by Protheroe & Morris.
Bulb Sale at Stevens' Rooms.
THURSDAY, Oct. 27th.—Alverstoke and Gosport Chrysanthemum Show (2 days).
Sales at Tangley Park, Hampton, and at Groombridge, Tunbridge Wells, by Protheroe and Morris.
Bulb Sale at Stevens' Rooms.
FRIDAY, Oct. 28th.—Orchid Sale at Protheroe & Morris' Rooms.

The Gardening World.
Edited by BRIAN WYNNE, F.R.H.S.
SATURDAY, OCTOBER 22nd, 1892.

THE OCTOBER CHRYSANTHEMUM SHOW.—Not a large one but generally of excellent quality, was the verdict pronounced by the cult with respect to the first October exhibition held by the National Chrysanthemum Society. Still further was the opinion general that it will grow, and of that there can be no doubt. Some little disappointment was expressed that after all so many of the Japanese blooms shown, and for the season remarkably well shown too, were but of the ordinary November bloomers pushed on. Well that is not exactly what is desired, but then all things must have a beginning, and growers may plead that the more recently raised early bloomers of the Japanese section have not yet got into commerce.

We shall expect, however, should the society determine to continue the October Show to see very many of these early bloomers exhibited another year, and there can be no doubt whatever that the holding of the Show will not only create a demand for these more precocious varieties, but also that it will stimulate raisers to work in the production of them in the finest form. So far as the incurved varieties are concerned there is little chance of seeing them in material abundance in October. The new R. A. Bahuant seems to be almost the only fairly good incurved that can be induced to bloom early naturally, but it may after all be the primogenitor of many

H. J. JONES
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others. However, it is the Japanese section to which we look chiefly for October flowers.

It is said that we do not want early bloomers, but no one can say that the second week in October is early, and indeed but for Michaelmas Daisies and a few other hardy plants gardens look bare enough of flowers just now. It was a surprise to see such a display of Dahlias, showing that some localities at least have suffered little from frost as yet. The groups of Chrysanthemums might have been more numerous, but these will no doubt grow in numbers; and the table decorations and other floral combinations in the gallery were very beautiful, but it is feared being upstairs escaped general attention. They, however, constituted a most attractive feature.

The conference on the question of enlarging the show boards for Japanese varieties, which was presided over by Sir Edwin Saunders, was of a most practical and business-like character. It was well attended by those whom the question most intimately concerns; the papers read were vigorous and to the point, and all agreeing upon the desirability of moderate enlargement, to which sentiment there was practically no opposition in the discussion which followed. The actual result of the conference was the passing of a resolution to the effect that the standard board should be 28 inches long, 21 inches wide, 8 inches high at the back, 3 inches high in front, 7 inches from centre to centre of each hole; and the holes 3 inches from the front in the first row, and 4 inches from the back in the third row. The matter will have to come before the General Committee of the society before it can become a rule, but we have no doubt the resolution will be adopted, and that the new rule will come into force after the present season.

Vegetable Competitions.—The Messrs. Sutton & Sons, who deservedly rank amongst the most liberal donors of prizes for Vegetables, have of late, in connection with their prizes at important shows, offered the money in classes for single dishes, an admirable deviation from the ordinary system of giving perhaps three prizes only for collections, which casts the bulk of the money into the hands of three competitors only. That was the case at Earl's Court, for instance, and some exceedingly meritorious collections were left out altogether. Now at the Royal Aquarium Show last week, Messrs. Sutton offered prizes in eight single-dish classes, and the results are interesting as pointing to the wider and more fair distribution of the awards.

Thus, in the Beet class Mr. Ocock was first; with Carrots, Mr. Waite; with Cauliflowers, Mr. Gibson; with Celery, Mr. Pope; with Leeks, Mr. Lye; and with Parsnips, Mr. Friend—six classes with different winners of first prizes in each. With Onions Mr. Gibson got another first, and Mr. Waite with Tomatos. Then Mr. Friend was second with Celery, Mr. Gibson with Beet, Parsnips, and Tomatos, Mr. Pope with Carrots and Leeks, Mr. Ocock with Cauliflowers, and Mr. Lye with Onions—so that the second prizes were well distributed also. It is very interesting to find that, out of the eight classes with four prizes in each, Mr. Gibson (whose excellent exhibits did not come into the prize list at Earl's Court) should, in taking two firsts, three seconds, and one third, have done better than any other competitor; showing that many men have first-class exhibits in a few dishes, but weak ones in others.

While we should regret to see prizes for collections entirely abolished, so admirably do they encourage a high standard of cultivation all round, the method of awarding prizes in single classes does undoubtedly lead to larger competitions, the more equal distribution of the rewards, and the raising of the standard of merit. Of course men of high reputation as growers and exhibitors will always take good positions; but in exhibiting vegetables, as in other things, there is always found as good fish in the sea as ever came out of it, and the oldest and most expert exhibitor must never make sure of his wins until the awards have been made.

The Fall of the Leaf.—Although some few weeks will elapse ere the present year dies absolutely, the vegetable year, if it may be so termed, is dying fast now. With the decay of the leafage comes one of a gardener's gravest troubles, for much as leaves may not be out of place when they lie thickly beneath the trees from which they have fallen, yet do they to well-ordered garden minds seem very untidy, and there is natural haste to sweep them up, cart them away, and thus have so far as circumstances will admit some of that neatness even in the acknowledged untidy season which all good gardeners love to find.

But if the fall of the leaf serves to remind us that the summer is over and the winter is at hand, it serves also to remind us that seasons must have their course, and that in so doing they are performing for all that relates to gardening good service. The fall of the leaf shows not only that the summer has in perfecting both wood and leaf done its work well, but the autumn and winter will in their hardening effects so mature wood and bud that a productive season for leafage and probably for fruit is assured. We may sometimes wonder why it should now be in season so hot, and now in season so cold, as these extremes bring only to poor humanity much of pain and discomfort, still so far as the vegetable world is concerned, these extremes are all conducive to good. Even the leafage when it has performed its functions, and now cast off as it were by the trees being for them on the branches no further use, yet serve good purpose as manure.

Gardeners in fact find so many uses for the fallen leafage that they cannot afford to treat it discourteously. They gather the leaves up with care, put them into heaps to decay, and thus form useful plant food in the succeeding year. They use them for the provision of warmth by forming them into beds, into which plants in pots are plunged. No one can afford to neglect the decaying fallen leaves if he be a gardener; hence not only does the autumn bring trials to the tidy man, but also much of concern for the careful man, who sees in the leafage good store of plant food.

Horticultural Examinations.—It does seem at last as if some real effort was about being made to promote a definite system of Examinations in Horticultural knowledge, not merely locally but nationally. Growing out of the lectures on Horticulture given in the county of Surrey under the auspices of the Surrey County Council, there was instituted an examination held last spring under the authority of the Royal Horticultural Society with very admirable results. The society now is purposing to formulate a syllabus at once for instruction and examination in the hope that County Councils generally will make it the basis of their teaching schemes, and thus secure at the outset something like unanimity in county action throughout the country.

The syllabus so far as prepared includes two distinctive features. First, elementary knowledge in plant life or plant physiology, on which all horticultural practice should be based; and secondly, horticultural operations and practice. The examinations would be divided into higher and lower grades; in the former should be specially found school teachers, in the latter ordinary attendants at the horticultural instruction classes. The proposal opens a wide door for all who may desire to enter into the examinations. Gardeners' Improvement Societies especially seem here to have opportunities which they should not neglect. The subjects set forth in the schedule apart from the Plant life section, and much of that is exceedingly simple and elementary, deals with garden implements, cultivation of soil, digging, trenching, hoeing, seeding, earthing, staking, and all similar subjects, propagating by cuttings, layers, budding and grafting, training, pruning, and all matters relating to fruit tree and bush culture, vegetables, sections, kinds, varieties, methods of sowing or culture.

Flowers, manures, insect and fungoid pests, and similar subjects make up a broad syllabus which should offer to every class of candidate a wide field for study and instruction. We learn that it is proposed to hold the examinations throughout the country early in May next; that being so all interested should bestir themselves if they wish to see the scheme a success.

Mr. W. McKinnie has been engaged as gardener to T. P. Barber, Esq., at Shotley House, Durham.

The Ancient Society of York Florists will hold their annual Chrysanthemum and Fruit and Vegetable Show on November 16th and two following days; and also an exhibition of Spring Flowers on April 26th and 27th, 1893.

The Kent County Chrysanthemum Society.—The fifth annual exhibition of this society will be held at the Rink, Blackheath, on the 1st and 2nd Nov., when over £100 will be awarded in prizes.

The Chrysanthemum Show in the Temple Gardens is now open to the public, as also is that annually provided in Battersea Park, but in both cases the flowers will not be at their best for a week or two.

A new Canna.—An American gardener is said to have raised a Canna which is superior to Madame Crozy, and the best of a batch of 800 seedlings. The improvement lies in a golden band one-quarter of an inch wide around the petals instead of the narrow yellow margin as in Mad. Crozy. It is now in the possession of Mr. A. MacLellan, Newport, R.I.

Complimentary Dinner and Presentation to Mr. Marshall.—On Thursday evening of last week a few members of the General Committee of the International Horticultural Exhibition entertained Mr. William Marshall at a complimentary dinner at Earl's Court, and presented him with a souvenir of the Exhibition in the form of a charming little oil painting by Miss Macfarlane, the subject being an urn-shaped vase of Orchid flowers—Cypripedium barbatum and Brassavola Digbyana, with a Gloire de Dijon Rose at the base. Mr. Harry Turner presided and made the presentation on behalf of the subscribers, and Mr. Marshall received the hearty congratulations of all his friends on the characteristically happy manner in which he had carried out all the arrangements in connection with the appointment of the judges during the season.

Technical Education in Dundee.—We learn that the Dundee Horticultural Association, which has for its aim the advancement of the science and practice of horticulture, made application in the autumn of last year to parcipitate in any sum set aside from "Residue Grant" by the Town Council for the purposes of technical education. This application, we are glad to know, was favourably received, and one of the conditions attached to the grant given to the technical institute by the council, was the institution of a class in the principles and practice of horticulture for

gardeners. As a consequence a course of about twenty lessons and demonstrations has been arranged, and a commencement was made on Monday last, the class being conducted by Mr. D. Storrie, who was strongly recommended to the committee as a skilful and enthusiastic botanist and horticulturist. The introductory lecture was free, but the fee for the course will be 5s.; and members of the horticultural association to the number of sixty will be enrolled free of charge, preference being given first to apprentice and journeyman gardeners.

Distribution of Flowers.—The surplus flowers in the various London parks and gardens are annually distributed in October when the bedding plants are lifted, thus affording an opportunity for the poorer classes who love flowers to become possessed of them. As a rule a day is appointed for this purpose, so that all may receive as equal a share as possible, and no loss of time may be occasioned in the working of the parks. In some cases the flowers have to be obtained by written application previous to the day of distribution. A different method was adopted at the small pieces of garden ground in front of the Houses of Parliament, Westminster, on the 12th inst., on the occasion of the funeral of Lord Tennyson. Thousands of spectators crowded the available area around the Abbey and also the pavement around the railings facing the gardens. The flowers were being rapidly dug up by a staff of workmen, and as quickly handed in small bundles or handfuls to eager expectants apparently without discrimination. It is needless to state that a very rapid clearance of the flowers were made to people who carried off the spoil with evident delight.

Presentation at the Birkbeck Institution.—The recent marriage of David Houston, Esq., F.L.S., botanical and biological lecturer at the Birkbeck Institution, Bream's Buildings, Chancery Lane, was considered a fitting occasion by the numerous students attending his classes to make him a presentation in recognition of his invaluable services to them in the cause of science, and also as a token of the good fellowship existing between them. The students met in one of the rooms of the institution, and the chair was taken by the manager, Mr. G. Norris, who spoke of the high appreciation in which the Birkbeck Institution was held by the public for the high character of its technical instruction and its staff of scientific teachers, of whom Mr. Houston was one. Several of the students in the course of their speeches alluded to the past and present history of the institution, and the facilities for instruction that it afforded them. The new laboratory amply fitted up with various appliances, and well stocked with all kinds of specimens intended for biological instruction and research, was also alluded to, as well as the appreciation in which the teacher was held by his numerous students. It may also be stated here that Mr. Houston has secured the important post of staff teacher in the biological section to the Essex County Council, thus opening up a new and valuable field of labour in which Mr. Houston is destined to be of great service to the rising generation.

The Fruit Growing Industry of Cornwall.—For most kinds of fruit of early growth Covent Garden has long been greatly dependent upon Cornwall. This has been a "fruitful" source of income to many in the past, one conspicuous case of which may be mentioned in which a man who began at 9s. a week, and by grubbing up woodland and planting Strawberries in his spare time, managed to acquire landed property worth very nearly £10,000, and each of his sons has a farm of his own. But this must be taken as an exceptional case. Truthfully speaking, fruit growing in Cornwall has not nearly been followed up as it should have been in the past considering the climate and resources at command. At length, however, farmers and others have awoke to the fact. Farming has done badly for many years in Cornwall, and the rut of depression has awoke the necessity. It is thought that by cultivating land in many of the sheltered nooks and valleys fruit can be more abundantly produced for the London markets. Cornwall has about a fortnight's earlier growth of fruit than any other part of England. The first Strawberries in Covent Garden generally, so far as England goes, come from Cornwall, and consequently gain the highest prices. The latest idea is therefore to start model fruit farms in various parts, and by the aid of the landowners to plant trees of all kinds and to utilise the best known skill for bringing on early fruit. It is calculated that in about 2½ years these farms will be not only self-paying but yield a good profit for the original outlay.

Rare Plants found in Cornwall.—If there is one county in England more than another celebrated for the unearthing of rare plants it is that of Cornwall. Year by year the rarest of specimens are brought to light both by local botanists and the swarms of visitors who make the county their rendezvous for the summer months. The present season has been unusually prolific, and the plant hunters have been well rewarded. A few days ago was found a beautiful specimen of the whorled Knot-Grass (Illicebrum verticellatum), which is only found in three stations in England. There has also been found a plant of the Sand Strapwort (Corrigiola literalis), a species which is often conflicted with the first-named plant.

National Auricula and Carnation and Picotee Societies.—The annual general meeting of the southern section of these societies is announced to take place at the Hotel Windsor on Thursday, October 27, at 5 p.m. The circular convening the meeting is a little puzzling. It sets forth that the business of the meeting will include the presentation of the report of the committee, and also the secretary's report. This looks at first sight as if there were to be opposition reports, but we can scarcely imagine that in the management of such societies there can be any possible conflict between the committee and their secretary, and the rules are silent as to the presentation of a report by the secretary. What does it all mean?

Trees in Paris.—According to the *Revue de l'Horticulture Belge*, Paris is the city of the world which contains the greatest number of trees, according to a statistic prepared by the learned M. Edouard André, one of the assistants of M. Alphand, the illustrious director of works of the city of Paris. In the parks and Parisian gardens no less than 299,294 shrubs and 22,038 trees may be counted. The number of trees planted out in lines is about 100,000. Of all the quarters of Paris the best division is Passy. Then come the Champs-Elysées, Grenelle, Montparnasse, the Ternes, and Maison-Blanche. It is in the second district that the fewest trees are found. Should it be desired to know the cost of one of the trees planted in line, it is about 200 francs. Multiply that sum by 100,000, and the grand total of 20,000,000 francs is arrived at, or £833,333 6s. 8d.

CHRYSANTHEMUM NOTES.

EARLY CHRYSANTHEMUMS FROM ROTHESAY. CHRYSANTHEMUMS from the open air will now be looked upon with much more favour than they were a month ago, more especially if they look fresh after being dashed about with the heavy rains and equinoctial gales with which we have been visited lately. A boxful of flowering shoots has been sent us by Messrs. Dobbie & Co., Rothesay, N.B.; although gathered from the open ground they were bright and fresh. Some were Pompons, and others early flowering varieties belonging to the Japanese type like Madame Desgranges. Notwithstanding the popularity of the latter, it is inferior in some respects to certain other and purer white varieties.

Some of the yellow varieties sent us were bright and attractive, particularly Flora, sometimes called Yellow Perfection, a Pompon with bright golden-yellow flowers. A dwarfer variety is Canarii, about 2 ft. high, with clear yellow flowers and slightly fluted florets produced in masses. A little gem is Sol d'Or, with flowers a shade paler than the last named, and produced on stems 8 in. high. Still paler is the primrose-yellow L'Ami Conderchet, but good in form. A variety named St. Mary grows 2½ ft. high, and produces creamy-white flowers in quantity. Golden Shah is a bright bronzy-gold variety of great merit for market work, and grows 2 ft. high. Somewhat duller in colour and having more fluted florets is Maud Pitcher, but it bears a close resemblance to a sort erroneously named Fred Pélé, and while either of the two are good we should prefer the brighter coloured Golden Shah. The other yellows sent are larger and early flowering Japanese varieties, including the primrose-yellow Mrs. Burrell, which grows 4 ft. high. Several shades darker is the noted Mrs. Hawkins, with fluted florets. M. Dupuis grows 3 ft. high, and has light buff-yellow florets tinted with terra cotta in the centre. Madame Zephyr Lionet is a new variety of this year with golden-bronze flowers, appreciated for market purposes. The florets are evidently flat when grown in the open air.

White varieties were less numerous, but included the beautiful and pure white Mrs. Cullingford. Madame Leon Lassala is similar in size, but the florets are flatter and creamy-white. Another variety named St. Mary, and the true one has pure white flowers. The white flowers of Madame Desgranges are well-known to everybody. Very distinct and graceful in its way is Grace Attick, with long tubular slender florets.

The purple and white or rose-tinted varieties sent are more numerous. That named Nanum grows only about 18 in. and has flesh-coloured flowers shaded with white. Madame Jolivart has larger blush-coloured flowers, but like the last is a Pompon. When grown in the open air Mrs. J. R. Pitcher has its white flowers more or less deeply tinted with pink. It is a Japanese variety. Precocite Japonaise is similar in size and more or less deeply tinted with lilac. Blushing Bride is a rosy-blush Pompon with a white centre. Mr. Selby is described as a blush-white Pompon, but the beautifully neat flowers when grown in the open air are of a pleasing and uniformly soft shade of pink. Quite a distinct thing is Le Poete de Chrysanthemums, a new variety of this year. The blooms are close upon 3 in. in diameter, and are of a beautiful and uniform lilac-purple with a silvery reverse. Similar in colour, but somewhat duller in tint, is Martinmas, a variety that grows 4 ft. high. The blooms moreover are smaller, more compact, and not so choice as the last-named in our opinion.

Of the darker-hued types M. Louis Lionet, a new variety of this year, is rather distinct. The long florets are revolute at the edges, making them appear narrower than they really are. For want of a better term we should describe the florets as of a coppery-pink with a red reverse to the outer florets and yellow on the inner ones. A deep bronzy-red Pompon is Toreador, with somewhat fluted florets, so incurved as to show the yellow edges. The true Fred or Frédéric Pélé is a dark crimson-flowered Pompon of good average size and good form, having the florets tipped with gold.

NEW CHRYSANTHEMUMS.

THE undermentioned Chrysanthemums were exhibited amongst others at the early autumn exhibition of the National Chrysanthemum Society, on the 12th, 13th, and 14th inst. First-class Certificates were awarded them.

FELIX CASSAGNEAU.—At first sight this new variety reminds us of Criterion, but it is darker in colour, and an altogether deeper bloom, and is therefore likely to supersede Criterion for exhibition purposes, unless its earliness prevents it from being kept till the November shows. A year or two however will soon determine its capabilities. While expanding the florets are of a terra cotta hue, but they gradually become revolute at the margin, more or less twisted and of a golden bronze. It belongs to the reflexed Japanese section and is large for that type.

MRS. HUBBUCK.—In this we have the ordinary Japanese type, with very large blooms of a deep amaranth purple with a silvery reverse. The bloom is flat on the top but very full with broad florets. It is also of considerable depth, while the florets are incurved at the sides of the bloom, and in a great many instances showing the reverse. Both this and Felix Cassagneau were exhibited by Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham.

BEAUTY OF EXMOUTH.—The flowers of this beautiful variety are of great size and width, the more compact portion being about 7 in. in diameter. The long florets are ivory white and shining; the outer ones are reflexed, revolute at the sides, and more or less twisted, while the inner ones are incurved. The centre of the bloom is crowded with a great amount of material that takes a long time to expand. The general appearance of the flower is that of Florence Davis, but it is larger, earlier, and the centre is not so green during the early stages of expansion. It is a seedling from Avalanche fertilised with the pollen of Stanstead Surprise. It was exhibited by Mr. W. J. Godfrey, F.R.H.S., Exmouth, Devon, and also received an Award of Merit at the Royal Horticultural Society on Tuesday.

NATIONAL CHRYSANTHEMUM SOCIETY.

Conference on Show Boards.

ADVANTAGE was taken of the presence of a large number of growers at the Royal Aquarium on the 12th inst. to hold a conference for the consideration of the question of enlarging the size of show boards for Japanese blooms. The meeting took place in the library. It was well attended, and the president of the N.C.S., Sir Edwin Saunders, presided. After the president had stated the object for which the meeting had been called, Mr. R. Dean, the secretary, stated that, acting upon a suggestion made by Mr. E. C. Jukes, in July last, he had sent a circular to all the affiliated societies inviting an expression of opinion on the subject at issue, and had received some replies which may be summarised as follows:—The Lindfield Society reported that it had already adopted the uniform size of 28 in. by 21 in. for 12 blooms, 21 in. by 14 in. for 6 blooms, 7 in. high at the back, and 7 in. from hole to hole. The Lewes and District Society saw no good reason for any alteration. The Borough of Longton Society thought that 34 in. by 28 in. would be a suitable size for 24 blooms. The Eccles, Patricroft, and Pendleton Society considered that larger boards were necessary, but that the present width, 18 in., should not be altered. The Isle of Sheppey Society agreed that enlargement was desirable. Mr. A. R. Rundell reported that the Leicester Society had passed a resolution in favour of enlargement, and would adopt any size that might be definitely decided upon by the N.C.S. Mr. Falconer Jameson, representing the Hull Society, announced that in his district the exhibitors were unanimous in favour of moderate enlargement; and the Hessle Society considered that 28 in. by 21 in. should be the standard size.

In the absence of Mr. Charles E. Shea in Italy, Mr. Dean then read the following paper:—

ON SHOW BOARDS FOR JAPANESE CHRYSANTHEMUMS.

FOR some seasons past there has been evidence of the existence, on the part of many exhibitors, of a growing feeling of dissatisfaction with the present regulations concerning the show-boards required, or permitted (as the case may be), to be used for the exhibition of Japanese Chrysanthemums. This feeling at length found expression in a correspondence which appeared in the pages of the *Gardeners' Magazine* of December and January last, wherein arguments *pro* and *contra* were adduced, but without that conclusive result which of necessity must precede anything like compulsory legislation on the part of the National Chrysanthemum Society. Hence it has been decided, and I think wisely, to take advantage of the present October show to invite a full and free discussion of the subject, with the result, it is to be hoped, that a sufficient expression of opinion on the one side and the other will be obtained, so that the real wishes of the general body of exhibitors may be made apparent for the information and guidance of the society.

It is obvious that the onus of establishing an affirmative case calling for alteration of the existing practice rests with those who assail it, and it must be remembered that inasmuch as the rules of the National Chrysanthemum Society, and of many other societies also, already permit the exhibitor of Japanese Chrysanthemums to stage his blooms on boards of any size, the case so to be made out must necessarily include the principle of *compulsion*, as well as proof that the existing regulation boards, with the 6-in. space between the blooms (centre to centre) are insufficient for the requirements of modern showing—at least, so far as the Japanese section is concerned.

For the sake of indicating the lines which the discussion must necessarily take, I would say that we who accept this *onus probandi* must be prepared to prove:—

1. That uniformity of method of exhibition is so essential, or at least desirable, that compulsion upon the subject ought to prevail.

2. That (the necessity for compulsion established) the existing regulation stand is insufficient for the adequate display of the Japanese Chrysanthemum, and that the necessity for an alteration outweighs the objections which may be urged against it. Then

Lastly. The dimensions of the new board which shall be accepted as the regulation show-board of the National Chrysanthemum Society and its affiliated societies, and doubtless of most, if not all, of the leading Chrysanthemum Societies throughout the country.

We have thus the map, or plan, of the discussion before us. Let us at once deal with point No. 1—*compulsion, compulsory uniformity*.

One argument in favour of enforced uniformity at once presents itself, that of analogy. We have but to look at the methods of exhibition of other flowers, notably of the great sister-queen—the Rose—to see that uniformity of staging is held to be an essential of fair competition. And I think that it requires but little consideration to recognise that this view is the correct one. The object of competitive exhibition is to test the comparative excellence of rival blooms, and it is obvious that it must tend to render this test more effectual if the conditions under which the several blooms are presented to the eye of the judge are as nearly as possible identical. In all scientific analyses and comparative examination all matters tending to create varying conditions are carefully eliminated, and why should it be otherwise with the judgment of the comparative excellence of flowers?

It is a matter of common knowledge that the eye is very easily deceived as to the relative dimensions of two bodies of the same size but presented to the eye under different conditions, and some very ingenious devices, having this scientific fact for their basis, have been utilised as advertisements for Pears' Soap. So it is a fact beyond question that if the blooms of one exhibitor are staged on a stand with 6 in., and another with 7 in. or 8 in. spaces, the eye of the judge will, in greater or less degree, be misled. And there is no room for such misleading when the results of twelve months of patient and skilful care are submitted for judgment, and the reputation of the exhibitor is at stake.

So long as the size of the show-board is merely a matter of option, a prudent exhibitor will hesitate to adopt a larger stand for his own exhibit while his opponent is using a board which gives to the blooms a relatively larger apparent size, and, by crowding them together, gives to a weak and shallow bloom the appearance of a solidity which it does not possess.

All the surroundings of competitive exhibition ought, as far as possible, to be uniform, and it is, in my judgment, a fit matter for compulsion that, as with Roses so with Chrysanthemums, blooms should be staged by exhibitors upon stands of similar dimensions.

We now reach the second point. Are the present show-boards, with the 6 in. spaces, sufficient for the effective exhibition of the Japanese Chrysanthemums of the present day?

At first sight the reflection naturally presents itself, that, inasmuch as the present boards were devised very many years ago when the blooms were not nearly of the dimensions now attained, either those who were then responsible for the selection of the dimensions were very much at sea upon the subject, or the dimensions then fixed must necessarily be entirely insufficient for present day requirements. It is difficult to avoid one or other of these alternatives.

But, passing from mere inference to the evidence of our own personal experience, can we fairly say that the Japanese blooms of the present day can be satisfactorily judged when staged upon the present boards? My own opinion, and experience, is that it is not possible.

It is, with certain obvious exceptions, doubtless substantially true, as stated by Mr. Norman Davis (*Gardeners' Magazine*, 9th Jan., 1892, page 19), that the present increase in dimensions of the blooms "is not so much in size (*diameter* I presume is meant) but in the depth and solidity of the blooms."

And it is just these important aspects of *depth* and *solidity* which it is impossible for the judges to accurately estimate when the blooms are so crowded that they touch each other. It is true, as Mr. Davis also says, that only two blooms on a 12-board touch each other at all four points, but six more touch at three points, while the corner blooms touch at two. This alone is quite sufficient to impede satisfactory judging. It must be remembered that judges rarely have more time, generally less, than they require for the proper discharge of their functions, and it is impossible for many reasons that they should lift every bloom from the "general conglomerate mass of interlacing petals," which is almost the correct way of describing a modern show-stand in the smaller classes. Everything ought to be so arranged that the judges can, with the least expenditure of time and trouble, satisfy themselves as to how far each individual flower realises, or falls short of, those essentials of *diameter*, *depth*, and *solidity* which go to make up the perfect show bloom. And this becomes the more important in face of the growing demand that, in all close and important competitions, each individual bloom should be "pointed up."

That a striking consensus of opinion on the part of a large number of the leading exhibitors, to the effect that the present regulation show-board is insufficient for the proper exhibition of such giants as Etoile de Lyon, and its white sport, Lilian Cope, Viviand Morel, E. Molyneux, et hoc genus omne, was brought to light by Mr. R. Falconer Jameson's circular letter, few will be disposed to deny. But the argument has been brought forward by the worthy vice-chairman of the committee of the National Chrysanthemum Society (*Gardeners' Magazine*, 23rd January, 1892, p. 45), that to *enforce* the use of larger boards would be "practically legislating for the few at the expense of the many." And he proceeds that "whilst it is perfectly true that a few of our most successful exhibitors find the regulation boards too small, it is an undoubted fact that they are quite large enough for an overwhelming majority of those who show Japanese blooms."

Now I think that it might be replied that even were it conceded that the existing board is large enough for the majority of those who merely *show* Japanese Chrysanthemums, that fact is entirely beside the practical question if it be also the fact—as I think it is—that the board is *not* large enough for *those who take the prizes*. In other words the question at issue practically concerns, and only concerns, those who, with more or less regularity, make their appearance in the prize lists. For the larger number, who, throughout the country, show, but never, or rarely, take prizes, and who go to make up Mr. Jukes' "overwhelming majority," are, I would submit, unaffected in any real sense by the change which it is proposed to make; nor can it be fairly said that it would be at their *expense*.

It may be true, as Mr. Jukes puts it, that "small blooms on a board too large for them are much less effective than massive blooms on a small board," and that the former condition of affairs is calculated to "spoil the effect of the exhibit." But we must remember that the substantial object in view is not the "effect of the exhibit" of those who have no chance at all of taking a prize, but the satisfaction of the requirements of those between whom the issue of first, second, and third prize must rest.

The exhibitor who in no event can hope for a prize in the class in which he competes can scarcely ask that facilities for accurate judgment of the leading stands shall be withheld simply because their adoption would damage the "effect" of his own exhibit.

Considerations of mere sentiment must give way to those of practical utility.

And, I would ask, does it accord with our experience that "only a few of our most successful exhibitors find the regulation boards too small?" The quality of the exhibits of many, if not most, of those who figure in the prize lists at the chief shows throughout the country is fairly well known to me, and I must say that I think that in nearly every case a larger board would have more adequately displayed their exhibits.

To my mind the necessity for some enlargement of the existing regulation board in the interest of a sufficiently large proportion of the successfully competing exhibitors throughout the country has been demonstrated, and I would now pass to a consideration of possible objections to a change on other grounds.

First we have that of *expense*. That some expense will attend the change is undoubted, but that objection, real and reasonable as it is, within certain limits, must not prevail to arrest a needed reform. We must not spoil showing altogether because of the expense of rendering that showing satisfactory and effective.

Boards and boxes wear out, and whether a "period of option" for a season or two, leading to an after period of "compulsory uniformity" might be conceded to meet this point, might perhaps be a matter for the committee of the National Chrysanthe-

mum Society; but unless the objection be found to be very pressing it would certainly be desirable to give immediate effect to any change which may be decided on.

Portability.—This, too, is a real objection so far as it goes; but, again, not of sufficient weight, *per se*, to be set off against the major consideration of a proper exhibition of the flowers. The substantial end cannot be sacrificed to mere consideration of detail. Besides a reasonable and probably sufficient measure of reform may not, after all, so greatly affect the question of portability as some assume.

Next: a greater *inroad on the space available at the places of exhibition.* A substantial objection, but one which it seems to me must be met rather by a limitation of the number of classes where absolutely necessary, than by the sacrifice of the quality of the judging all through the show, for it amounts to that if it be once conceded that the increase in the size of the show-boards is necessary. And besides the small increase which may be found necessary, and that perhaps in Japanese only, would, on the assumption that the Japanese exhibited are equal in number to all the other sections taken together, only mean some 3 in. to a yard of space on the stage. Not so very much after all.

A last objection.—"Mixed classes" would look very awkward. Some think not, but that the irregularity which already exists where incurved are shown side by side with Japanese Chrysanthemums would be scarcely noticeably increased by a slight addition made to the size of the Japanese board. Others are of opinion that if the suggested alteration should lead to the abolition of "mixed classes" altogether, so much the better. An opinion which, I must confess, I am inclined to share.

Reviewing the various objections which have been urged against an enlargement of the regulation board I think that the conclusion must be, that although some of them have a measure of weight they altogether fail to supply a sufficient reason for withholding the reform which is called for.

What then shall be the dimensions of our new regulation Japanese show-board? Looking at the necessity for some enlargement, and giving all due weight to the objections which I have enumerated, I should say that an increase of *one inch*—namely, from 6 to 7 inches between the holes, centre to centre, would reasonably satisfy the requirements of the case. Whether it would be necessary to have a margin, *back* and *front*, of full 3½ inches is a moot question. Those who have boxes rather larger than their stands would find 3 inches sufficient, and less space would be taken on the show table. But this is a detail merely.

Some restriction of the system of allowing duplicates would also tend to keep the "giants" in their places, and allow that relief to the space which is afforded by the smaller varieties; and a regulation limiting the diameter of the cup, or disc of card or wire, by which the blooms are extended beyond the position of natural growth, would also help matters.

It is, of course, possible that were there no such countervailing considerations as those which I have noticed, even a larger increase than I have suggested might be found desirable; but in this matter compromise must come in, and the spirit of moderation should direct our counsels.

We shall doubtless hear the opinions of many practical exhibitors, and to the united wisdom and experience of the meeting we can safely leave the decision of the exact size of the future board, but this I would suggest: let that size be settled upon some definite principle, and do not let the point depend upon the average of a number of different suggestions; otherwise reasonable proposals may be altogether negatived and swamped by some one's altogether preposterous suggestion—like the 40-in. by 30-in. board for twelve blooms, as proposed by one of his correspondents in answer to the circular of Mr. Falconer Jameson.

In conclusion, I am confident that, whatever be the result of the conference, its decision will be heartily endorsed and loyally observed by all true lovers of the Chrysanthemum.

Mr. R. Falconer Jameson, Hull, and Mr. W. Herbert Fowler, Taunton, then read papers in favour of the alteration, which will be published in our next isssue.

Votes of thanks having been accorded to Mr. Shea, Mr. Falconer Jameson, and Mr. W. H. Fowler, Mr. William Drover, Fareham, showed an exhibition board which he had made and which was of the following dimensions:—28 in. by 21 in., 3 in. in the front and 8 in. at the back in height, and 7 in. from the centre of each hole. Mr. Drover said that when he was first asked about the size that should be adopted for exhibition boards for Japanese blooms, he was of opinion that the usual sized board would do; but, on further consideration, he thought that a larger size would be advisable.

Mr. W. H. Fowler proposed, "That the size of the boards for Japanese blooms for the future be 27 in. by 19½ in., and that all Japanese blooms be for the future exhibited on such size stands only."—Mr. Whittle seconded the proposition.

Mr. Charles Gibson moved as an amendment: "That the size of the boards for Japanese blooms be that recommended by Mr. Drover—viz., 28 in. by 21 in., 3 in. in front and 8 in. at the back in height, 7 in. from the centre of each hole, and the holes in the first row 3 in. from the front, and in the third row 4 in. from the back." He thought that this size was not at all too large. The blooms would be larger at next month's show, and a board of the size proposed by Mr. Drover would enable the public to see the beauty of the blooms and also render the task of the judges easier.—Mr. H. Cannell seconded the amendment.

Mr. R. Ballantine, in supporting the amendment, said: Now that we are on the eve of a change we had better go the full length rather than have any half measures. It has been very clearly proved to-night that some change is necessary. The sense of this meeting is, I think, that the time has come when we should change the size of the board; and while we are about it I think it would be the better plan to adopt a size which will meet the wants of the future as well as of to-day. I think Mr. Fowler's board (27 by 19½) would do for the blooms we now have; but if we made the size 28 in. by 21 in., it would meet all the wants of the present day. At the same time I wish to say that I find by actual measurement that Mr. Drover's board is 28 in. by 21½ in.—that is just half an inch over what he proposes. So far as the extra room required by such boards for show purposes is concerned, I do not think that this is a point to be considered very much; the extra space would scarcely tell much in making up a table. I shall be very pleased to support the amendment proposed, that the size of board for Japanese blooms should be 28 in. by 21 in., and that that limit should be compulsory.

Mr. J. W. Moorman, in supporting the amendment, observed that there was nothing new in the size board proposed by Mr. Drover. It had been used in 1879 at Southampton, in 1882 and 1883 in the Royal Aquarium, and at Kingston and other places.

Mr. Richings also spoke in favour of the amendment. He said that as at present staged the blooms are hidden, and it is impossible to see the full beauty of the blooms or to discover any defects. In fairness therefore to the exhibitors and to the public it was most essential that each bloom should stand out on its own merits, and that the judges should be able to see it clearly. He had not heard one argument advanced why the size of the boards should not be increased.

Mr. Rowbottom referred to the desirability of increasing the height of the present board at the back.

Mr. Fowler thought that the height should be left to the exhibitor. At the present time the board used was only 6 in. in height at the back. As they were not allowed to put the boards higher they put the blooms higher instead.

Mr. Falconer Jameson observed that exhibitors might avoid a great deal of the expense which would be caused by a change in the standard size of boxes by using their old trays and boxes for carrying the flowers to and from the shows.

Mr. D. B. Crane was in favour of the board proposed by Mr. Fowler. He thought it would meet all the requirements of blooms that are exhibited at the present day. He considered that it was most essential that there should be a regular size board; and in the arrangement of the blooms on the board he was in favour of uniformity.

Mr. Norman Davis referred to the importance of considering the distance that should be decided on between the holes on the boards. He was in favour of fixing this distance at 7 in. from centre to centre. Mr. H. J. Jones also acquiesced in this suggestion.

Mr. C. Harman Payne spoke in the interests of amateurs, cottage growers and persons of that class, contending that as they are quite unable to produce very large blooms, if a larger exhibition board is insisted on, their somewhat smaller blooms will look rather absurd on such boards. He thought it would be well to add a clause or condition that in the Amateur and Cottagers' Class the larger board should not be compulsory. The ordinary amateur grower would not, he thought, be able to fill the new board.

Mr. R. Ballantine explained that the whole question would have to go before the General Committee of the society—the Committee being bound to form its own rules.

The amendment in favour of Mr. Drover's board was then put to the meeting and carried by about 38 to 7.

The Chairman, in acknowledging the vote of thanks which had been proposed, referred to the loss which the society had sustained by the death of the Duke of Sutherland, one of its Vice-Presidents.

THE VEGETABLE GARDEN.

Seakale in the open ground.

The growing of a good crop of Seakale roots for forcing purposes, and forcing them successfully when grown, is an item in garden management on which is bestowed a good deal of thought and labour. But what is termed "natural Kale" by the market growers is, I feel sure, not thought so much of as it deserves in the majority of private establishments. By "natural Kale" I mean Seakale that is blanched by being covered with soil, and which grows as spring advances, without the aid of artificial heat. This crop comes in when the forced Kale is over, and is very useful, as vegetables are always scarce just before Asparagus comes in.

The best plan of growing Seakale for this late crop is to plant double rows, say eighteen inches apart, and three feet between the double rows. This will leave room to earth up, say a foot deep, and, during the summer, French Beans or Lettuces can be grown between, or the whole of the ground can be planted with Seakale, and every alternate row or two rows taken up for forcing. The earthing of one half, intended for "natural Kale," should be done as soon as the leaves can be removed, and the other half may be covered in the latter half of February. A few days difference will be found in the two cuttings, not much perhaps, but anything that lengthens the supply of any vegetable is of service to the gardener. The Seakale which is covered in the autumn will be found to be nearly a week earlier than the other, because the ground will retain a little of the warmth from summer, which will be absent in the end of February.

About nine inches or a foot of soil should be placed over the crowns, and when it is fit to cut the head will be seen lifting the soil on the top of the ridge, and with a little care the earth at the side may be moved away, and the crowns may be cut without breaking them at all. Great care must be taken to earth up the latest batch before the crowns make any start, or when ready for cutting the heads will be found bent and disfigured; there is no fear of this happening if covered in a dormant state. I have in many gardens seen late Seakale got by covering some crowns with Seakale pots or boxes and cold leaves or soil, but I think that the Kale grown as described in the ordinary soil will be found far superior in flavour to that grown in any other way, and as I said before it comes in at a time when vegetables are scarce.—*G. H. S.*

Syringa Japonica, the great tree Lilac of Northern Japan, certainly improves with age, and the large plants in the gardens of Eastern Massachusetts, where this fine plant was introduced several years ago through the agency of the Arnold Arboretum, are better than ever this season, being covered with their immense clusters of creamy white flowers, which stand up boldly above the masses of rich dark green foliage. Among small late-flowering trees Syringa Japonica here at the North has no equal when once it is established in deep, rich soil with sufficient room to insure the growth and ripening of its upright, rather rigid branches, which, when the plants are well grown, form a compact, rather formal head. The largest plants in Massachusetts are now nearly 20 ft. high, and 12 or 15 ft. through the branches.—*Garden and Forest.*

FLORICULTURE.

Auriculas in the South.

UNDER the above heading "R. D." has a very interesting article in last week's issue. To me it is indeed pleasant reading to learn that the efforts of the Reading men are so much appreciated, and that the measure of their success is so generously acknowledged by one of the leading writers to the gardening press.

The list of names given by "R. D." by no means exhausts the number of growers in this town and other parts of the south. Mention should be made of Mr. Sanders, gardener to the Viscountess Chewton, Cobham, who, full of enthusiam and love for the flower, is gradually but surely winning his way to the front. And again, Mr. Gilbert, gardener to the Rev. Mr. Flood, Merrow Rectory, who has but recently entered the field of competitors, has proved that he too can both grow and stage the flower in an admirable manner.

Mr. H. Selfe Leonard, of Hitherbury, Guildford, is getting together a large and very high class collection, and has proved his ability to cultivate them by some splendid examples which he staged in the large class of fifty at our last show, and indeed I might continue this list of new growers in the south to an inordinate length, but it would not be wise to tempt the sharp scissors of our patient editor further.

The fact that Mr. Nutt and Mr. Rebbick have taken to the Auricula is news full of interest and pleasure to me, and I heartily congratulate them upon the step they have taken, and wish them every success in their new venture. Like their fellow townsman, Mr. Keen, these gentlemen are well known as very successful cultivators of the Carnation, and there is no reason why they should not prove equally as skilful with the Auricula, and I sincerely hope they will make their mark upon the exhibition table during the forthcoming season.

I was much interested in Mr. Keen's "new routine," and am glad to hear it has answered so well. But one word of caution, my friend. During the first three months of the year, when the cold, biting, shrivelling east winds are upon us, be careful and not let the plants have too much of this or you will rue it. It won't do to have the doors and sides open then—a little ventilation from the top will be sufficient. Nothing spoils the chance of a good Auricula bloom so much as a cold nipping east wind with a clear sky and bright sun. It was such weather as this in the early part of last spring that did so much damage to the bloom of the present year.

With regard to the question asked by "R. D." whether the two new greens, Mrs. Henwood and Abbe Liszt, will be put into circulation, I think I can safely say that Abbe Liszt will be sent out as soon as ever the raiser, Mr. Douglas, has sufficient stock to justify him in doing so. What Mr. Barlow's intentions are with regard to Mrs. Henwood I cannot say, but I have no manner of doubt Mr. Barlow is as anxious that it should be in the hands of growers, who long for it, quite as much as they are to have it.

We must not overlook the fact that it takes many years to get up a stock of some Auriculas, and this doubtless is the reason why new varieties come out so slowly. Now and again we have an exception, Barlow's Mrs. Potts for instance. If all Auriculas would increase with the same rapidity as this does there would be but little difficulty in putting them into commerce in a very short space of time. Barlow's Mrs. Henwood is a flower with a splendid constitution, and with age should give off offsets freely. It has much the same freedom of growth as the Rev. F. D. Horner, and somewhat resembles that variety in the character of its foliage. Abbe Liszt has beautiful foliage, very distinct, but not so rampant as Mrs. Henwood. It is a lovely flower, but not over free in producing offsets. So many enquiries have been made for it that Mr. Douglas will be only too pleased to send it out as soon as ever he possibly can. I am pleased to hear Mr. Thos. Lansdown has raised so promising a green, and hope to have the pleasure of seeing it in London next April. James Hannaford is a good doer, and Mr. Simonite assures me it is a very fine green.

I agree with "R. D." that we have had a very good Auricula season during the past summer, and I hope we may have, what we have not experienced for some years past, a favourable spring, and then, I am thinking, we shall indeed have a glorious show next April.—*T. E Henwood, Reading.*

The Auricula: New Varieties.

IN the interests of the Auricula, and in correction of some ideas about Auricula seedlings, I would notice some points in your correspondent's paper of October 15. The Auricula is not given to making increase every year, like the free and easy going Carnation; and I think "R. D." might now know the habits of the edged Auricula sufficiently not to expect a new seedling to be "let out" after a few appearances at the National Shows.

He remarks that "new varieties during the past ten years have been certificated, and must have increased, but where are they?" Well! Some are dead; some have not kept to early promise; some have been suppressed because so mu h surpassed; some are being propagated as fast as they will breed; and some are just where they were at first—solitary seed plants. In this last category I have several white edges and green edges of 1881 of which there is not yet a second plant.

Of Greyhound, only once seen in London some years ago, there are not six plants yet; while of two other grey edges of 1885 and 1887 there are only the original plants. Selfs are not so shy, though there are only three plants yet of Melanie, raised in 1886. These are only a few instances, under my own experience, of an Auricula continuing for years in a healthy state, but giving little or no increase. Some seem to form no eyes upon the stem that can be induced to break—and, as may be expected in a world full of hopes deferred, it is usually some very good thing that makes slow progress and long delay.

A plant of this shy habit is often unusually long-lived. Commonly any one plant of the Auricula is a perennial in only a limited sense. It remains a few years in a vigorous state, and then constitutionally declines. Thus a plant raised is not for ever a plant gained.

Neither does it follow that any strong plant exhibited will be available next time too, and become "an old stager." Our northern experience with Auriculas taken to the southern shows is that they sustain a very perceptible check, often great enough to throw the plant out of order for a season. Flowers are always paralysed, and opening buds are checked. Necessary removal out of pots risks the breakage of the strong young roots which the plants are making and urgently require. The long journey in dark boxes; the vile atmosphere of London, and the withering draughts of its dreary exhibition place, all inflict material injury. True, these last two evils befal us all alike; but the first two tell specially against the plants that have hundreds of miles to travel. Both Mr. Simonite and myself have lost valuable seedlings by bringing the only plant to a London show.

New seedlings are, so to say, "a flying column;" often, and sometimes for long, cut off from their "base" of any stock at home; plants that carry their lives in their hands.

It is a thing to be thankful for rather than to expect, that a highly bred and first-rate edged Auricula should be prolific. The "huge strong plants with apparently abundance of increase upon them," which "R. D." has seen every year in London, I should guess are generally of the more free habited "self" class. There has never been any such increase on any of my plants in London. Indeed I do not, and will not grow them "huge." I know what mere hugeness means with the Auricula. It means plants that up to February and March look like beating everything. It may look even like "the best grown collection" thus far; but it means, in the true test of April, plants that give disappointing and unruly trusses; trusses on which the pips that should be the best are big to coarseness; leading pips that have nothing of the purity, refinement, balance, and quiet gentleness of the Auricula about them; pips unshapely, rough of outline, goggle-eyed; pips merely fit for cutting out, thus leaving only the inner ones which on edged flowers are of weaker properties in direct ratio to their nearness to the centre of the truss.

Auriculas may be grown strong enough to show the full size and perfection of their flowers, but the temptation should be resisted to run them into the gross and fleshly habit under which they will forget themselves.

Auriculas are not judged for distant and background effects, in which "huge" plants might look imposing or overwhelming. They have to face close and individual scrutiny on delicate points of quality. They are floral jewellery, and not mere stage effects. In no plant is quality more superior to mere bulk and bigness than in this. Even the bigness of its show environment has a reflex adverse effect upon the Auricula. It is dwarfed in the hugeness of the surrounding space, and both in Manchester and London the light is bad to a ghastly degree. The Auricula only looks its true self at home, near to the eye, and in the cool clear light of the unadulterated day.

The scarcity of the best sorts in circulation, entailing difficulty to beginners in getting a collection together, is a matter of which I wrote so far back as 1876. It is the natural revenge of the plant, which I feared might be taken; the revenge of an old favourite overlooked, neglected, forgotten; of a plant that, if once lost, could never be regained; and which in its scarcity could not make quick response to a sudden call to popularity. The few old growers are not to blame for this, though they cannot but be sorry for it.

"R. D." speaks of large collections, but they would not be esteemed so in any other plant. A score of full-blooming sized plants out of mine would leave a very evident blank—at least to me—and I have not a dozen of the old sorts among them. I have neither space nor time for a trade collection, neither do I grow seedlings for the sake of "letting out" anything that might pass for an Auricula. I have thought about those Auriculas raised by even such growers as Geo. Lightbody and Richard Headly, varieties that are heard of now no more, because they were never trusty first-rate flowers. They were admittedly inferior to the best sorts of their own day; and mere variety, coupled with inferiority of properties, was not a sure foundation.

Let us have good things, even though we have less of them. I know of no raiser of Auriculas who has the means to keep and multiply everything he raises that might do as a low-grade flower for awhile. At least I cannot and would not do it. It is a kind of success I should not care for. It is a success not worth succeeding in. And it is misunderstood. If a seedling that satisfies me is let out, and gets found fault with, I cannot help it, and do not care; but I shall not formally circulate any Auricula in which I have not seen fair cause for confidence. Only Heroine and Sapphire have thus "come out." "R. D." asks, "Has anyone bloomed James Hannaford?" Assuredly yes—and for years past. It is a green edge of Mr. Simonite's, and has appeared at the Northern shows, and has also been shown "*honoris causa*," by the raiser, at the Scottish National Exhibitions.

Again "R. D." enquires "will those two grand greens, Barlow's Mrs. Henwood and Douglas' Abbe Liszt, be put into circulation?" Mrs. Henwood is a young sort, and I should doubt if there are six plants yet. Abbe Liszt, I believe, is in distribution, but may not be abundant. "R. D." invites reply from Auricula growers about allowing no seedlings not in commerce to compete against those that are. That is whether they shall be excluded from free and open competition, and the flowers of established reputation be hedged about as if afraid of them.

My plain answer is, that a more short-sighted, mischievous, subversive, retrogressive step could not be imagined or carried out. It will be said I have an interest in seedlings—and I know I have. Also I might as easily observe that some have an interest in old sorts. However, I should still raise seedling Auriculas if they were excluded from all shows, just as I raised them aforetime before ever these revived shows were.

But I would note that to debar seedlings from open competitions is to stop all direct comparison between attainments old and new. It deprives a new variety, perhaps only yet a single plant, of the chance of competing with a sort that like Geo. Lightbody may have seen thirty years of public life, and of which there may be much stock, and many examples brought.

To shut out the seedling from open competition is to rob the classes of a feature of interest which is perhaps fresh and always attractive. In some cases it might discourage the spirit of enterprise and progress that seeks to surpass past attainments. Competition of new seedlings against the best things out; competition of seedlings in classes amongst themselves; competition wherever competition can be, is the truest test; the test most trusty, and most trusted.

There is no chance in seedling raising that has not lain open and common to all. And as the best of the old Auriculas have sprung suddenly and far ahead of their day, from much inferior parentage, there ever remains the chance that a grower who has not been long in the field may obtain results equal to or beyond those of the labourer who has worked much longer. To those, however, who began the work many years ago, it is only fair that there should be and remain, the chances in their favour that have been of their own making. But because some growers have sought to develop the Auricula, and some elect to lie by, till shares in successes are accessible by purchase, I fail to see why the fruits of a floral industry should be disfranchised, boycotted, McKinley-tariffed, by what "R. D." almost half advocates in his suggestion of the question.

In classical allusion, he calls to the "Gods of the Floral Olympus" to come down and help to make up Auricula collections. I don't know that there are any such gods, exactly, and the current title of Celestial Majesty may be borne only by the heathen Chinee.

But there is an old fable about an agricultural gentleman, who wanted a hand from Olympus to help him on with his cart which had stuck in the mud; but the answer to his prayer was, the recommendation to put his own shoulder to the wheel, and try the wonderful effect of that. In plainer English, I have often commended beginners with Auriculas, the pleasure and advantage of seeking to enrich their collections, by the ever interesting pursuit of raising seedlings. It is a brave way of facing difficulties, and of helping themselves where others can but very slowly help them.—*F. D. Horner, Burton-in-Lonsdale.*

The Fruit Trade in Glasgow.—Ex-Bailie Simons was entertained on the 10th inst. by the members of the fruit trade, and presented with an address. Mr. Simons, referring to the fruit trade, said it had developed with extraordinary rapidity in Scotland, and by way of illustration instanced the fact that fifty years ago, when his father made his advent in Glasgow and founded the business, the general public of the second city of the Empire did not know what a Greengage was. Now this popular fruit came into the country by thousands of tons, not alone for dessert, but for the purpose of making jam, and in the jam trade, he need hardly tell them, Scotland stood at the head.

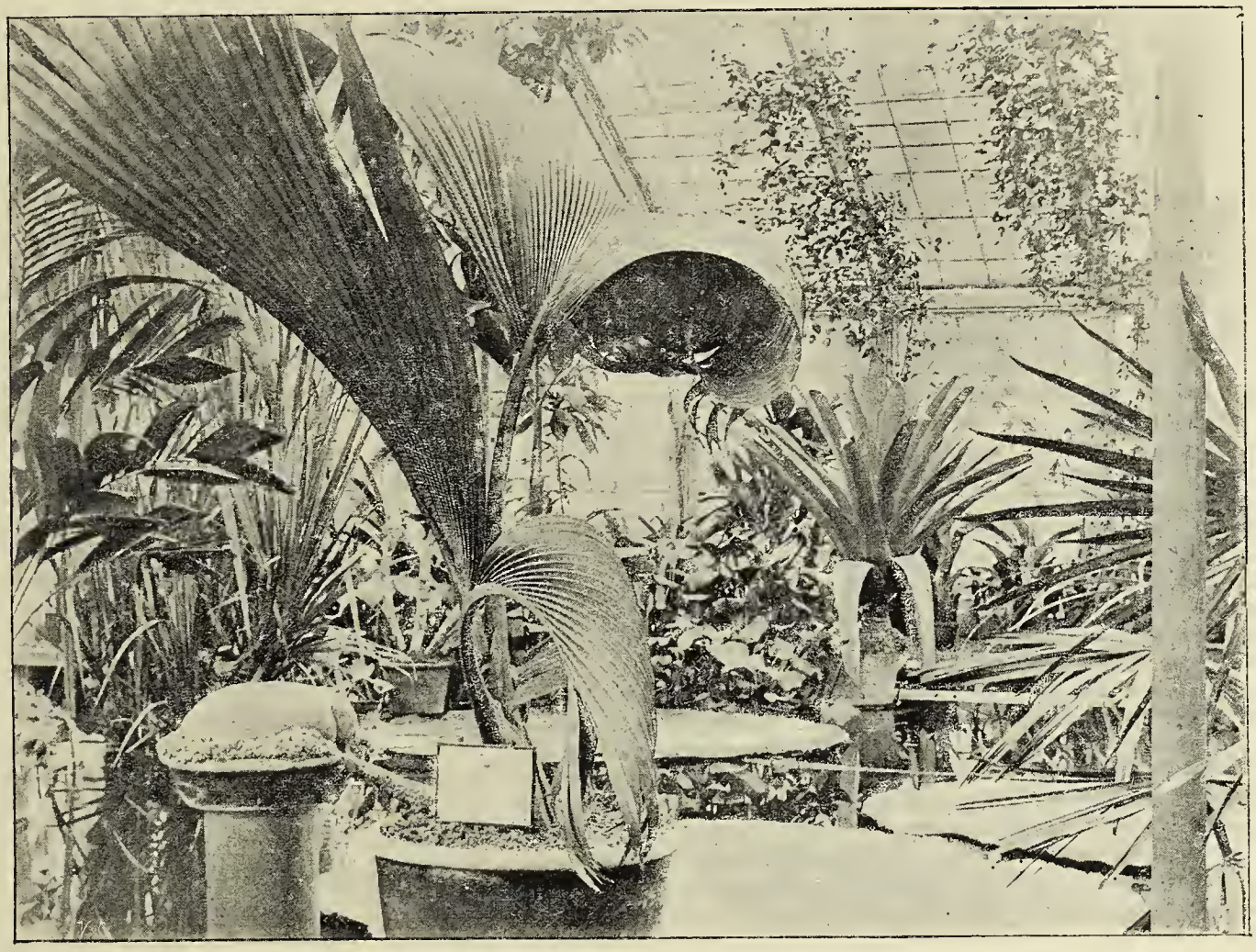
THE COCO DE MER.

It will probably be many years before we see a large-sized tree of the Coco de Mer, or double Coco-nut of the Seychelles Islands (Lodoicea sechellarum) in this country, judging from the rate of progress it makes. The tree in its native country takes thirty years' growth before it produces any flowers, and it requires 100 years to attain full size. Its period of greatest beauty, however, is before it produces flowers, say the second fifteen years of its growth. The female flowers are produced on zigzag stalks, and vary from five to eleven in number, being remarkably few for a Palm; but then the fruits attain the enormous weight of 40 lb. each. They grow to their full size in four years, but require nearly ten to reach maturity. If not so slow in germinating, they certainly take sufficient time to tax the patience of any ordinary propagator.

At Kew three of these huge seeds were planted, and the stronger and more forward one represented in our illustration took two years to germinate—that is, till the first leaf was produced. During this time it was kept in a propagating pit, and more or less covered with Coco-nut fibre. When the embryo began to push out of the seed, the latter was placed on a slightly elevated and moist shelf, with a large pot placed just underneath it, into which the seedling could root. The first perfect leaf was 3 ft. in diameter. After a time the pot containing the plant and the huge seed were taken to the Victoria house and stood upon an inverted pot, with that containing the seedling dipping into the water, the seed itself being placed in a pan resting upon a pedestal, as may be seen in the accompanying illustration. Here it has been exposed to the public for some time in association with Victoria regia, huge Tillandsias, Mauritia flexuosa, Eichornia crassipes, Prionium Palmita, a remarkable member of the Rush family resembling a Pandanus more than a Rush, and other rare and interesting members of the vegetable world, all located round the edges or in the tank of the Victoria house.

This remarkable Palm is a native of Praslin and Curieuse, two small islands of the Seychelles group to the north-east of Madagascar, and is in danger of becoming extinct owing to the practice of cutting down the trees to obtain the nuts. It originally received the name of Coco de Mer from the fact that the seeds were found floating on the sea long before the habitat of the tree was known, and indeed before it was known to exist at all. This gave rise to many fabulous tales about the nuts growing upon a tree in the bottom of the sea, and other stories. In olden times the credulous were duped into paying extravagant prices for the nuts, to which great and miraculous medicinal value was attached. Water drunk out of them was stated to guard people against all sorts of sickness and ailments. In modern times the tree has been turned to good account in various ways: the wood being utilised, the leaves made into hats and baskets, and used for thatching purposes, while the nuts are made into domestic utensils.

The plant at Kew is the largest in Europe, having made more progress than two raised from seeds in the Jardin des Plantes at Paris. It has developed three perfect leaves. Another good plant is smaller, and a third seed obtained for Kew was damaged and spoiled. Another fact in the history of this curious Palm was that in 1854 a quantity of seed was put up for sale at Covent Garden at the price of £10 8s. a-piece, but failed to find purchasers.



The Coco de Mer in the Victoria House at Kew.

The Purple Toadflax.—The utility of Linaria purpurea is never better illustrated than when it gets naturalised on old walls, which it will readily do of its own accord if planted where the seeds can get blown into the crevices or carried by the feet of birds or other animals. It is a native of South Europe, from whence it was introduced in 1648, and has since become naturalised in some parts of this country. The upright slightly branching stems attain a height of 2 ft. or 3 ft., according to soil and other conditions. When growing in the crevices of old walls its vigour is somewhat curtailed to advantage. Walls, moreover, are improved by it if the joints of the masonry are rather open. In the close vicinity of mansion houses the walls are generally kept in a more thorough state of repair, except where the place happens to be notable for its antiquity, when this sort of thing is encouraged rather than otherwise. The flowers individually are not very large, but they are of a beautiful bluish-purple and produced in long racemes terminating the stems and branches. They are also produced in succession for a period extending over several months.

THE HOLLYHOCK.

NOTWITHSTANDING the adverse season we have experienced, admirers of the stately Hollyhock will look back with pleasure on the fine examples shown at different exhibitions throughout the country, or I might perhaps more correctly say in the north of England. At Alnwick, in Northumberland, they were quite a feature in themselves, and many of the fine old varieties that were thought to have been lost were well represented, notably those raised by the late Mr. Wm. Chater, of Saffron Walden. It has often been remarked that these fine old varieties had all been swept away by the Puccinia, but we are glad to say most of Mr. Chater's choice Hollyhocks are still in cultivation. Whether it is that those raised by Mr. Chater had a stronger constitution, or whether he had more patrons in the north and the cooler climate is more favourable for their preservation I cannot say, but it is somewhat remarkable that while most of Mr. Chater's have been preserved those of Messrs. Paul, Bragg, Bircham, Turner, Roake, and other noted raisers of a quarter of a century ago seem to have been lost. Their places, however, are fast being filled up, indeed we think improved upon, and the little knot of enthusiasts who have stood faithfully by the Hollyhock during the term of its eclipse see it emerging from the darkness with new and improved varieties and with a stronger constitution.

Among the present raisers the names of Thomson, Oliver, Finlay, and Rogerson may be especially mentioned, as their productions hold a prominent position wherever Hollyhocks are grown in the north. The propagation of the Hollyhock from seed is not so much practised as it might be. It is true our wet and sunless seasons are not very favourable to the ripening of seed, but when a few good varieties can be planted early against a south wall, seed ripens very freely and well repays a little extra care in fertilizing the flowers, for it is only in this way that we may expect variety.

I do not wish to deprecate in any way the seed sold at the present day, but it is a remarkable fact that no varieties of exhibition form are ever raised from it. The splendid varieties that have been introduced in recent years are from seed carefully saved in the way referred to, or to use a familiar phrase "Home-saved seed," and there is no greater pleasure in floriculture than the raising of seedlings, especially from seed fertilized and saved by one's own hands. The daily hope of the unfolding of some inestimable gem is always stronger than the constantly recurring disappointment as some fair bud of more than average promise slowly reveals its faults. It is asserted by some that the Hollyhock comes true from seed, but I have never been able to verify this assertion; and although we may often get them true to colour we very seldom indeed get either the form or substance of the parent.

Seedlings of this description, however, may be useful for planting among shrubs or in the herbaceous border, but are of little use to the amateur who grows them principally for exhibition and the decoration of his garden. I strongly advise amateurs to take up the cultivation of the Hollyhock again, for there is no finer flower in conjunction with the Dahlia for our autumn shows. The fungus which seems to frighten so many is not nearly so virulent as it was—indeed we hardly see anything of it in the north—and certainly when it does appear it has no evil effect upon the plants or flowers. This may not be so in the south of England, as from reports received, plants affected with the Puccinia seem to wither and die. But if the plants were carefully treated for a year or two, I am convinced that Puccinia malvacearum—commonly known as the Hollyhock fungus—would cause no more alarm than the fungus of any other host species, and their name is legion.

The Vine and the Potato are plants which have especially claimed the attention of horticulturists recently, and although neither of the pests to which these plants are subject have been, or, perhaps ever will be, completely annihilated, we do not find the cultivation of these plants in the least modified, on the contrary, they are increasing every year. The same may be said of the Hollyhock; because the fungus still exists, and probably ever will exist to a certain extent, it is no worse than any other fungoid pests which florists have to contend with, and if the plants were occasionally sprayed with the Bouilie Bordelaise mixture, it would prevent the disease taking hold.

After many experiments I find this is the best and cheapest preventative, I say preventative, for I find we can prevent what we cannot cure; indeed, I have never heard or known of anything that will kill the fungus without killing the plant also. The only way to grow a collection of Hollyhocks satisfactorily is to cut the plants close down to the dormant buds, if affected with the fungus everything to be removed and burnt. The stools are then covered over with about 4 in. of fine sifted soil, when the young shoots will soon be seen to push through the soil as clean as if fungus had never existed. These should be taken off and propagated in the usual way, after which they ought to have frequent spraying with the Bouilie Bordelaise mixture, or a better plan is to dip the plants overhead in the mixture so long as they are in pots and easily handled.

It would be interesting to have the opinion of other growers on the fungus question, and as the long nights are creeping fast upon us it will afford a good opportunity for writing.—*George Steel, Heatherslaw, Cornhill-on-Tweed.*

THE CANARY CREEPER.

IN my own and in adjoining gardens the charming and most useful Tropæolum canariense is still flowering freely, though the Scarlet Runner Beans, growing by the side of this old favourite, were cut down by the frost weeks ago. I have frequently noticed in the case of the annual Tropæolums a larger degree of hardihood than they are frequently credited with; and I have found that a sharp autumnal frost is requisite to lay them low among other destroyed tender things. It is a most useful plant, as it can be employed in many ways. It can be employed for covering blank walls and such places. All that is required is to sow the seeds, and then, by placing a few small boughs against the plants, give them something to attach themselves, and then, given a fairly holding soil and sufficient moisture to keep the plants growing vigorously, the volume of bloom is immense.

What we know as T. canariense is really T. aduncum, and was introduced from New Grenada in 1810. One of its synonyms is T. peregrinum, which means Canary Creeper; but now it is most generally known as T. canariense, and derives its name from the yellow colour of the blossoms, and their resemblance to a canary bird. T. canariense is really a garden name of no authority.

Seed of this pretty annual though generally plentiful is sometimes very scarce indeed, and reaches an almost prohibitive price. It was so in the very dry summer of 1869, and it appears to be scarcer from a dry than from a wet season. It is but rarely so scarce as it was twenty-three years ago, and during that year of scarcity, moist localities, like Killarney in Ireland, supplied a larger quantity of seed, perhaps, than any other part of the United Kingdom.—*R. D.*

Parcel Post Regulations.—The following regulations have been issued.—Tin boxes should always be used for Damsons, Bullaces, Blackberries, etc., which are largely sent by parcel post at this time of the year. Chrysanthemums should invariably be enclosed in a box or basket, as by this means all risk of damage is prevented. Shrubs and dwarf trees should have the roots encased in bass matting, and the branches and twigs tied together with bass or string. Dwarf standard Rose trees should have bands of hay, or of bass matting, wound round their entire length, so as to prevent all risk of injury to the young shoots. Wooden boxes should be used for flowers and soft or tender plants. The address label attached to such parcels should bear the words "By Parcel Post," "Fruit," "Plants," etc., as the case may be, or "Perishable," and every effort will be made in the Post Office to deal with parcels so marked as speedily and carefully as possible. The limits of size are: Greatest length, 3 ft. 6 in.; greatest length and girth combined, 6 ft. The rates of postage (for the United Kingdom, Channel Islands, and Isle of Man) are as follows: Weight not exceeding 1 lb., 3d.; 2 lb., 4½d.; 3 lb., 6d.; 4 lb., 7½d.; 5 lb., 9d.; 6 lb., 10½d.; 7 lb., 1s.; 8 lb., 1s. 1½d.; 9 lb., 1s. 3d.; 10 lb., 1s. 4½d.; 11 lb. (maximum weight allowed), 1s. 6d. Compensation for loss or damage of an ordinary inland parcel is given up to £2, and in the case of registered parcels up to £25.

GARDENING MISCELLANY.

THE WINTER MOTH.

THE Willesden Paper and Canvas Co. inform me that they have many applications for their canvas and prepared brown paper for use as bands on fruit trees against the winter moth, and ask for particulars as to mode of use. We use their "Brown Canvas D.D. extra," cut into strips 4 in. wide, and prepared brown paper of same width, the paper is put round the stem of the trees about a foot from the ground and kept in its place by tarred twine. The canvas is then placed over it and secured in the same way. Common cart-grease without tar is then spread over it. This catches many females (wingless) of the winter moth and some other moths. More cart-grease should be added from time to time when it dries. Our Apple, Quince, and Damson trees were much injured till we adopted the above remedy and have been all right since. The bands should be on before the end of October.—*George F. Wilson, Heatherbank, Weybridge Heath.*

GRISELINIA LITTORALIS.

I NOTICE that a northern catalogue of plants calls attention to this deserving subject as "the finest and most useful shrub introduced," but is incorrectly spelt Grislinia. It is an evergreen shrub, introduced from New Zealand in 1850, it grows from 6 to 8 ft. in height, the flowers are small, and greenish in colour, and rarely produced in this country; but it is nevertheless a verybeautiful evergreen, remarkable for its light green foliage and its graceful habit. The catalogue in question states it is almost unknown, which appears to be the case; "its rich glossy foliage, free growing and compact habit, will stand the smoke of large towns and exposure to the sea breeze." I do not know how cold a locality Stanraer may be, but an arboriculturist with a good knowledge of trees and shrubs has assured us "it is unfortunately a little tender, and suffers injury from severe frosts or cold easterly winds; a very slight protection will guard against this, but it is useless to plant it out of doors in localities much higher than that of London." Perhaps after all it is uncertainty as to its capacities for standing hard weather which has so greatly reduced its area of cultivation, for one rarely sees it mentioned in these days.—*R. D.*

BEGONIA FREAK.

THE normal condition of the floral organs of the tuberous Begonias has been so seriously disturbed by hybridising, cross-breeding, and cultivation, that they often appear under curious guises. Normally the three cornered ovary is inferior, that is, appearing under the sepals which in Begonia are coloured. A specimen we received from the gardens at Hanger Hill House, Ealing, had the sepals inferior. Practically there was no ovary, but numerous ovules covered the edges of the sepals near the base, a fact in accordance with the ideas of the botanist that ovules and later on the seeds are to be looked upon as buds occupying the edges of the carpellary leaf. The difference, however, in this case was that there were no carpels, unless we consider that they were adnate to the sepals and spread open with them. The greater thickness of that part of the sepals on which the ovules were situated would tend to confirm this view. Instead of the usual three forked stigmas occupying the centre of the flower, all the three had become excessively branched, forming a globular mass. At the base of the latter was a ring of other curious organs resembling separate stigmas, but so modified as to appear as if they were intended for stamens. Their stalks were red and different from the yellow ones of the true stigmas.

BOUVARDIAS.

JUST now there is a fine show of Bouvardias in one of the warm greenhouses at Woodleigh, Sevenoaks. The varieties grown are President Garfield, Alfred Neuner, President Clevedon, Purity, Priory Beauty, Vreelandii, and Hogarth, all of which are excellent either for making sprays or buttonhole bouquets. Most of the plants are two years old, but a few of each sort are grown the third year, and these after flowering will be used for propagating, as Mr. J. Westcott, the able gardener here, propagates his plants by root-cuttings, and not from the young shoots, as is

generally done in gardens. In the spring the old plants are shaken out of their pots, and the largest roots selected, they are cut into lengths an inch long and put thickly into a box, using light soil, which is placed in a temperature of about 75° and kept moist. In a short time they will begin to grow, and when the young shoots are about an inch high they are placed in a rather cooler and drier quarter to keep them sturdy. A little latter on when the new growths have attained a height of 2 in., they are potted into small sixties in a rather light sandy compost, and kept growing in a temperature of about 55° until the end of May, when they are transferred to a cold frame, or planted out as the case may be, attention being paid to the repotting and stopping of the strongest shoots as required. By this method of culture Mr. Westcott always gets a good supply of this much sought after flower, and which his employer, H. Cheetham, Esq., much appreciates.—*S. C.*

BIRMINGHAM BOTANIC GARDEN.

When paying a visit to the Birmingham Botanic Garden the other day I found Mr. Latham, the curator, busy getting his Chrysanthemums housed for the winter. He has a large and fine block of them grown in moderate-sized pots with something like four to six stems or so to a plant. The plants being strong and healthy they are sure to produce a fine display of bloom. In the stoves and other plant houses there is a varied assortment of moderate sized plants, such as is usually met with in a botanical garden, all nice and clean. Some nice plants of Callicarpa purpurea were very ornamental, their stems being covered with clusters of its small purple berries. A nice plant of the Belladona Lily was in flower, which is very pretty at this time of year, either as a pot plant or when the flowers, being of a pretty pink, are arranged in a bouquet. In one house there is a nice display of tuberous Begonias in flower, and they look at their gayest when there is a nice batch of them in good flower together. On the roof was blooming a plant of Aristolochia elegans, a quaint and pretty flower though small, and unlike some of the "monsters" in this family. In the fernery were a number of handsome and beautiful specimens, various forms of Dicksonias, Alsophilas, and Cyatheas. On the roof here were two handsome specimen Lapagerias in good flower, and we have got no finer climbers than good forms of the red and white of this plant. These gardens are beautifully situated, and a visit at any time must prove very interesting to their numerous patrons.—*R. M.*

THE FRUITERERS' COMPANY.

On the 12th inst., the Fruiterers' Company made the customary annual presentation of fruit—all home grown on this occasion—to the Lord and Lady Mayoress at the Mansion House. In the evening the Lord Mayor entertained the Master, Wardens and Court of the Company at dinner in the Egyptian Hall.

In giving the toast of the evening, "The Fruiterers' Company, root and branch; may it continue and flourish for ever," the Lord Mayor bore testimony to the success which had attended the efforts of the Company in promoting the cultivation of fruit in this country, and said their activity in this direction was an example to the richer Guilds, who he hoped would centre their attention, sympathy, and support in aiding and abetting the Fruiterers to further extend their work. The people of London were deeply indebted to the Fruiterers' Company for what they had done. The Master of the Fruiterers' Company, in acknowledging the toast, thanked the Lord Mayor for the hospitality he had extended to the Company, and said they must all recognise that the cultivation of fruit in our homesteads and cottage gardens was of the greatest value, not only to the grower, but to the nation at large.

Sir James Whitehead, Bart., M.P., in replying to the toast of "the Court of Alderman and Sheriffs," said his hearers would scarcely credit the vast amount of correspondence that had resulted from his efforts to promote the cultivation of fruit in this country, to say nothing of the labour it had involved. Only that morning he had received a letter from a boot and shoe maker in the country, who wrote:—"I am desirous of planting some fruit trees—Apples and Plums—and I understand that you advise on the subject. I want to know the best sorts to grow, and also if you supply the trees and at what price." (Loud laughter.) Another gentleman wrote as follows:—"Having heard that you are interested in the promotion of cottage orchards, I take the liberty of asking you whether you could help me, financially or otherwise, to manure and cultivate an orchard of about one hundred Apple trees besides other fruit trees." These were specimens of the numerous letters he had received on the subject. The secretary to the Board of Agriculture had informed him that during the past two years, during which this movement had been in force, there had been an increased growth of fruit in this country to the extent of 27,000 acres. There were two things necessary to improve the existing state of things, one was a higher education with regard to fruit culture, and the other was the reduction of railway charges, so that there might be a distribution of fruit to the people of this country at a much lower rate than they could receive it at the present time. In Germany, France, and Austria there were special schools for the teaching of horticulture, in addition to which itinerant lecturers went round the rural districts in order that cottage farmers might be instructed in the cultivation of fruit. In conclusion, Sir James appealed to the Lord Mayor to suggest to his fellow countrymen that they should grow fruit more than they did in the many beautiful valleys and sunny slopes in Wales, for the sale of which an excellent market would be found in Liverpool and elsewhere.

DULWICH PARK.

The inhabitants in the south-eastern district of London are fortunate in possessing two such large and open spaces as Brockwell Park and Dulwich Park. The latter was opened to the public two years ago last June, and cannot but be of lasting benefit to the inhabitants of the ancient but quiet village of Dulwich and the surrounding district, which is year after year being more completely occupied by dwelling-houses. The trees, shrubs, and herbaceous plants have made remarkable progress since we saw them last year—indeed, so much so that it looks more like an old-established place than a new park. It consists of 72 acres, and before being laid out was meadow land, practically almost waste ground, belonging to Dulwich College, the ancient and modern buildings of which stand on the outskirts at the Old College entrance.

Entering by the latter gate, the visitor who might have previously known the grounds, could not fail to be struck by the transformation scene which meets his view. At some distance from the walk are massive banks of shrubbery, with broad expanses of well-kept turf in front, and in which smaller beds are cut out and planted with various flowering subjects. On the grass are clumps of Acacia lophantha, Eucalyptus globulus, Aralia Sieboldi, and other subjects. Here also is a bed of a light-coloured Fuchsia, named Lye's Own, mixed with Petunias and Lilium speciosum, edged with Iresine Lindeni and Fuchsia Golden Fleece.

Herbaceous Plants.

The rapid transformation has been brought about by the shrubs and herbaceous plants, more particularly the latter, by reason of the wonderful progress which they have made. This is likely to continue, as Mr. J. W. Moorman, the superintendent, has a *penchant* for herbaceous and alpine plants, so that it is not improbable that this feature of embellishment may become a characteristic feature of Dulwich Park. Autumn-flowering subjects were most conspicuous when we took a walk through the park the other week. Amongst the shrubbery were masses, clumps, and isolated plants of decorative, Cactus, and Pompon Dahlias, in full bloom, not having been injured in the least by the frost on the 18th of last month. The Cape Hyacinth (Galtonia candicans) has been flowering for many weeks past, and is not yet quite out of bloom. The stems are 4 ft. to 5 ft. high. The Sunflowers are also very bold, including clumps of Helianthus annuus and H. multiflorus plenus. Chrysanthemum uliginosum is indeed past its best, but the bold clumps 4 ft. to 6 ft. high still make themselves conspicuous from a distance. Pompon Chrysanthemums are used in places with fine effect owing to the profusion of bloom they produce. Specially noticeable are Flora, golden yellow; Blushing Bride, rosy blush; Troubadour, violet-rose; Madame Piccoul, an early-flowering rose variety; Toreador, a beautiful bronzy-red; Madame Desgranges, and Anastasio, a dwarf, branched, and floriferous violet-purple variety. Clumps of Sedum spectabile have not yet finished flowering. Golden and crimson Helichrysums were notable for the great size of their blooms. Gaillardias, intermediate Stocks, and Phloxes are still flowering. Rudbeckia laciniata makes bold masses, but the finest of all is R. speciosa, with its golden rays and black disc. Large masses of Pinks on the margins of the shrubbery make themselves conspicuous in spring.

The Michaelmas Daisies or perennial Asters are undoubtably one of the most interesting features of the park at the present time. They make their appearance here and there in bold relief all over the place, including some bold and floriferous masses of A. Novæ-Angliæ pulchellus with its blue-purple flowers. The varieties of A. Novi-Belgii are numerous, but the finest only are grown including the large mauve-flowered Robert Parker, the bright blue A. N.-B. densus, A. N.-B. cœrulescens sometimes called formosissimus, with blue-purple flowers produced in the greatest profusion on much branched stems, and several others. A. cordifolius is also as profuse, and A. Amellus bessarabicus is well known for the great size of its purplish blue flowers. Truly the Michaelmas Daisies might be laid under contribution for park embellishment to a much greater extent than they are. The masses of Helianthus rigidus are now over, but the Marvel of Peru is as floriferous as ever.

Rockeries.

Near the various entrances, rockeries or rockwork to a greater or less extent is constructed, and planted with a variety of subjects. Near the Rosebery entrance is a fine bed of Dahlias edged with a bold mass of Cineraria maritima. A circular bed of Cannas and Acacia lophantha is very pretty. The rockwork in front of the gate is planted with bold masses of the mossy-leaved Saxifrages, Megasea, Campanula carpatica, C. c. alba, and others of that class. Funkia lanceolata seems to be flowering out of season, and so is the dwarf, trailing Veronica rupestris and Geranium sanguineum. Earlier in the season Alyssum saxatile is bold with its myriads of yellow flowers. Gaultheria procumbens is now in fruit. Near the Court Lane entrance the sides of the walk are lined with rockwork. On the top of this, various Gourds trained on poles interest the visitors. Erica vagans, E. v. carnea, Anemone japonica alba, and Hypericum calycinum are flowering freely. The rosettes of Saxifraga longifolia are very interesting, and earlier in the season the patches of Thymus Serpyllum, with its varieties albus, coccineus, montanus, and lanuginosus, must be very attractive.

Towards the Snakes Lane entrance, the rockwork is more extensive, and planted with Asters, evergreen Candytufts, Spiræa Filipendula, Sedums, Funkias, Arabis albida variegata, Erysimum ochroleucum, Achillea tomentosa, Aubrietia græca, A. Leichtlinii, A. Hendersoni, Phlox setacea, Veronicas, Chinese Pinks, Vincas in flower, and many fine species of Saxifraga, such as S. peltata, S. Guthrieana, S. cuneifolia, S. c. Taygetea, S. muscoides atropurpurea, and many others. Polyanthus, Snowdrops, Scillas, and such things are planted where the Chinese Pinks have been pulled up. We noted a fine piece of Androsace sarmentosa, and on the top of the bank was Mina lobata, still flowering freely. On the opposite side of the walk is what is termed the rootery. Here are old roots set up and covered with Ivy, while in front the ground is covered with Primroses, Wallflowers, Canterbury Bells, Arabis, Saxifragas, Silenes, and other subjects, while beneath or amongst them are the bulbs of Daffodils, Tulips, Winter Aconite, Blue Bells, Lily of the Valley, and various others. Colchicums may also be seen on the grass not far off.

Shrubs.

In the laying out of the park, the ground has been thrown into numerous bold undulations, crowned in many cases by shrubbery planted in huge beds. Some of the latter are filled with Roses and edged with Pentstemons. Others are occupied by named varieties of Rhododendrons and Azaleas, edged with Monthly Roses which are still in bloom. Lilium tigrinum, L. t. splendens, and L. speciosum are planted through them. A bed of the Rose Souvenir de la Malmaison planted on a dry bank is still gay with flowers as perfect in shape and as fresh, save for an outer petal or two, as in summer. Another bed is filled with the Roses Madame J. Laing and Ulrich Brunner, while a third is filled with La

France, all flowering more or less, with Gladioli between them.

We can only mention a few of the various shrubs so freely utilised here, such as Weigelas, Rosa rugosa, Almonds, Olearia Haastii, Sambucus racemosa serratifolia, Veronica Traversi, Hops, Pyrus floribunda, and other subjects all gay in their proper season. The Golden Privet, Ailanthus, Robinias, Babylonian and Kilmarnock Willows, are beautiful each in their way, as are Prunus Pissardi, and Negundo aceroides variegata, both planted together for the sake of contrast. Isolated roots of trees, placed here and there, are covered with Ivy, Virginia Creeper, Roses, and Honeysuckle. Myricaria germanica and Leycesteria formosa are still flowering, while Cotoneaster Simmonsii is loaded with scarlet berries. About 1,000 specimens of Sweetbriar have been planted all over the place, and are now red with fruit.

The old trees previously in the grounds consist of Oaks, Elms, Horse Chestnut, and Ash, some of the Oaks forming handsome trees of great size. The walks are well made, showing many fine curves and sweeps, the principal ones of which are open, not only to pedestrians, but vehicles of all kinds and bicycles. Many of them are, however, reserved for pedestrians, and being covered with shell gravel and watered in summer they never break up, but are soft and easy for the feet. Although most of the ground is thrown into bold undulations there are some level expansions reserved for cricket and football for the youths of London, who patronise the place largely, there being sometimes as many as twelve matches all going on at the same time on a Saturday afternoon. Notwithstanding all this the grass is in beautiful order.

SOCIETIES.

Royal Horticultural, *October 18th.*—As we entered the Drill Hall on Tuesday we were told by a notice at the door that there was "A fine show of fruit inside," and true it is that the display deserved the adjective applied to it, for of both Apples and Pears there was a goodly number, and the quality was magnificent. The most extensive exhibitors were Messrs. Veitch & Sons, who took a Silver-gilt Knightian Medal for a splendid collection of 200 dishes, in which all the leading varieties of Apples especially were grandly represented. Mr. G. Wythes, Syon House, received a Silver Knightian Medal for a large and meritorious collection of Apples and Pears; and Silver Banksian Medals were awarded to Messrs. Paul & Son, Messrs. J. Peed & Son, Messrs. John Laing & Sons, Mr. S. Mortimer, and J. W. Melles, Esq., for smaller collections of equally fine samples. A similar award was also made to Martin R. Smith, Esq., Hayes Common, for twelves dishes of superbly grown Pears, the result of orchard house culture, one of the dishes of which, Uvedale's St. Germain, contained a fruit weighing 31½ oz.

A few prizes for fruits were offered, and in the class for four dessert and six culinary varieties, the awards went to Mr. Porteus, gardener, Devonhurst, Chiswick, and Mr. Nicholson, gardener to J. W. Melles, Esq, Sewardstone Lodge, Chingford, in the order named. For six dishes of dessert Pears the last-named exhibitor came in first, Mr. Wythes, Syon House, being second. Mr. Hudson, Gunnersbury House, staged the best six bunches of Grapes, a very good lot, and in another class for a similar number, flavour to be the test of merit, Mr. T. Osman, Ottershaw, Chertsey, came in first.

The floral contributions included a fine group of fine foliage and flowering plants, mainly Orchids, from Messrs. B. S. Williams & Son, to which a Silver Banksian Medal was awarded. Conspicuous in the centre of the group was a good piece of a fine form of Lælia Perrinii bearing twelve good blooms, and other notable species were Oncidium Papilio Eckhardtii and Epidendum Cooperianum, both somewhat rare plants, the lovely and most useful Dendrobium Phalænopsis Schroderæ, and the charming Indian Crocuses, Pleione Wallichiana and P. lagenaria. Messrs. Sander & Co. also contributed a small but choice lot. Mr. Philip Crowley was awarded a Bronze Banksian Medal for a group of Odontoglossum grande, etc.; and Mr. H. B. May received a Silver-gilt Flora Medal for a grand group of small Palms, Crotons, Ferns, etc. A similar award was also made to Messrs. E. D. Shuttleworth & Co. for a very fine collection of Cycads; and Mr. W. C. Leach, Albury Park, took a Silver Banksian Medal for a very interesting collection of cut sprays of beautifully coloured or pictorial trees. Begonias and Zonal Pelargoniums made up a bright and attractive contribution from Messrs. Cannell & Sons; and Mr. Owen Thomas sent from the Royal Gardens a small group of flowering plants of the Marguerite strain of Carnations, obtained from seed sown in the middle of February last, and showing how useful is the strain to gardeners for winter blooming. Mr. T. Bones, Tower House, Chiswick, received a Cultural Commendation for three pots full of the pretty Nerine crispa beautifully flowered. Dr. Frankland, Reigate Hill, had a capital stand of Chrysanthemums, and took a Bronze Banksian Medal.

At the meeting of the Fruit Committee, Mr. Barron exhibited a collection of fruits dried at Chiswick by means of the Mayforth evaporator, and presented a report on the result of his experiments with that machine. Messrs. Cooper, Taber & Co., Southwark Street, exhibited a highly coloured sample of Worcester Pearmain Apples, and also fruits of the Japan "Pole Cucumber," which in size and shape resembled a German sausage. Mr. W. C. Leach, Albury Park, again showed his Lady Bird Tomato, an exceedingly prolific variety, bearing from six to eight fruits in a bunch, of medium size, globular form, smooth, and rich in colour, and promising to be very useful for winter culture. A First-class Certificate was awarded to it. Mr. Willard, Holly Lodge, sent a finely-grown sample of the Sea-kale Beet; and Messrs. Jarman & Co., Chard, sent fine samples of their Somerset Hero and other Onions.

National Chrysanthemum.—As briefly reported in our last issue the yearly autumn exhibition of Chrysanthemums was held in the Royal Aquarium on the 12th, 13th, and 14th inst. Visitors to the show expressed themselves satisfied with the quality of the Chrysanthemum flowers brought before the public, but the numbers of entries were not so numerous as could have been desired. It requires time for the new early flowering varieties to get disseminated amongst growers of Chrysanthemums in general. For a group of Chrysanthemums not occupying more than 72 square feet, quality and general effect to be the leading features, the first prize was awarded to Messrs. Reid & Bornemann, Sydenham. The group was arranged in the form of a semi-circle, and very high at the back, so that all the flowers were well brought into view. Some of the leading varieties used were Avalanche, W H. Lincoln, Wm. Tricker, Beau Rêve, Souvenir de Menier, Waban, Madame P. Yung, Incandescent, Geo. Jones, and the incurved M. R. Bahuant. Mr. Norman Davis, Lilford Road, Camberwell, took the second place with a smaller group, containing some fine blooms of Viviand Morel, W. H. Lincoln, Comte de Germiny, Bouquet de Dame, and the yellow Mademoiselle Lacroix. The first prize for twelve plants of Chrysanthemums was taken by Mr. H. Neary, gardener to the Rev. R. W. Powell, Holy Innocents, Hornsey, whose plants consisted of Madame Desgranges, Mrs. Burrell, Mrs. Hawkins, and Mr. Geo. Wermig. All were trained, and though not large were well flowered. He was followed by Mr. W. Howe, gardener to Henry Tate, Esq., Park Hill, Streatham Common, who had tall and entirely untrained plants. Mr. H. Neary was the only competitor in the class for six plants, which were similar to those he showed in the class for twelve, and a first prize was awarded. There were four entries in the class for twenty-four blooms of Japanese varieties, eighteen of which had to be distinct, and not more than two blooms of any one variety. The first prize was awarded to Mr. W. Higgs, gardener to J. B. Hankey, Esq, Fetcham Park, Leatherhead, who had in most cases very fine blooms (for the season) of Boule d'Or, W. H. Lincoln, Condor, Violet Rose, Avalanche, Mons. Bernard, E. Molyneux, Gloire de Rocher, Louis Bœhmer, Val d'Andorre, Puritan, Sunflower, Miss Anna Hartshorn, Excelsior, Irving Clarke, W. Tricker, F. A. Davis, Mademoiselle Lacroix, and Mrs. Nisbet. Most of them are comparatively recent or practically new varieties. The second prize winner was Mr. C. Cox, gardener to J. Trotter, Esq., Brickenden Grange, Hertford, who had good blooms of Boule d'Or, Avalanche, C. Cox, Mrs. F. A. Spaulding, Miss Anna Hartshorn, Mons. Bernard, and the beautiful bronzy-gold Mrs. F. Jameson. Mr. C. Ritchings, gardener to Dr. Frankland, F.R.S., The Yews, Reigate, took the third place The first award for twelve distinct blooms was taken by Mr. E. Rowbottom, gardener to R. H. Williams, Esq, The Priory, Hornsey. Some of his finer blooms were Mrs. F. Jameson, Wm. Tricker, W. H. Lincoln, Mrs. J. S. Fogg, Marquis de Powis, Coronet, Amos Perry, and Stanstead White. He was followed by Mr. James Agate, East Street, Havant, Hants, who also showed some fine flowers. Mr. C. Cox was third. The prizes offered for twelve and six incurved blooms respectively were only instrumental in bringing out a single entry in each class. The exhibitor in both cases was Mr. W. Wells, Earlswood Nursery, Surrey, to whom first prizes were awarded. He had three good blooms of M. R. Bahuant, one each of Jeanne d'Arc, George Glenny, and Mrs. Dixon, but the others were not in character. Before incurved varieties can become popular at an October show, new varieties having the earliness of M. R. Bahuant will have to be raised. Mr. Norman Davis received the first prize for twelve varieties of Pompons and the second for six varieties. Mr. E. Tickner, gardener to John Watney, Esq., Shermanbury House, Reigate, Surrey, had the first prize in the latter case, showing amongst others very fine blooms of Mademoiselle Elise Dordan. There were no entries in the classes set apart for amateurs. Neither did the single-handed gardeners come forward in great force. Mr. E. Tickner was awarded the first prizes for twelve blooms and six blooms respectively. In the latter class Mr. S. L. Turk, gardener to T. Boney, Esq., Cholmeley Lodge, Highgate, N., was second. Some prizes were offered for a table of wreaths, sprays, bouquets, etc., illustrating the use of Chrysanthemums, and the first award was made to Messrs. Perkins & Sons, Coventry, and Mr. J. R. Chard, Stoke Newington, was second. In the class for three vases or epergnes, the first award was made to Mr. F. W. Seale, Sevenoaks; Mr. J. R. Chard was second; and Mrs. Walter Mole, High Street, Hemel Hempstead, was third.

Special prizes were offered by Messrs. Sutton & Sons, Reading, for vegetables, and brought out some very fine exhibits. The first award for six roots of Beet went to Mr. A. Ocock, gardener to Mrs. McIntosh, Havering Park, Romford, who as well as the other exhibitors showed Sutton's Improved Blood Red. Mr. James Gibson, The Oaks, Carshalton, Surrey, was second; Mr. Richard Lye, gardener to W. H. Kingsmill, Sydmonton Court, Newbury, was third; and Mr. Wm. Pope, gardener to the Earl of Carnarvon, Highclere Castle, Newbury, came in fourth. The first award for six Carrots was taken by Mr. C. J. Waite, gardener to the Right Hon. W. P. Talbot, Glenhurst, Esher, showing Sutton's New Red Intermediate. He was followed by Mr. Wm. Pope, Mr. James Friend, gardener to the Hon. P. C. Glyn, Rooksnest, Godstone, Surrey, and by Mr. Richard Lye respectively. In the class for Cauliflower, Sutton's Autumn Mammoth was the favourite. Mr. J. Gibson took the leading award; Mr. A. Ocock was second; Mr. Wm. Pope took the third place; and Mr. J. Friend came in fourth. In the class for Celery the prizes were taken by Mr. Wm. Pope, Mr. J. Friend, Mr. J. Gibson, and Mr. David Tayler, gardener to W. Hannaford, Esq., Tenterden, Hendon, respectively. The prizes for Leeks were taken by Mr. Richard Lye, Mr. Wm. Pope, Mr. J. Friend, and by Mr. C. J. Waite, in the order named. The prizes for Onions were taken by Mr. J. Gibson, Mr. R. Lye, Mr. Wm Pope, and Mr. J. Friend respectively. The latter took the leading award for Parsnips, and was followed by Mr. J. Gibson; Mr. C. J. Waite was third, and Mr. R. Lye came in fourth. Well-finished and highly coloured Tomatos were shown by Mr. C. J. Waite, Mr. J. Gibson, Mr. J. Bury, gardener to C. Bayer, Esq., Tewkesbury Lodge, Forest Hill, and by Mr. A. Ocock, in the order named.

Miscellaneous exhibits were fairly numerous, varied, and interesting. A fine bank of Begonias was set up by Messrs. J. Laing & Sons, Forest Hill. It was backed up with Palms, and more or less mixed with them as well as with Maidenhair Fern and Eulalia japonica (Silver-gilt Medal). They also had a long table entirely occupied with a collection of Apples and Pears, and another of Potatos. Amongst the Apples were fine samples of Bismark, Lady Henniker, and Peasgood's Nonsuch (Silver-gilt

Medal). Messrs. J. Cheal & Sons, Crawley, had also an extensive collection of Apples and Pears, with wonderfully fine samples of the Queen, Bismark, Peasegood's Nonsuch, and others (Silver-gilt Medal). A similar award was made to Mr. M. V. Seale, Sevenoaks, for a large collection of single, Pompon, decorative, Cactus, and show Dahlias. Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, had a Silver Medal for a table of Chrysanthemums, cut flowers, set up with Palms and Maidenhair Ferns. Noticeable amongst them were Mr. R. Bahuant, Miss Anna Hartshorn, W. H. Lincoln, and others. He also set up a collection of zonal Pelargoniums grown for winter flowering. Mr. Norman Davis exhibited a miscellaneous group of Michaelmas Daisies, Chrysanthemums, Pompon, decorative and Cactus Dahlias (Silver Medal). Messrs. Pitcher & Manda, Hextable, Swanley, showed a collection of cut Chrysanthemums, including W. A. Manda, resembling a hirsute Ralph Brocklebank, M. R. Bahuant in quantity; and Coral Queen, a coral-pink variety, which was commended (Silver Medal). A similar award was made to Mr. W. Wells for a table of cut flowers of Chrysanthemums, including Viviand Morel, W. Wells, Florence Davis, and others. Messrs. H. Cannell & Sons, Swanley, Kent, had a beautiful although not very extensive collection of decorative and Cactus Dahlias, including such fine things as Ernest Cannell, Robert Cannell and Swanley Gem. Mr. Robert Owen, Castle Hill, Maidenhead, showed a grand collection of Chrysanthemums, including Mrs. C. Meyers, General Hawkes and N. Molyneux, all Japanese varieties. Chrysanthemum Beauty of Exmouth and Duchess of Devonshire were shown by Mr. W. J. Godfrey, Exmouth, Devon. Messrs. Reid & Bornemann had some stands of new and early flowering Chrysanthemums, including a pretty Pompon named Rosie Jancke, with bronzy gold florets. They had also some zonal Pelargoniums. Mr. Fowler, Taunton, Devon, exhibited a stand of Chrysanthemums; and Mr. Percy Waterer, The Briars, Lingfield, Dartford, also had a fine stand of Lady Selborne.

WHAT TO DO IN THE GARDEN.

Clerodendron fallax.—Just now the usefulness of this subject will be apparent to everyone who grows it. The scarlet flowers make themselves conspicuous amongst the other occupants of the stove or warm conservatory. Should any seeds ripen they may be gathered and sown at once, and the young plants will flower next autumn. After the wood of the old plants is ripened, the stems may be cut hard back so as to make bushy plants for another year.

Euphorbia fulgens (jacquiniæflora).—In order to render the flowers of this plant as durable as possible plants in pots should be kept near the glass. The temperature of a stove will suit it, but if ventilation can be given during the day it will tend to make the flowers more durable.

Temperature of the Stove.—A growing temperature is not now necessary, and the aim should be to encourage most things to go to rest. A minimum night temperature of 60° may be kept up, or on mild nights it may be a little higher. The ventilators may be closed early in the afternoon so as to economise fire heat, assured that sun heat is at all times the most beneficial to plants.

Epiphyllum truncatum.—As early flowering batches of Epiphyllums come into bloom, they may be removed from heat and placed in a conservatory or greenhouse where a temperature of 50° is kept up at nights. The dry atmosphere will also be favourable to their longevity.

Solanums.—Berried plants lifted from frames or the open ground should be kept rather close and syringed overhead till the roots have taken hold of the fresh soil.

Chinese Primulas.—The earliest batch may now be transferred from the frames to a greenhouse, or other structure with a similar temperature; and if they cannot be placed on a stage close to the glass they should be placed upon a hanging shelf, so as to get all the advantages of light and plenty of ventilation on all favourable occasions.

Cinerarias and Calceolarias.—The former may be kept in cold frames for some time yet, as the cool bottom of ashes is favourable to their welfare. On frosty nights a dry mat or two should be thrown over the lights, because if the lower and large leaves get hurt with frost, the plants never look so well afterwards. Calceolarias should be potted on from the seedling pans, or into larger sizes as they require it, and according to their stage of advancement.

Roman Hyacinths.—The earliest potted batches should now be well rooted, and if desired to be in flower some time during next month, they may safely be urged on by transferring them from time to time into higher temperatures, and keeping them near the glass to prevent drawing. A low span-roofed house or a low pit would be the best place for them. Paper-white Narcissus may be treated in the same way.

Vineries.—If Grapes are required very early in the season, the earliest vinery must be closed by the end of this month. In the case of planted-out Vines no artificial heat will be required for some time, if the borders are covered with fermenting manure. Pot Vines may be started about the same time. Stand the pots on fermenting manure, after making sure that the drainage is perfect. Tie down the rods in a horizontal position, to ensure their breaking equally. Before tying them up into position the beds may be made up afresh, and inverted pots placed on the ground, so as to stand the others upon them to prevent the sinking of the pots, which might otherwise take place by the decay of the fermenting material. Then build up the material so as to cover the sides of the pots containing the Vines.

Peaches.—If it is intended to lift and transplant trees from the open wall to the houses this may be done now. Some like the trees to have dropped their leaves before this is done, but it is an advantage to have the work accomplished before the dull days set in because the roots are now very active and the trees get established before winter and are therefore able to bear a crop in the following year.

Orchard House.—The best time for planting and transplanting Apples, Pears, Peaches, etc., is the month of October, and what potting remains to be done should be accomplished at once. Procure some good substantial fibrous loam, even if inclined to clay, and mix this with one-fourth of well rotted stable manure. New trees required, if not obtainable in the garden, should be procured from the nurseryman at once and potted up or planted out as the case may be.

The Kitchen Garden.—Preparations should now be made for trenching all ground which has been cleared of Peas, Scarlet Runners, Dwarf Beans, Cauliflower, Potatos, etc. Trenching 2 ft. deep and manuring heavily, especially when the soil is of a poor nature, should be the rule of the day. Where the subsoil is bad, or has never before been disturbed, it should not be turned up to the surface, but merely well loosened. In after years as it gets mixed with good soil and manure, it may be brought to the surface and gradually incorporated with the rest.

Rhubarb and Seakale.—About the end of the month a few roots of some early sort of Rhubarb may be lifted and placed in a Mushroom house with a temperature of 50° to 60°. The plantations of both Rhubarb and Seakale should be dug over and covered with a layer of stable manure, except such portions as are intended for forcing.

Obituary.

The grave a few days ago closed over the remains of one of the best known and most experienced horticulturists of Scotland, and the large attendance at his funeral was a fitting testimony to the high estimation in which he was held. Mr. James Gordon for forty-two years past had been head gardener on the estate of Colonel Wauchope, at Niddrie, Midlothian, and lately under the Colonel the management of the property had devolved upon him. As a horticulturist he had few equals, and his advice was much sought after, proprietors and gardeners recognising in him a man of skill and an excellent judge. About twenty years ago he was selected for a short leet to fill the appointment, then vacant, of head gardener to the Queen at Windsor Castle. Mr. Gordon, at Her Majesty's request, paid a visit to Balmoral, where she saw him, and was so pleased with his qualifications that he was chosen for the post. In the course of negotiations it transpired, however, that Mr. Wauchope, the present proprietor's father, had indicated his regret at losing so valuable a servant, and it is said when the Queen heard this she expressed her unwillingness to deprive any subject of the services of a faithful servant, and accordingly Mr. Gordon was passed over. Though it was doubtless a disappointment to him at the time, Mr. Gordon continued as conscientiously as before, and to the end, to take the deepest interest in all that concerned his employer's estate. He was a man of kindly disposition, modest, and unassuming, and yet with sufficient courtesy of manner to command the utmost respect from all with whom he came in contact. He was highly appreciated by Colonel Wauchope, who was present at the funeral. He leaves a widow and grown-up family.—*Edinburgh Evening News.*

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "The Editor" or "The Publisher," and not to any person by name, unless the correspondence is of a privat, character. Telegrams may be addressed "Bambusa, London."*

Names of Fruits.—*W. R. G.*: A., Bedfordshire Foundling; B. and F., Blenheim Orange: C. and G., New Hawthornden; D., Manks Codlin; E., Red-ribbed Greening; H., not recognised.—*T. F.*: 1, Beurré Bosc; 2, Marie Louise; 3, Beurré Diel; 1, Louise Bonne of Jersey; 5, Not known; 6, French Crab Apple.

Lapageria rosea.—*J. Macdonald*: A very good variety, and a seedling no doubt, but not so fine as the Nash Court variety, from which it differs in being much shorter, a little more expanded at the mouth of the tube and not so dark in colour. Yours seems to be very free, but not more so than some others we have seen.

Pruning.—*Omega*: If you root prune in the autumn, you may leave the branch pruning until spring. We should not hesitate to lift and root prune trees 8 ft. and 10 ft. high, if they are making too gross growth. We have no experience of rooting Woodbine cuttings, but see no reason why you should not try to strike them now under bell glasses, in a frame.

United Horticultural Benefit and Provident Society.—*J. W.*; Mr. W. Collins, 9, Martindale Road, Balham, S.W., will gladly give you all particulars on application.

Ringing Dracænas.—*G.G.*: The process is very simple. At a point just under the head of leaves cut out a ring with a sharp knife, just cutting through the young wood so as to prevent the downward passage of plant food through the outer and younger cells of the wood. By making a notch on one side of the stem only, you may cut deeper than when the notch is carried right round the stem. Your object should be to leave a sufficient thickness of stem to support the head without fear of breaking, and also to carry up sap to the leaves to keep them healthy till roots are formed. It is not necessary to cut very deeply, provided the growing cells, which are not far below the surface, are cut through. Then cut a small pot through the middle—that is, the long way of the pot. Place the pot round the stem, with the latter passing through the hole at the bottom; see that there is sufficient drainage for the passage of water. Then fill up the pot with a light compost of loam, leaf soil, and sand, pressing it rather firmly, so that roots, when pushed out from the notch or ring, may grow into the compost. The ring should, of course, be inside the pot, and towards the bottom of it. The two halves of the pot should be tied together firmly with a strong piece of raffia or twine. The plant will take some weeks, perhaps, to push out roots, and you can examine to see if it has done so by untying the pot. Other cultivators tie a handful of sphagnum round the cut part of the stem, and keep the sphagnum moist till roots are formed. The soil in the pot tied round the stem must also, of course, be kept moist till that is the case, after which the head may be cut off and treated as a rooted plant in 60 or 48 size pots, according to the size of the plant and the quantity of roots. While roots are being formed the plant or plants should be kept in the stove.

Maguerite Carnations.—*W.C.*: It is the opinion of many who have seen these Carnations that they had been produced by crossing the Chinese Pink with the Carnation or *vice versa*. The fact that they refuse to thrive in some gardens, would also lead to the same conclusion. Some years ago when we first noted a batch of them growing in the open ground, the habit of the plants varied considerably, and some of them more resembled the Chinese Pink than the Carnation. Batches of them seem now to approach the Carnation in leaves and habit pretty closely. Notwithstanding all this Messrs. Damman & Co., Teduccio, Naples, who sent it out, say that they discovered it in Sicily and have grown it for the past ten years. That does not settle the origin of the strain very definitely, however.

To Propagate Tamarisk.—*R. Bentley*: You should find no difficulty in propagating the common Tamarisk as well as Myricaria germanica, better known perhaps as Tamarix germanica in your part of the country, where the winter is mild and equable as a rule. Take off healthy pieces of young shoots 9 in. or 12 in. long, and insert them rather deeply in light, sandy soil. If the latter is heavy, prepare some light material so as to improve the natural soil. The cuttings may then be inserted in trenches taken out with the spade, laying in the cuttings rather thickly so as just to touch one another. In digging over the next trench cover up the lower half of the cuttings and tread the soil firmly. After all have been put in which you require, cover them with hand lights or with frames according to the quantity and the means at command. Keep the soil well watered from the time it is likely to get dry in spring onwards through the summer, and if you have been successful, the young plants may be transplanted into lines in a nursery bed, or planted in their permanent positions if you like. Of course they will take a few years to get strong, but as a rule they grow pretty rapidly. If your object is to make a close bank of them they should be cut back annually like Willows so as to encourage them to throw up vigorous shoots in quantity from the stool.

Communications Received.—H. H.—R. O.—H. B. S.—J. S.—F. D. H.—J. McK.—R. L.—C. M.—A. L.—F. E. T.—G. M.—Dobbie & Co.—W. J. G.

TRADE CATALOGUES RECEIVED.

Dammann & Co., San Giovanni a Teduccio, near Naples.—Price list of Flower, Vegetable, and Tree Seeds.

Thomas Rivers & Son, Sawbridgeworth.—Catalogues of Fruit Trees and Selected Roses.

Fred W. Kelsey, 145, Broadway, New York.—Choice Hardy Trees and Shrubs.

LONDON SEED TRADE.

October 18th, 1892.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report an increased demand for Red Clover at prices current last week. White Clover being in short supply is dearer. Alsike and Trefoil steady. Rye grasses owing to short supplies are somewhat higher.

COVENT GARDEN MARKET.

October 19th.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Grapes..... per lb.	0 6	1 6	Pine apples.		
Kent Cobs ...100 lb.	75 0	85 0	—St. Michael's, each	2 6	6 0
Peaches ... per dozen	2 0	6 0	Apples...per ½ sieve	1 0	3 6
Melons ... . each	1 0	1 6	Plums...per ½ sieve		

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, perlb.	0 6		Lettuces ...per dozen	1 6	2 0
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Cauliflowers, Eng.dz.	3 0	6 0	Radishes... per dozen	1 6	
Celery.....per bundle	2 6		Smallsalading,punnet	0 4	
Cucumbers .....each	0 3	0 6	Spinach, per strike ...	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	0 9
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Champions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Asters .....per doz.	4 0	6 0	Chrysanthemum, doz.	4 0	9 0
Begonias ...per doz.	6 0	12 0	— large, doz.....	12 0	30 0
Cyperus .....per doz.	4 0	12 0	Heliotrope, per doz.	4 0	6 0
Dracæna term., doz.	24 0	36 0	Marguerites, perdoz.	6 0	12 0
Dracæna viridis,doz.	9 0	18 0	Mignonette, per doz.	6 0	12 0
Erica Hymalis, doz.	12 0	18 0	Palms in variety,each	2 6	10 0
,, Gracilis, doz...	9 0	12 0	Palms, Specimen ...	15 0	63 0
Evergreens,invar.doz	6 0	24 0	—scarlet .....per doz.	3 0	6 0
Ferns, invar.,per doz.	4 0	18 0	Solanums.....per doz.	9 0	12 0
Ferns, small, per 100	6 0	10 0			
Foliage Plants, doz.	12 0	60 0			

Cut Flowers.—Average Wholesale Prices.

	s. d.	s d		s. d.	s. d.
Arum Lilies, 12 hlms.	4 0	6 0	Pelargoniums		
Asters.....doz. bun.	6 0	8 0	— scarlet.....12 hchs.	4 0	6 0
Bouvardias, per bun.	0 6	1 0	Primula, double,hun.	0 6	0 9
Carnations,12 blooms	1 0	3 0	Pyrethrum doz hnchs	2 0	4 0
Chrysanthemum,dz bn	4 0	9 0	Orchid Bloom in var.		
— .....doz. blooms	1 0	3 0	per bloom, from	0 3	1 0
Eucharis ...per doz.	4 0	6 0	Roses, doz hunches	4 0	6 0
Gardenias 12 blooms	1 6	3 0	Roses, yellow, dozen	2 0	4 0
Gladioli...doz. spikes	1 0	2 0	— Red..... doz. blms.	1 0	2 0
Heliotropes,12 sprays	0 3	0 6	— Saffrano...per doz.	1 0	2 0
Lilac, White, French,			— Tea ..... per dozen	1 0	2 0
per bunch...	4 0	6 0	Stephanotis, dz. sps.	2 6	4 0
Lilium Harrisii,			Sweet Peas, dz. bns.	1 0	3 0
doz. blooms	4 0	9 0	Tuberoses, per doz	0 3	0 6
Liliums var., dz.blms.	1 0	3 0	Violets,Parme,French		
MaidenhairFern,12bs.	4 0	6 0	per bunch ..	3 0	4 6
Marguerites, 12 bun.	1 0	3 0	—Czar, French, bun.	1 6	2 6
Mignonette... 12 bun.	2 0	4 0	—Small ,, doz. bun.	2 0	2 6
Pelargoniums, 12 sps.	0 9	1 0	—English, doz. bun.	0 0	2 6

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FLOWER SHOWS, &c., 1892.

[*The Editor will be greatly obliged if Secretaries of societies will communicate to him the dates of their exhibitions as soon as fixed.*]

OCTOBER.

26.—National Chrysanthemum Society: Meeting of Floral Committee.
27.—Alverstoke and Gosport Chrysanthemum Show (2 days).

NOVEMBER.

1.—Royal Horticultural Society: Committee Meetings at Drill Hall.
1.—Kent County Chrysanthemum Show (2 days).
1.—Brixton Chrysanthemum Show (2 days).
1.—Barnstaple Chrysanthemum Show (2 days).
1.—Brighton and Hove Chrysanthemum Show (2 days).
1.—Watford Chrysanthemum Show (2 days).
2.—Ascot Chrysanthemum Show (2 days).
2.—Ealing Chrysanthemum Show (2 days).
2.—Portsmouth Chrysanthemum Show (3 days).
2.—Croydon Chrysanthemum Show (2 days).
3.—Steyning Chrysanthemum Show.
4.—Crystal Palace Chrysanthemum Show (2 days).
4.—Bolton Chrysanthemum Show (2 days).
5.—Crewe Chrysanthemum Show.
7.—St. Neots Chrysanthemum Show.
8.—National Chrysanthemum Society at Royal Aquarium (3 days).
8.—Birmingham Chrysanthemum Show (3 days).
8.—Kingston and Surbiton Chrysanthemum Show (2 days).
8.—Enfield Chrysanthemum Show (2 days).
8.—Sevenoaks and West Kent Chrysanthemum Show(2 days).
8.—Leeds Chrysanthemum Show (2 days).
8.—Batley Chrysanthemum Show (2 days).
8.—Waterloo (near Liverpool) Chrysanthemum Show.
9.—Battersea Chrysanthemum Show (2 days).
9.—Bath Chrysanthemum Show (2 days).
9.—South Shields Chrysanthemum Show (2 days).
9.—Cardiff Chrysanthemum Show (2 days).
9.—Bournemouth Chrysanthemum Show (2 days).
9.—Hornsey Chrysanthemum Show (2 days).
10.—Chelmsford Chrysanthemum Show.
10.—Birkenhead and Wirral Chrysanthemum Show.
10.—Finchley Chrysanthemum Show (2 days).
10.—Spalding Chrysanthemum Show (2 days).
10.—Tiverton Chrysanthemum Show.
11.—Leicester Chrysanthemum Show (2 days).
11.—Sheffield Chrysanthemum Show (2 days).
11.—Eccles and Patricroft Chrysanthemum Show (2 days).
11.—Wellingborough Chrysanthemum Show (2 days).
11.—Dundee Chrysanthemum Show.
11.—Bradford and District Chrysanthemum Show (2 days).
15.—Royal Horticultural Society: Committee Meetings at Drill Hall.
15.—Manchester Chrysanthemum Show (2 days).
15.—Liverpool Chrysanthemum Show (2 days).
15.—The Hartlepools Chrysanthemum Show (2 days).
15.—Plymouth Chrysanthemum Show (2 days).
15.—Twickenham Chrysanthemum Show (2 days).
16.—Bristol Chrysanthemum Show (2 days).
16.—Hull Chrysanthemum Show (2 days).
16.—Rugby Chrysanthemum Show (2 days).
17.—Edinburgh Chrysanthemum Show (3 days).
17.—Neath Chrysanthemum Show.
17.—Rotherham Chrysanthemum Show.
18.—Chorley Chrysanthemum Society (2 days).
18.—Stockport Chrysanthemum Show (2 days).
22.—Dalkey Chrysanthemum Show.
24.—National Chrysanthemum Society: Meeting of Floral Committee.

DECEMBER.

7.—National Chrysanthemum Society: Meeting of Floral Committee.
13.—Royal Horticultural Society: Committee Meetings at Drill Hall.

The Gardening World.

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*** *Advertisements for the current week, and also "Stop Orders," must reach the office not later than the first post on Wednesday Morning.*

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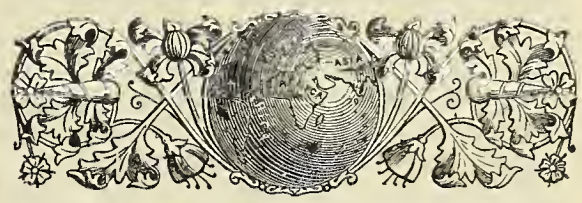

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Oct. 31st.—Sale of Bulbs at Protheroe & Morris' Rooms (and every day in the week).
Bulb Sale at Stevens' Rooms.
TUESDAY, Nov. 1st.—Royal Horticultural Society: Meeting of Committees at 12 o'clock.
Kent County Chrysanthemum Show at Blackheath (2 days).
Brixton Chrysanthemum Show (2 days).
Brighton and Hove Chrysanthemum Show (2 days).
Watford Chrysanthemum Show.
Trade Sale at Hale Farm Nurseries, Tottenham.
Sale of Orchids at Protheroe & Morris' Rooms.
WEDNESDAY, Nov. 2nd.—Ascot Chrysanthemum Show (2 days).
Ealing Chrysanthemum Show (2 days).
Portsmouth Chrysanthemum Show (3 days).
Croydon Chrysanthemum Show (2 days).
Bulb Sale at Stevens' Rooms.
THURSDAY, Nov. 3rd.—Steyning Chrysanthemum Show.
Trade Sale at Wood-lane Nursery, Isleworth (2 days).
Bulb Sale at Stevens' Rooms.
FRIDAY, Nov. 4th.—Crystal Palace Chrysanthemum Show (2 days).
Bolton Chrysanthemum Show (2 days).
Orchid Sale at Protheroe & Morris' Rooms.
SATURDAY, Nov. 5th.—Crewe Chrysanthemum Show.

The Gardening World.
Edited by BRIAN WYNNE, F.R.H.S.
SATURDAY, OCTOBER 29th, 1892.

HOME-DRIED FRUITS.—We cannot hope that the question of the capacity of any form of apparatus to dry fruits at home of equal quality and cheapness to those imported from other countries, has been fully solved by the undoubted success which has attended upon the operation of the Mayfarth Apparatus at Chiswick and elsewhere. In another column we give a short report by Mr. Barron of the results obtained recently at Chiswick in connection with Apples and Plums, and samples both in the dry and cooked forms were submitted to the Fruit Committee of the R.H.S. at its meeting last week.

Whilst it is admitted that the drying process is most successfully carried out the one element of difficulty is found in the lack

of varieties of fruit specially suitable for drying purposes. Thus of Plums we have very few indeed suitable for drying. Our finest and most productive Plums have too thin skins and are on the whole too juicy, so that when dried the product is trifling. Then in the case of Apples the recent trial of several varieties of generally large fruited samples showed that the dried product was not in all cases so much as it should be to make fruit drying as a commercial undertaking profitable. Thus Lord Suffield gave of 10lbs. of cored and peeled fruit only 1lb. 2ozs. of dried product; whilst we see that Beauty of Hants gave just double the quantity. Thus it will be seen that to make the process profitable we must find and grow varieties that give in the dried product not only the highest percentage of flesh but also sorts that are very productive.

If it be that of Apples the most productive sorts are those which contain in the fruits by far the highest proportion of water, then is to some extent explained the reason of this great prolificacy. However, we can hardly doubt but that enquiries as to the varieties of fruits best fitted for drying will be further pursued. It is satisfactory to learn that in the case of dried Apples the soaking in water essential to their usefulness in cooking brings back some two-thirds at least of their original weight, also that when cooked the product seems to be equal in flavour and general excellence to that of the fresh fruit.

Horticultural Plagiarism.—The recent exposure by Mr. A. F. Barron of a gross imposition in the form of wholesale purloinings from his book on the Vine, and palming them off on gardeners in the West of England and upon the public in the columns of a garden contemporary, as original, merits the widest publicity. Whilst we heartily commend gardeners for studying such a book as that named, and indeed many other good high class works on gardening, we cannot for one moment tolerate the wholesale use of matter found in such publications, in essays or papers read before gardeners' associations, even in the form of acknowledged extracts, because it should be the chief aim of all who write essays and papers to give their own practical experience, and not the published knowledge of others.

There is a good deal too much of this sort of thing existent, especially in relation to amateur efforts such as gardeners' associations encourage. A gentleman who had heard a lecture on a branch of horticulture the other day asked the speaker, "How did you acquire all this knowledge?" "Sir," replied the lecturer, "I have been a practical gardener all my life, and have but combined intelligence with practical knowledge." Of course young men cannot say so much with such good reason, but what is asked of them is not that they should rely upon the teachings of others, in preparing papers or essays, but that they should depend upon their own practical knowledge chiefly, but always striving to have that knowledge assisted by hard study and careful reading.

One of the admirable features of the proposed examination in Horticulture which may be instituted next spring by the Royal Horticultural Society is that the candidates, not being called upon to write papers or essays but to answer a series of questions, cannot in any way invoke the aid of books, but must depend entirely upon knowledge acquired in practice and in study. As to the case we referred to at the outset let it be regarded as a warning, the moral of which is—honesty in everything, even in writing essays, is the best policy.

Chrysanthemum Show Boards.—There is a battle looming in the near future with respect to the size of boards on which Japanese Chrysanthemums shall be shown. It is all very well now to suggest, indeed even to legislate, in favour of boards that are very materially bigger than are those now in use, but the enlargement is not required because good established varieties now produce bigger blooms than previously, or that the old boards were not large enough for them. The proposed enlargement rather grows out of the great size to which newer sorts are producing blooms. Thus it is well worthy of consideration whether even seven inches from tube to tube on a board will prove a permanent enlargement, or only a tentative one.

If, during the past five years blooms have developed in size so inordinately as to make some enlargement of boards needful, what may be the development in size some few years hence? Probably the promoters of the enlargement movement will reply that the seven inch interval is enough for the present, but at least they should stop to reflect where the proposed enlargement is likely to lead them to, because the proposal is made entirely in the interests of the big blooms, and in no case in the interests of the greatest quality and beauty, as found in many of the best incurved and reflexed Japanese.

It was quite a relief to get rid, to some extent, from exhibitions of such flimsy, weedy flowers as Baronne de Prailly, Meg Merrilies, and a few others of that class; but the proposed enlargement of boards will but serve to bring them back again on to show tables, because there are not yet enough of huge-flowered forms of the recently introduced section to fill a dozen bloom box.

Melons.—When the Fruit Committee of the Royal Horticultural Society awards a Certificate of Merit to a seedling Melon late in October, it cannot be said that it is a body indifferent to Melons. How far this or any other variety that has been thus honoured during the past two or three years will credit the awards, time alone will show, but it is worthy of note that very few of these certificated Melons come largely into commerce, or still further, that they exhibit any improvement upon the older varieties. If we take Read's Scarlet Flesh, Hero of Lockinge, Blenheim Orange, The Countess, and any couple of others of several years' existence, we may well ask, in which way do the recently certificated varieties excel them? Probably not one alone in any respect.

We seem assuredly to have come to the end of our tether with regard to Melons, whether in the production of flavour, of form, beauty and productiveness, real advance seems hopeless. That is at least a fair inference to be drawn from our experience of new Melons during the past few years. It does seem as if the great mistake of breeders is constantly employing varieties that seem to have reached the maximum of goodness, instead of taking one such variety only, and then going back to some other commoner sorts, even of Cape or Egyptian Melons, of which we sometimes find in this country imported fruits of the highest quality.

A Friendship Garden.—The Prince of Wales, while the guest of Lord and Lady Brooke at Easton Lodge, near Dunmow, planted a specimen of the Maidenhair Tree, Salisburia adiantifolia, on the lawn at Stone Hall, one of the most ancient structures on the Easton estate. In this romantic spot, says *Bell's Messenger*, a flower garden has been laid out under the personal direction of Lady Brooke, who terms it her "Friendship Garden," her friends and relatives being invited to plant trees, evergreens, etc., there as mementoes of their visits to the Lodge. Lady Brooke is also arranging a Shakesperian border, the object being to include in it every plant mentioned in Shakespeare's works.

Royal Horticultural Society.—The next meeting of the society will be held as usual in the Drill Hall, Westminster, on Tuesday next, November 1st, at 3 o'clock in the afternoon. A paper on "Fruit Trees in Pots" will be read by the Rev. W. Wilks, M.A. Among the exhibits, Chrysanthemums will doubtless form a conspicuous item, especially as prizes are offered for competition in three different classes.

Bergamotte.—The *Daily News* says: "There is but one spot in the world where the Bergamotte tree can be cultivated with profit—a fact of some importance, since its essence is indispensable in the manufacture of numerous perfumes and medical preparations. The spot referred to is Reggio, in Calabria, that extremity of the Italian peninsula which is familiarly known as 'the toe of the boot.' Our Vice-Consul, Mr. Kerrich, suggests that there is a good chance here for enterprising English capitalists of getting a highly profitable monopoly of the Bergamotte crop, by buying up from the producers all that they extract. At present the Reggio Bergamotte suffers both in quality and reputation through the frauds of small traders who, it is said, mix it with ten parts of adulterating matter."

Flower Growing in Scilly.—A Cornish correspondent writes:—As year by year passes so comes additional attention to the flower-growing industry of Scilly Islands. This year, we have it on good authority, several scores of acres more than any former year have been laid out for the cultivation of that always welcome flower the Narcissus. So far there has nothing occurred to prove that the yield will be as rich and abundant, ordinarily speaking, as formerly, but with increased plantings, and thousands of yards more than ever of sheltered houses, the market will be stocked, if not earlier, which is probable, certainly more extensively. The out-door plants in the gardens of Cornwall are looking exceedingly well this autumn, and the Chrysanthemums shown at the local exhibitions have been far above the average so far. Of these and the probable causes more anon.

National Chrysanthemum Society.—At a meeting of the General Committee, held on Monday evening, Mr. R. Ballantine presiding, the honorary secretary, Mr. R. Dean, announced that the Holmes Memorial Cups were finished, and were regarded by those who had seen them as very fine specimens of the silversmith's art. The recommendation of the Floral Committee, that a Silver-gilt Medal be given to Mr. John Erland, of Wellington, New Zealand, for his exhibit of frozen blooms at the September Show, was unanimously adopted. An interesting and cheery letter was read from Mr. H. Briscoe-Ironside, a former member of the committee, now residing in Italy, and who stated that since he had been in the sunny south he had got together some eighty varieties of Chrysanthemums, and was hopeful of obtaining seed. His description of Chrysanthemum culture in Italy was not of a flattering character. The committee had brought under its notice a paragraph which appeared in last week's *Journal of Horticulture* with reference to "grave allegations" made against a member of the Society's Floral Committee, and a sub-committee, consisting of the officers of the Society, was unanimously appointed to investigate the matter at once. It was announced that the November Show would be opened at one o'clock on the 8th by Lady Saunders; that the annual dinner would be held as usual early in December; and that a smoking concert would be held early in the New Year. Seventeen new members were elected.

Streptocarpus Galpini.—At first sight and at some little distance the flowers of this new species remind one of S. polyantha, but the flowers are much larger and different in shape. The solitary leaf is also of a different shape, being ovate-oblong, pointed, and of large size, while those of S. polyantha are more nearly orbicular. The flowers are very oblique, 5-lobed, and of a pleasing or soft light blue, with a large, slightly 3-lobed white blotch extending from the base of the three lower lobes down into the throat. The flowers are borne in racemose cymes and in quantity from each plant. A bunch of flowers was shown at the Drill Hall, on the 18th nst., from the Royal Gardens, Kew.

Royal Horticultural Society of Aberdeen.—The acting directors of this society met in the office of the secretary (Mr. A. M. Byres), on 21st inst., Baillie Crombie was in the chair. The report, which is to be submitted to the annual meeting to-day (Saturday, 29th), states that the financial surplus on the year amounts to £435 18s. 9d., which, added to the balance brought from last year, makes £696 3s. 7d. at the credit of the society. At the earnest request of the directors, Baillie Crombie agreed to allow himself to be nominated for the chairmanship of the directors for the forthcoming year. The directors recommended for favourable consideration the request of the North of Scotland Apiarian Association for amalgamation with the society, and requested that the matter may be left to them with powers.

Fruit Drying at Chiswick.—At the last meeting of the Fruit Committee Mr. Barron made the following brief statement of the results of his experiments in fruit drying at Chiswick during the present season:—"During the operation a temperature from 170° to 200° is required for Apples, and the time occupied is about three hours. Ten pounds weight of fresh fruit of

Cellini	give	1 lb.	3½ ozs.	when	dried.	
New Hawthornden..	,,	1 ,,	11	,,	,,	,,
Blenheim Orange ..	,,	1 ,,	12	,,	,,	,,
Frogmore Prolific ..	,,	1 ,,	9	,,	,,	,,
Lord Suffield	,,	1 ,,	2	,,	,,	,,
Small's Admirable ..	,,	1 ,,	3	,,	,,	,,
Beauty of Hants....	,,	2 ,,	4	,,	,,	,,

The parings and cores have to be added to the weight of the dried fruit when calculating the exact reduction by evaporation. For Plums the temperature required is about 250°, and the time taken is from eight to ten hours." The Committee marked their approval of the success of the experiments by recommending a Silver-gilt Medal to Messrs. Mayfarth & Co. for the apparatus, with the expression of their great satisfaction at the results achieved.

"Nature's Greatest Curiosity."—Some months ago we received two handbills, one from Glasgow and the other from St. Luke's, nearer at hand, both headed as above and bearing an illustration of an apocryphal plant which was described as "the Chinese Lily bulb or Water Plant, first discovered growing in the great Lake of Alak, in the north-western part of China, and the only plant in the known world that will grow a long Vine, and produce beautiful flowers out of a common glass or jar of water." We failed to obtain specimens of the wonder at the time, concluded that the whole business was a swindle, and thought no more about it till last week, when we were shown some seeds, curiously resembling a bull's head in appearance, which had been bought for 3d. each off a stand at the late Dairy Show, at the Agricultural Hall, and they were wrapped in a similar handbill to the one we had received from Glasgow. Here then was the great curiosity, and what was it? None other than Trapa bicornis, or rather the seeds of that plant, of which an illustration is given in the *Treasury of Botany*, of Lindley and Moore, second volume, p. 1161. Those therefore who may have bought the "greatest curiosity," may be interested to know that it is an aquatic, and that the seeds should be sown in good loam, sunk in a tank of water, and kept warm.

STANDS FOR EXHIBITING JAPANESE BLOOMS.*

By Mr. W. Herbert Fowler.

I have been asked to write a paper on the size of the boards on which Japanese blooms are at present exhibited, and whether such boards are large enough for the purpose to which they are put.

The subject seems to me to divide itself into three heads:—(1) Is any change necessary? (2) If necessary, how large should the new boards be? (3) The best way of carrying out the change.

In considering the first point we have several things which may aid us in coming to a decision. I think that few will deny the fact that a large number of the public who come to the shows are asking for a move in the direction of larger boards and more room for the blooms, and thus giving them a better chance than at present for critical examination. Then again we have those gentlemen to consider who so kindly give us their services as judges; is it possible for them at present to see anything but a part of large numbers of the flowers without taking them out of the stands for examination, and we well know that with the time they have at their disposal, anything like an exhaustive examination of this description is quite impossible. Then we have the enthusiastic grower, who loves his flowers and has spent many anxious months in bringing them to the greatest pitch of perfection possible, surely he will welcome a change, which will mean that all his flowers will be seen, instead of the front row and the tops of the middle and back rows, which is often the case at present, more especially in the case of the small classes.

This brings me to the question of the large and small classes. I think that for forty-eight or even thirty-six distinct Japs, the present boards would perhaps carry the blooms without doing them any great injustice, but for all the smaller classes, viz., the sixes, twelves, eighteens, and twenty-fours, I am strongly of opinion that the present size is quite inadequate to carry the large varieties which are now grown. I daresay some will meet this movement with the argument that the present regulations allow of any size board being used for Japanese blooms, and why, therefore, make any compulsory change? I think the answer to this is simply this. If an exhibitor uses a larger board than the ordinary one he at once places himself at a great disadvantage with others who use the regulation one, because his stand if at all equal with the others will appear to be much lighter. The general effect of a crowded stand is to give weight to the stand, and *vice versa*, *e.g.*, take twelve blooms and stage them on the regulation board, and then take them out and try a board 6½ in. between the tubes, and you will be surprised to see how much lighter the same blooms appear to be.

Another reason I should give in favour of enlarging the boards is this, that I think it would induce exhibitors to abstain from using extra wires and endeavouring as far as possible to make all the blooms touch each other. If more space be given it would be more difficult to spread out blooms in an unnatural way in order to get a false appearance of "weight." Such practices would then be much easier to detect. Whilst I am in favour of an enlarged board I am strongly of opinion that whatever the sized board agreed upon may be, that board and that one only should be the one on which Japanese blooms shall be exhibited at all exhibitions of the society. I should desire the regulation which permits exhibitors to use any sized board for Japanese blooms withdrawn and one standard size fixed. This will put all exhibitors on the same footing, and greatly assist the judges in their work.

Now as to the size that the regulation board should be. Although I am strongly in favour of an enlarged board, I am as strongly against going too far and attempting to introduce a monster board which would have a poor chance of being taken up and becoming popular with exhibitors. I have made several experiments, and in 1890 I adopted 26 in. by 19½ in. as the size of my twelve boards, this allows 6½ in. from centre to centre of each tube. You would be astonished to see what half an inch extra per flower will do, and I think myself that this is the best size to make the standard. If, however, the majority think that it should be larger than this I do sincerely trust they will not go beyond 7 in., viz., 28 in. by 21 in. for the twelve board. It will I think be found by experiment that a board 27 in. by 19½ in. will carry even the small classes without doing injustice to the flowers. Another reason against making the boards too large is that it would involve a serious addition to the space necessary to stage a large number of flowers; and again if made too big they would be useless for incurved varieties, but I venture to think that the size I suggest is quite as suitable for this section as are the present boards. I would point out that this is a strong point in its favour, as it would be a great nuisance to exhibitors to have two sizes of boards, and it would work very badly in the mixed classes if one had to stage the Japs on one sized board and the incurved on another. I trust myself that we shall soon see an end of these classes, as they are in all respects unsatisfactory.

Now we come to the third point, "The best means of carrying out the alteration." By this I mean the easiest way for exhibitors to make the change with as little expense and bother as possible. For my part I think that the ordinary box is a complete mistake, and I would advise all beginners and those whose old boxes are worn out to adopt the travelling box instead. By this I mean a box with fixed tubes in it, in which the tubes holding the blooms are dropped. The stands for setting up the blooms are carried separately, and the blooms transferred to them on arrival at the show. There are many advantages in this plan. In the first place you can give much more room to each bloom, then you need not fear the effect of a leaky tube, there is no risk of a leg of a stand getting loose and coming down and cutting a bloom in half, and also the side blooms will not suffer from rubbing against the box in a long railway journey, as they often do with the old-fashioned box.

Whatever may be the decision upon this important subject I trust that all exhibitors will cheerfully accept the decision of the majority and unite in making the change a success. Unless this is the case I fear there may be great difficulties in carrying it out.

By Mr. R. Falconer Jameson.

In connection with the question of size of stands for exhibiting Japanese blooms, there are two main points to consider: first, whether it is desirable to increase the present standard size? secondly, if the first question be answered in the affirmative, how much should the size be increased? I take it for granted that the general feeling would be almost unanimously in favour of the size being enlarged but for the expense which would be entailed upon exhibitors. The executive of the National Chrysanthemum Society have themselves, for a long time past, admitted that an enlargement is desirable by allowing Japs to be shown on boards of any size. In this I think they have made a great mistake. Had they, instead of allowing boards of any size, stipulated for an alternative size specified by them, the change would have been, to a great extent, effected ere now and without any burden having been cast upon exhibitors.

Who will be so bold as to assert that Japs show to better advantage crushed up one against another, or overlapping one another, than if standing just clear all round. There is beauty of form to be considered as well as beauty of colour, and the beauty of form is lost when the flowers are crushed out of shape. How, I ask, would incurved blooms look if jammed up one against another? and what applies to incurves applies also to Japs. Does any gardener, in planting shrubs, arrange them overlapping one another? I trow not, he allows a clear space round each one, and if in course of time they increase in size to such an extent as to mar their beauty, he then thins them out.

Personally I deprecate any sudden compulsory change being made, but I suggest, as I have already done in the press, that the National Society should, for the present, allow exhibitors the option of using one of two sizes, either the present standard size or a larger one specified by the society. I feel convinced that if this were done the good sense of exhibitors would lead them to gradually change to the larger size, which, in course of a short time, might be made compulsory without putting exhibitors to great expense. Some will argue that two sizes of boards would destroy uniformity on the show tables, but they must not forget that as at present any size is allowed there is chaos rather than uniformity.

I will now pass to the question of what size should be substituted for the present one. In January last I published the result of replies received in response to a letter I had addressed to some of the leading growers asking their opinions. Out of the thirty-eight replies I received, only two were in favour of the present size being retained, the others voting as follows:—One 27 in. by 18 in., one 27 in. by 20 in., one 27 in. by 21 in., two 28 in. by 20 in., eight 28 in. by 21 in., six 28 in. by 22 in., one 30 in. by 21 in., one 30 in. by 22 in., one 30 in. by 22½ in., two 30 in. by 24 in., one 31 in. by 21 in., four 32 in. by 24 in., and two still larger. Of the remainder some do not specify dimensions, while others made various suggestions. It will thus be seen that more are in favour of 28 in. by 21 in. than of any other size, and this allows 7 in. per bloom in each direction, being 1 in. more than at present. It seems to me very desirable to allow the same space for the blooms in each direction.

*Papers read at the late N.C.S. Conference on Show Boards, see p. 114.

LILIES AND THEIR CULTURE*

It is quite unneccessary for me to call attention to the beauty, both of form and colour, to be found in the genus Lilium, their graceful habit, gorgeous colouring, and rare fragrance recommending them at once to the notice of the least observant. Anyone who has seen a well-grown and judiciously planted collection, cannot fail to have remarked how admirably suited they are both for indoor and outdoor decoration. Their naturally tall growth, surmounted by brilliant flowers, forms a pleasing contrast to the dwarfer plants in the herbaceous border or the Fern rockery.

But it is in the position best suited to themselves that they are seen to the greatest advantage. In Rhododendron and Azalea beds they do better than anywhere else, and provide colour and flowers for cutting from June to October, in ground which otherwise is practically useless from June to April. By planting Lilies in between the shrubs, two crops of flowers are ensured with a minimum of trouble from beds which otherwise would only produce one.

Now that herbaceous borders have again become popular, clumps of choice Lilies tastefully arranged amongst the commoner flowers usually grown there cannot fail to be appreciated by everybody. Grown in pots they are of the greatest assistance to the decorator, both for conservatory and indoor work, relieving at once the dead level of the ordinary run of greenhouse plants. In the exhibition tent, well bloomed Lilies seldom fail to score a point or so when tastefully displayed in mixed groups. In fact for nearly every purpose for which flowers are required, Lilies are admirably suited. Yet in how few gardens do we see anything approaching a representative collection, and how few gardeners take the trouble to learn how to grow anything but the commonest kinds.

Lily Bulbs.

In this paper I intend only to deal with Lilies proper, *i.e.*, those having bulbs composed of scales, and shall leave "so called" Lilies, such as Nerines, Vallotas, Amaryllis, Agapanthus, &c. to those better acquainted with their cultivation than myself. As there may be some who are not acquainted with the construction of Lily bulbs, and as some of my remarks on cultivation would be pointless without this knowledge, I propose briefly to describe their formation and the functions exercised by the component parts in the different stages of growth.

A Lily bulb is composed of a large number of scales (of different shapes and sizes according to the kind) pressed tightly against one another face to back, and arranged spirally round a central axis. From the lower side of this central axis, or root-stock, spring the roots which nourish the bulb; while from the upper side is produced the flower-bearing stem, which in its turn sends out roots from near its base. These roots draw nearly all the food required for the production of flowers, leaves, and seed. As growth proceeds the swelling of the stem forces the scales apart, and the bud thus released pushes its way through the soil.

If the bulb be examined when the growth is, say, 6 in. above the soil, it will be found that the scales, which at the time of planting were packed tightly together, are now comparatively loose; some of the outer ones will probably be found on the point of decaying. At the same time if the bulb is cut open, it will be discovered that at the side of the base of the stem between it and the innermost scales a tiny bulb (or bulbs) is already visible to the naked eye. If the microscope be used, this bulb, though very minute, may be seen as soon as the parent bulb reaches maturity. As time goes on this tiny bulb swells rapidly and soon becomes as large or larger than the parent, the scales of which (in most cases) gradually decay until only a few of those originally nearest the stem remain. When this new bulb is "ripe," that is has completed its growth, the roots of the old bulb wither, to be shortly replaced by a fresh supply from the new bulb.

From this it will be seen that from February to October, that is to say, from the commencement of stem growth to the maturity of the new bulb, the roots of the parent bulb have to perform two different functions—first, they have to nourish the stem, *but only up to the time it forms roots of its own*; second, they have to supply all the food necessary for the growth of next year's flowering bulbs. From November to February, there being little or no growth to nourish, all the food taken up by the roots is stored within the bulb for future use. This is what happens in a natural state, and if left alone the roots are capable of doing what they were intended to do, but no more.

Occasionally a gardener imagines he is wiser than nature, so he plants a Lily bulb in the same way that he pots a Hyacinth, with the top just clear of the soil. Let us see for a minute what happens. Roots, of course, are thrown out from the base; the stem begins to grow, and in its turn throws out roots. These, having nothing to feed on, promptly wither and die. The new bulb soon requires all the food the basal roots can supply for its own development to flowering size. But the stem is also calling out for food to perfect its leaves and flowers. The roots cannot find sustenance for both bulb and stem, so one of three things must now happen: either they must feed the stem and starve the bulb, starve the stem and feed the bulb, or they must take a middle and more usual course, and half-starve both. The result of this is that the flowers so eagerly expected are disappointing or non-existent, and the new bulb which was going to do wonders the following season requires another year's growth before it flowers at all. Thus, by bad cultivation, we are in the same position two years hence as at present, having in the meantime lost two crops of first-class flowers.

The same argument applies of course to the destruction of the basal roots, only in a still greater degree. What we have to discover then is to treat our bulbs in such a manner that they will produce good flowers and a good new bulb annually. If Lilies are in good health, they generally form offsets, either round the stem just below the soil, or from the decaying scales of the old bulb; and these, if planted by themselves, will grown into flowering bulbs in a couple of seasons: thus, as an additional incentive to good cultivation, we have the certainty of material increasing our stock.

Choosing Bulbs.

From the foregoing remarks it will have been gathered that without good, well-ripened bulbs to start with, it is impossible to have fine flowers—at any rate for the first year. A good bulb should be large, according to the species or variety; the scales should be light in colour, full of sap, and fitting tightly together. These qualities collectively render the bulb heavy in proportion to its size, and firm when squeezed in the hand. It is not advisable to buy imported bulbs, as a rule, if good home-grown ones can be procured fresh from the ground. Order early, and from a firm who grow their own Lilies and make them a speciality. If it is absolutely necessary to obtain a supply from a nurseryman who doesn't grow his own Lilies, it is advantageous to bury the bulbs in moist cocoa-nut fibre in a place safe from frost for a week or ten days in order to plump them up, as they are usually sent out in a bad, flabby condition. The time and trouble will not be thrown away, but will be amply repaid by the certainty and rapidity with which they will throw out roots when planted, and the consequent small percentage of loss from decay.

Time to Plant

Soon after arriving at a state of maturity the new bulb commences to throw out roots, and as at that time there is little or no growth to nourish, it follows that the food collected must be stored within the bulb itself for future emergencies. Equally it stands to reason that, the larger the stock of food the bulb has to fall back upon in case of eccentric cultivation or an unfavourable season, the better it is for the cultivator. This seems to prove that the best time to plant is during the short period of rest between the arrival of the bulb at maturity and the emission of roots.

In most cases this period of rest lies between the end of August and the end of October, according to the season. In transplanting, Lilies may be safely lifted as soon as the foliage begins to turn yellow, and they should be at once transferred to their future quarters, which should be prepared beforehand, so as to avoid exposure to the air as much as possible. Lilium candidum and its varieties should be planted about the third week in August. As regards imported bulbs, the cocoa-nut fibre treatment is to be recommended. The first consignments of L. auratum and speciosum are rarely properly ripened; those arriving in December are usually the best to buy, and with proper treatment will flower nearly, if not quite, as well as established plants.

Position and Planting.

There are few, if any, Lilies that will not grow and flourish in Azalea and Rhododendron beds. The partial shade afforded by the shrubs, the porosity of the soil, and the ease with which their deep-running roots can penetrate to a distance of 3 or 4 ft. in search of moisture and food, all seem to suit them to perfection. The next best position is a shrubbery border, and then the herbaceous border. But wherever they are planted it is essential that they should be protected from fierce sun, that the drainage should be good, and that the surface soil should always be kept cool and moist. For these reasons a sloping bed, facing south-east or south-west, is preferable. In Rhododendron beds they should be planted between the shrubs in clumps of from four to ten bulbs, at a depth of from 5 to 8 inches, according to the amount of cold to be resisted.

A good mulching of manure 3 in. deep in November materially benefits both occupants of the bed and helps to keep out frost; while if this mulch be removed early in February, and mixed with twice its bulk of half-decayed leaves and reapplied, it promotes a healthy growth of stem roots, thus ensuring good flowers, while every shower carries down a certain amount of nourishment which helps in the production of fine new bulbs.

Liquid manure, not too strong, enlarges the size of the flowers and keeps the foliage a good colour. Nitrate of soda, carefully and sparingly used has a wonderful effect on the foliage, bringing up a nice dark green colour in a few days; but whatever form of liquid is used, the soil must be kept moist. If the position is exposed to the wind, sticks must be used to support the stems, but care must be used in staking, so as to avoid damaging the bulbs. Where peat beds are not available, a shrubbery or herbaceous border may be used by preparing a place for the reception of the bulbs. If the soil is light and sandy no special preparation is necessary, but if it is inclined to be heavy, better results will be obtained by proceeding in the following manner: Take out the soil to a depth of 2 ft., and fill in with a compost of two parts peat to one of loam for about 15 in. Then put in a layer of sand about an inch deep, on this place the bulbs, 6 to 8 in. apart, just cover the tops with sand, and fill in with the same compost as before, but do not make the soil too firm. After, treatment as advised above.

(To be continued.)

* A paper read to the members of the Devon and Exeter Gardeners' Mutual Improvement Association, at Exeter, on October 19th, by Lieut. Percy Smith, of the Devonshire Regiment.

"WHAT IS IT?"

At first sight perhaps the above query may appear irrelevant, but doubtless on perusal of the following remarks, any such conception will be dissipated, and my elongated commentary condoned.

Enclosed for your inspection are specimens of various plants, namely, Ivy Leaf Pelargonium, and the zonal Henry Jacoby, a piece of growth from Heliotrope, Dahlia, Chrysanthemum, Hydrangea, and a frond from Cyrtomium falcatum or Holly Fern, all of which you will perceive are in a dilapidated state. Now those of my friends to whom I have submitted similiar examples unanimously pronounce the earwig to be the culprit, an opinion to which I have acquiesced previous to this season. From a long and close observation I have come to a very different conclusion. You will discover (I hope alive) in the small bottle enclosed with above mentioned specimens, several green plant bugs, which are the sole cause of what appears to me, one, if not the worst pest I have had to contend with during forty years' allegiance to floriculture.

In the spring I was first attracted by its depredations in my greenhouse on the young shoots of a vine. (You are cognizant how green fly will sometimes attack these, especially when a multitude of plants are grown in one small house.) As the foliage expanded, more especially on what I had selected for fruiting canes, the leaves appeared as if perforated by a small needle; growth was retarded, and in some cases quite suspended until a break from a lateral bud was made. This led me to examine and carefully watch, and quite accidentally I discovered among a veritable colony of aphis or green fly, one which appeared a regular tip top sort of customer, and who, on finding that he was "spotted," quickly "made tracks" as if detected in mischief. It was a long time ere I could find where it had secreted

itself, and not until several days of careful scrutiny was I able to capture the delinquent or one of its associates. On becoming acquainted with its form of attack it was not difficult to account for the perforated appearance of the vine leaves. Their *modus operandi* is to get into the centre of the bud, and if, as I expect, they are armed with proboscis, they pierce through the whole of the leaves in embryo. Ordinary specifics for their annihilation were ineffectual, such as sulphur, fumigation, washing, hellebore powder, and lime dusting. The only certain remedy was, immediately on discovery, to crush it between thumb and finger.

Simultaneously its appearance was palpable on varied vegetation in the open air. All the main or leading growth on Currant trees assumed an appearance similar to an attack of red spider, followed by a complete cessation of advancement. An examination of these elicited the fact that the mischief was due to the same destroyer as on the Vine; only, where on the Vine a solitary few, they were here in great force. I now began to call to the powers of recollection, and to hark back to observations last season on the same trees. The result was the same in every particular—a complete stagnation to growth, and in many cases the foliage completely dried up as if by burning. My attention was next directed to Chrysanthemums in pots; these were well established and thriving plants until I had got them into the flowering pot, when the battle commenced in real earnest. Although I have used all the various insecticides, nothing will stop their ravages, and I am fain to confess that they are "masters of the situation." Out of forty plants I have only six that are fit to look at, and the flowers of these will be very indifferent. But what need to recapitulate any further vagaries which have happened from the same source to all the various plants which it is my hobby to cultivate? Suffice it to mention a few that were most affected; Centaurea, Cyanus major, Polyanthus, Dahlias, Peas (sweet and edible), Artichokes, and French Beans; the whole of their growth was as clubbed as a Cabbage root. Clematis Jackmannii, a three-year-old plant with only one growth almost as thick as one's finger, 4 ft. high, was attacked, and for six weeks it did not make a single leaf, but sent out a weaker shoot below, and instead of making twelve or fourteen feet did not reach 7 ft. Now, Mr. Editor, what is your opinion of the subject? One scientist says it is a "frog-hopper" or spittle-fly, or species of it, in some stage of transformation, proceeding from or approaching to its destructive season.

But from close observation of the movements of the two, I fail to descry any analogy, either in their constructive form or mode of attack. The spittle fly is at once visible, although when in great force it is not to be despised or ignored; in the other case the evil is done before you are aware of the presence of the enemy. The spittle fly's ravages are confined to the one leaf or stem, and emerge from the secretion a perfect insect, and in a few days you will find a pair as comfortable as doves. The gentleman in question, though, is a lively little aphis-like fly, and grows rapidly until developed according to specimen. Moreover, until provided with wings, it has a happy knack of dropping suddenly, and running like a flash of light, when it will fly off, "not to be captured this time." There seems to be another feature, too, for some are of a brick red colour, but these have not survived to be visible for these last two months.

Now, Sir, I have trespassed at great length on your valued space, but surely (whether it be deemed a "mare's nest" or *rara avis*) the subject is interesting, and one which may in the prospective serve as a premonitory warning to all interested in the GARDENING WORLD; and moreover, stimulate them to a sharp "look out" for any such insect life, *i. e.*, if they would arrest an invasion which is attended with such aggravating results, at least, such one as it has been my lot to experience.

In conclusion (should the exigencies of space permit) I would ask your indulgence for an insertion of the foregoing in detail, so that your numerous readers may be enlightened as to the existence of such a scourge; or, in the event of its being no "new thing," they may (if so inclined) answer my query, "What is it?" recount any experiences, and moreover such remedial measures for its extirpation as the education of practical application may have evidenced.—*David Hull, Margery Park Road, Forest Gate, Essex.*

[The insects received from our correspondent are of two kinds, the larger and brown or variously marked and spotted ones being Frog Hoppers (Aphrophora spumaria). The early condition of this species may easily be recognised by the masses of white froth, termed cuckoo spit, to be seen in the axils of the leaves during the early part of the season. They may be destroyed at this stage by brushing off the spittle on a warm and bright day so as to expose the tender insects to the sun. Another method is to mix a gallon of water with a tablespoonful of nicotine and one ounce of soft soap, syringing the plants with the mixture. The plants should be washed with clean water afterwards. When the insects have attained full size, we find the best plan is to go over the plants occasionally on the mornings of dull days, and catch them while in a dull and inactive state. Shaking the bushes or plants should be avoided till a thorough search for them has been made. The small green insect, like the last, is also a plant bug, not a beetle as stated. Both belong to a group closely allied to the green fly. The green one is Lygus campestris, better known perhaps as Phytocoris campestris, and is very mischevious to the buds of Chrysanthemums. The best method of combating it apparently is to frequently examine the buds and destroy all that can be found. It might render the plants disagreeable to the insects if they were syringed with quassia water. Boil two ounces of the chips in half a gallon of water, and after straining add another half gallon of water and use the decoction when cold. The insects before us are mischievous enough, but we should hesitate to saddle them with the damage done to all the plants sent. Green fly might have injured the Fuchsias, Pelargoniums and Peas; earwigs had possibly been at the root of the evil in Dahlias, and a small mite on the Heliotrope. We have had unmistakable evidence of all this. The only sure method of determining this is to examine the buds and young leaves of all those subjects when making their growth in summer. Insects of all kinds are busy at work at that time. —ED.]

SCOTTISH NOTES.

NORTH OF SCOTLAND HORTICULTURAL AND ARBORICULTURAL ASSOCIATION.—The members of this association held their first meeting for the season in the Christian Institute, Aberdeen, on Wednesday evening, 19th inst. There was a good attendance, and Mr. C. S. France, president, occupied the chair. The presidential address was the first business. Mr. France, after thanking the members for again electing him president, proceeded to take a retrospective view of the work done during the past session. He did not think their finances or membership had in any way retrograded; and the new departures that had been made in the association, if they had done nothing else, had brought the association into greater prominence, and had also allowed the members a greater freeness of discussion, which was in itself a healthy sign. Mr. France expressed personally, and in the name of the association, the warmest thanks to Sir Arthur and Lady Grant, and Lady Gordon Cathcart and her factor, Mr. Macdonald, for their kindness on the occasion of the association's annual excursion. After a reference to the inclusion of aboriculture as a branch of the association, he said they ought now to devote a little more of their time and their energies towards the fostering, encouraging, and developing of a better and more extensive love for cottage gardening in the country. The time was coming when every farm servant would have an eighth of an acre at least to cultivate; and they, as a horticultural association, ought to make an appeal to the County Councils to devote a certain sum for the teaching and encouraging of cottage gardening. Agriculture was taught in schools, and he saw no reason why horticulture should not be included. The spirit of gardening was really one of the most blessed and elevating principles of our nature.

He complimented the members on the excellent exhibits they had shown during the past session. Mr. France then touched on the introduction of a chair of forestry into the University of Edinburgh, which had been effected by the efforts mainly of the Highland Arboricultural Society. He reminded his hearers that the scheme provided that any young gardener who wished to attend the lectures would receive a wage of 2s. 6d per day at the Botanical Gardens, Edinburgh, and would be allowed to take the class free.

THE VEGETABLE GARDEN.

Storing the Root Crops.

To commence with Beetroot; this crop being the most easily injured by frost, must be attended to first. The roots must be very carefully lifted so that the skin is not broken in any way, or any of the little sides rootlets broken off. The roots should be stacked in a ridge, and after placing on them a thin layer of straw, a good thick covering of earth must be added to keep out the frost; or the roots may be simply packed in sand, or dry earth, in a shed; but I prefer to pit them, and in fact all other roots of this class, with the exception of a few for present use, as they retain their flavour so much better.

Next to the Beetroot, the crop of Carrots must be attended to. This crop may be left in the ground if covered with straw or fern, but as tidiness is a consideration in gardens, it is generally best to lift and pit them as directed for Beet. In selecting a site for the pit care should be taken to place them under a north wall, or where they will get some shelter from the sun by trees, as the roots keep so much better in the spring when the sun begins to gain some power. Carrots will stand a lot of frost, but if left unprotected they become sweet like a frozen Potato.

Parsnips are best if left in the ground where grown until wanted for use, with the exception that a few may be kept in soil in a shed for fear of severe frost, or perhaps better still if a small part of the crop is covered with partially decayed manure so that the roots may be lifted in frosty weather when wanted.

Chicory and Dandelion roots for forcing for salads keep the best if left in the open ground, and the same remark applies also to Salsify and Scorzonera. —*G. H. S.*

Two good Cabbage Lettuces.

I THINK all practical men will agree with me that during the last few years there has been a great improvement in Cabbage Lettuces. According to my experience the sorts now in cultivation are much larger and much more crisp than those of former days. In one or two gardens I have visited this summer I have noticed that only Cabbage varieties are grown. I noticed this particularly in the kitchen garden at Rousden, Sir Henry Peek's place, in Devonshire, where I saw grand quarters of Perfect Gem and Neapolitan. The former variety I grew when it was first sent out, and have always regarded it since as one of the best. The latter is a fine sort for summer use, but is not so hardy as Perfect Gem. It was not a good summer for Lettuces, being so dry.—*Con.*

Williams' Victory Pea.

AMONGST tall-growing, late varieties of Peas the variety named above, which was sent out by Messrs. B. S. Williams & Son, deserves to be better known. During the past season we have tried many varieties, and Peas generally did very well with us. For late use Victory was tried with several others under similar conditions, and gave us a splendid crop of Peas of the finest quality and the deepest green colour when cooked. It is not one of the deceiving large podded kinds which lead one to think that a few pods only will provide a meal, but which really give so little produce. Victory is the very reverse of this; the pods are filled out right to the end, and always give the best results when shelled out.—*Western.*

Globe Artichokes.

Now that we may except severe frost at any time, the rough bottom leaves should be removed from the Globe Artichokes and a covering of litter placed round them, and then later, when the tops are cut down by frost, more straw or litter should be placed round and over them. This will be more satisfactory than if they are allowed to be killed down before giving them any protection at all.—*G. H. S.*

Tomato Lady Bird.

THE fruit of this variety is globose, and smooth with exception of some shallow grooves near the base, and of a deep, shining, crimson-red. It is also of great depth, borne on long peduncles, or footstalks, and generally, obtusely 3 to 5 angled. It is an exceedingly free-bearing variety, and a First-class Certificate was awarded to it when exhibited by Mr. W. C. Leech, Albury Park, Guildford, at the meeting of the Fruit Committee on the 18th inst.

FLORICULTURE.

The Auricula: New Varieties.

THE gods of the floral Olympus have spoken; that is something gained. The cry of the small growers has reached them; they express a benevolent sympathy, but they do not part. But I have succeeded in drawing an interesting paper from the Jupiter Optimus of the Auricula world, and we learn that new varieties die even in the hands of famous growers, and that some refuse to give increase. What would be the effect of beheading these obstinate ones, as Mr. J. Douglas reports he occasionally does to induce increase, and so by decapitation give a new lease of life for procreative purposes? Is this successful only in the case of certain sorts?

I would not shut out the seedlings from competition, but I would have classes for Auriculas in commerce. Growers who are not successful raisers of seedlings like the Rev. F. D. Horner or Mr. James Douglas are placed at a great disadvantage in an open competition by the former showing seedlings which they alone possess—seedlings of such high quality that the presence of two or three of them in a collection will determine an award. The exhibitor who depends upon sorts obtainable only in commerce is undoubtedly placed at a great disadvantage. It is to encourage the growers of small collections that I would have classes from which seedlings not yet in commerce are excluded. It seems to me that at our Auricula shows two or three big growers sweep the board largely of the leading prizes by reason of their being able to show seedlings which no one else can secure; and they seem to me to maintain a kind of Auricula monopoly—a sort of Auricula ring.

A new green edge may be raised by one and a plant is sent to one or two others, perhaps in exchange for other seedlings and they can exhibit it with the certainty it will count high in the competition, and it is so. I do not censure the leading raisers for doing this; but my contention is that it places a grower who can show a new seedling of high quality at a decided advantage, and if classes were provided for Auriculas in commerce and those that are not, there would be ample opportunity for comparison. That such a proposition should be objectionable to our leading seedling raisers is to be expected. It is the vested interest in Auricula culture rearing itself to oppose the general good.

Mr. Horner hurls at my head a string of adjectives, but they are very harmless. Indeed our present practice seems to me to unduly exalt seedlings by not only permitting them to be shown in collections with named varieties, but by giving them prizes as seedlings in classes from which named sorts equally good, and perhaps better in point of quality, are excluded. After the experience of last year, when the seedlings were judged at different times by two or three different sets of judges with varying results, there is great danger of distinguishing seedlings of questionable quality by awarding them certificates. I am advocating a change that must be distasteful to some for obvious reasons. But I am very much mistaken if presently my views do not attract attention and gain a good deal of sympathy.

The "agricultural gentleman" in the fable—Syn-Small-Grower—is to put his own shoulder to the wheel and raise seedlings. The gods have his homage and his entreaties, but they do not help. Some of us try our level best to enrich our collections with seedlings, but they do not come. I think the "vile atmosphere of London"—I am quoting Jupiter—is dead against seed bearing. I have tried by careful crossing for several years to get a little seed, and the grains that reward my exertions take but a short time to count. Some of us are away all day, in my own case for two or three days together, and cannot catch the flowers for fertilisation just at the right time. A collection of Auriculas at that time want hourly attention, which the big growers can give with the assistance they can command—the small growers, who are the breadwinners of the family and have to be from home all day, are placed at a great disadvantage in this respect.

But the gods may render substantial help, though they declined to interfere in the fable when called upon. There is no evidence to prove that the "agricultural gentleman" did not put his shoulder to the wheel and try his hardest to get it out of the rut before he appealed to the gods for assistance. The morals of fables are often neither pertinent nor just. If there are no spare offsets will they distribute a few grains of the seed they save? Mr. Martin R. Smith, the President of the Carnation Society, has set them a good example. He distributes seeds of his choice strains of Carnations among those loving the flower, that they may partake in the fascinating pastime of raising seedlings from good seeds. The empty echo only of our first prayer to the gods has come back to us; will the second avail on high? And we wait the Celestial reply, but not, we hope, from the heathen Chinee, who was unequalled for "ways that are dark and tricks that are plain."—*R. D.*

FOLLOWING "R. D.'s" article on this subject at p. 100 of THE GARDENING WORLD of October 15th, a few remarks from me may not be out of place, premising that I do not intend promulgating any new theory in Auricula culture, but hoping it may be acceptable if only for the reason that it is "the manner of florists to read eagerly anything that concerns a favourite flower." *Vide* the Rev. F. D. Horner in his introduction to the recently published "Carnation Manual."

The house referred to by "R. D." is a lean-to structure, some 9 ft. long by 4 ft. wide, 5 ft. high in front and 6 ft. at ridge, with removable glass top lights front, side, and door—a veritable *multum in parvo*. When all the side lights are removed and the top lights drawn down a few inches the contents of the house may be said to be practically out of doors. The aspect is due north-east, and gets no sun; a staging covered with roofing slates runs down the front and one end of the interior, and will accommodate about seven dozen specimen plants, about as many as time will permit me to look after properly.

The plants have been located in their present quarters for about three or four months, during which period the top lights have not been removed; the plants are very fine and dwarf, and only one plant out of a collection of six dozen has given me an autumn truss, and that a vigorous young Dr. Kidd. The woolly aphis is conspicuous by its absence and no sign of green-fly is to be discerned.

But perhaps the reader may say, why take all this trouble? Why not place them out in frames during the summer exposed to all the elements? Well, there is no reason why that should not be done, and in former years I have done so and no harm has befallen the plants, but by so doing the individual beauty and characteristics of the Auricula are lost, and, to my mind, such a distinctive feature is not to be lost for the sake of a little trouble. Again, the utility of such a house in rainy weather can be appreciated best by those who have used it, and I must say candidly I have no desire to go back to the old order of things.

I may state, in reply to Mr. T. E. Henwood's remarks, that I have no intention to leave the doors and sides open in a cold, biting east wind. I am a young beginner in Auricula culture, it is true, but I am sufficiently alive to the importance of not subjecting my plants to the effects of killing winds. We can claim to know something of elementary Auricula culture so far south as Southampton.

My potting compost this year is noticeable for its heterodox character. A very strong yellow loam, mixed with about a third of very fine shell shingle and coarse silver sand. No leaf-soil and no manure in any form; and to the absence of the two latter I attribute the utter disappearance of the woolly aphis. The roots take a little longer than usual to get into this, but when they do, they grow like thick whipcord. I may add that such a compost needs not nearly so much watering as one of a lighter nature. I invariably go over my plants once a week, brushing off the dust from the leaves, covering up the new roots as they push through the surface soil, and generally doing the thousand and one needful requirements which no true florist would neglect. I remember reading an article by Mr. James Douglas some few years ago, describing a visit to the Rev. F. D. Horner. Therein he said that Mr. Horner carried a pointed stick, with which his hand continually itched to stir the surface soil in the Auricula pots. This in itself is sufficient authority, but I also practise it, and so convinced am I of its beneficial results on the plants that too much stress cannot be placed on this important item in Auricula culture. Bearing on this particular subject, a paragraph from Dr. Fream's work on "Soils and their Properties," page 78, is particularly appropriate:

"Hoeing and cultivating serve to loosen the upper layer of the soil. The capillary tubes through which the soil water is conveyed are thereby enlarged, or their continuity is severed; the capillary action is thus hindered, and less water passes to the surface. At the same time more air enters, and the loosened top layer of soil transmits less heat to the soil beneath. The loosened surface acts, in fact, as a mulch, and tends to keep the under-soil cooler, whilst it prevents the water from reaching the surface, and thereby in a two-fold manner shields the rising moisture from loss by evaporation."

This work by Dr. Fream will well repay a careful study by brother-florists of any denomination.

Unfortunately at Southampton I am alone in growing the Auricula. My friends Nutt and Rebbick have not yet entered upon its culture; but as Southampton is an area in which the floral fever runs strongly when it commences, they may (justified by their success with the Carnation) take up the Auricula also. We may grow into a lusty Auricula family yet. I want a colleague or two in Auricula culture badly, so that we may talk about the flower and encourage each other by detailing experiences and hopes; and it is only those who miss the value of such help that can understand fully what companionship in such matters means.

"R D." wonders where all the new varieties get to that are brought out year after year; but perhaps a remark made to me by an eminent grower some time ago will explain much. In course of conversation I put the same question to him as "R.D." asks, and he replied "that raisers valued their reputation too well to send out varieties that were no improvement on those already in commerce."

Has anyone bloomed James Hannaford? Yes! I saw two plants in bloom in Mr. Douglas' collection at Ilford last spring. Doubtless Mr. Douglas would kindly say what he thinks of it.

Can anyone say whether that pest, woolly aphis, is so prevalent in collections as it was a year or two ago? "Absence makes the love grow stronger," 'tis said, but not in this case, I think.

The following is a list of varieties I am growing; not a formidable list in point of numbers, but in quality not to be denied:—

GREENS:—F. D. Horner, Prince of Greens, and Col. Taylor.

GREYS:—Geo. Lightbody, G. Rudd, Rachel, Mabel, and Marmion.

WHITES:—Acme, John Simonite, Mrs. Dodwell, Reliance, Conservative, Dr. Kidd, and Smiling Beauty.

SELFS:—Mrs. Potts, Black Bess, and Heroine; and a few unbloomed seedlings crossed from these varieties.—*J. T. Keen, Bevois Town, Southampton.*

[We think "R.D.," when referring to the non-distribution of new varieties, had more particularly in his mind the new Auriculas which have been certificated in recent years. For the past ten years, at least, new varieties of show Auriculas have been certificated at almost every exhibition, but how few of them have found their way into commerce.—ED.]

CORNUS SIBIRICA SPATHII.

THE embellishment of the garden and pleasure ground in recent years has been greatly aided by the use of variegated trees and shrubs, as well as those with handsome foliage of some other shade than green. They are mixed with the ordinary occupants of the shrubbery border, or planted singly or in large clumps or beds upon the grass, and the fine effect they produce by contrast with green foliage in the summer months is rendering them more and more popular every year. The subject of this notice is comparatively new, but recognised as a grand acquisition wherever it is known. The red stems are conspicuous in winter when the leaves have fallen, more especially where grown in a mass. The leaves are as large, or even larger, than those of C. stolonifera, generally known as C. alba in gardens and nurseries. Our illustration of the tip of a shoot will give a fair idea of the distribution of the variegation. The central portion of each leaf forms an irregularly shaped green blotch, sometimes of very small size, while all the rest is yellow, changing with age to a silvery-white. The large size of the leaves and the quantity in which they are produced gives the shrub

a rich and massive appearance that can be seen from a great distance. By pruning back the more rampant shoots annually, this Cornus can be kept dwarf while the strong young shoots produced as a consequence keep up the vigour and fine appearance of the bush. The prunings can be used as cuttings in the open ground, or their tips may be taken earlier in the season and rooted in heat. Plants may be used as edgings to large beds, or clumps may be grown by themselves or mixed with other fine subjects such as the Golden Privet, Purple Hazel, Golden Elder, purple-leaved Barberry, Prunus Pissardi, Negundo aceroides variegata, and many others too numerous to mention. The illustration was prepared from specimens received from Messrs. J. Veitch & Sons, Chelsea.

Cornus sibirica Spathii.

Tansy, an old-fashioned plant in English gardens, is largely used in America as a safeguard against moths. The leaves are sprinkled among clothes, and the moths give them a wide berth.

CHRYSANTHEMUM NOTES.

Battersea Park.

Chrysanthemums generally are considered somewhat later this season than usual. The show house at Battersea Park has been open to the public for about a fortnight; but when we saw it, the plants would have required ten days or a fortnight to be at their best. Some of the early varieties were however in full bloom, so that they together with the midseason and late ones extend the flowering period considerably. The plants are arranged in a wide sloping bank along one side of the house, while the pathway for the public runs along the back, between the two doors. The display in a week's time will be well worthy of a visit by lovers of this class of plants, and will reflect credit upon Mr. Coppin, the superintendent. The earlier and more forward of the varieties were most in evidence when we saw them, so that our remarks will be mostly confined to them. The house is situated at the west end of the park, close to the Albert Gate as well as the Albert Bridge, and is there easily reached from the Middlesex as well as the Surrey side of the Thames.

White and yellow varieties are well represented, and amongst the former are Avalanche, Mademoiselle Lacroix, Eynsford White and Elaine. The latter is not quite so broad in the petal as Eynsford White, otherwise the varieties are much of the same character. Bouquet de Dames is so early that only the later flowering plants are now in bloom Golden yellow varieties with more or less reflexed florets are Sunflower, Mr. Garnar, and Phœbus. The early flowers of Viviand Morel from the crown buds are of a pale rosy purple, and inferior in point of beauty to the later blooms. The bronzy crimson of M. H. Elliot changes to a bronzy buff as the blooms get older. M. Freeman, with its rosy pink florets and silvery reverse, maintains its dwarf and early flowering character. Another old sort named Gloire Rayonnante has tubular purple florets that point in all directions. Mr. C. E. Shea is better known as the Yellow Lacroix. J. R. Pearson is a pleasing white variety tinted with pink.

For conservatory work M. Wm. Holmes, with its bright crimson and gold tipped florets, will long be held in esteem. An older sort is M. Astorg, with silvery white flowers and broad, drooping florets. The new rosy pink Wm. Tricker is a free flowering early sort that has already found its way here. The older W. H. Lincoln is a golden yellow type that has rapidly found favour with cultivators. The blooms of Peter the Great are similar in hue and represent a type that has not been very plentifully grown for some years. Comte de Germiny, the buff yellow incurved Japanese sort with a metallic hue, is still a favourite with many growers. Etoile de Lyon, on the contrary, has sprung into popularity very rapidly since its first appearance, but being a late bloomer is scarcely in character yet. The early stages of Florence Davis shows too much green in the centre, but later on it has an ivory lustre about it. Mrs. Alpheus Hardy has been declining almost as rapidly in favour as it gained it. Some early blooms of it are now past their best; they were the produce of the crown buds and are now tinted with pink. Several plants of it are grown, and which would indicate that its constitution is not quite so bad as was at first suspected.

Some very old types may still be seen at Battersea Park, including Joseph Mahood, a golden yellow bronzed in the centre and on the reverse. Another that seldom makes its appearance on the show boards is Alfred Chantrier, with pale yellow blooms slightly tinted with bronze, and divaricate florets. Much in the same way is the early flowering Flamme de Punch, not very plentiful on the show boards at the present day. The blooms are of good average size, and golden bronze, but the florets are narrow. Free flowering also is the old James Salter, and because well suited for conservatory work should not be lost sight of. The lilac or pink blooms are very pretty. The comparatively new Gloire de Rocher is not yet in character.

Incurved varieties are grown to some extent, but very few of them are yet in bloom. The most advanced are M. R. Bahuant amongst new sorts, and Jeanne d'Arc amongst the old ones. Princess Beatrice and Empress Eugenie are advancing rapidly. The cerise shading is very conspicuous in the early stages of the bloom. The later sorts have fine buds and look promising for large blooms. The most popular of the Pompon type is Mademoiselle Elise Dordan, of which numbers are grown and some now in full bloom. The Golden Madame Martha, with its golden yellow flowers produced in great abundance, stands up very prominently.

Dulwich Park.

No pretensions are made of growing and exhibiting Chrysanthemums to the general public at this new park as yet, because there is no proper house for their accommodation. When convenience permits of it however we may be sure that Mr. Moorman, the superintendent, will give encouragement to an old favourite hobby. He has in fact a collection of plants in pots, and not having a house for them, he improvised one by setting up some framework, and covering the sides and ends with mats. The sashes from some frames close by were made to do duty as a roof. Here the Chrysanthemums are located for a time and sheltered from the weather. They are very late this year and few were in bloom when we saw them, although the numerous large buds were very promising. One of the most advanced was the pure white Bouquet de Dames, and Mademoiselle Lacroix was not far behind it. Others beginning to make themselves conspicuous were Cesare Costa, a poppy-red Japanese variety, the purple Stanstead Surprise, the crimson Wm. Holmes, and Annie Clibran, better known perhaps as the pink Mademoiselle Lacroix. The collection as a whole is dwarf, with fine foliage of a rich dark green colour.

Inner Temple Gardens.

The spirit of enthusiasm with regard to the autumn queen of flowers is as lively as ever in the Inner Temple Gardens, superintended by Mr. John Newton, F.R.H.S. The gardens have a historical interest from the fact that the red and the white Roses representing the badges of the houses of York and Lancaster, were believed to have been plucked in the Temple Gardens. Shakespeare says:—

> "This brawl to-day,
> Grown to this faction, in the Temple Garden,
> Shall send, between the red rose and the white,
> A thousand souls to death and deadly night."
>
> *First part of Henry VI., Act II., Sc. 4.*

To-day it is the Chrysanthemum which holds the foremost place in the minds of the horticultural fraternity. The house in which they are exhibited is located at the eastern end of the garden, close to the Victoria Embankment and the Thames. The collection is perhaps the most extensive as to number of varieties of any of the London parks, although the quantity is less. The endeavour to be up to date is evidenced from the fact that 67 new varieties have been acquired this year, and 81 last year. New and old together number 678. It is too early by a fortnight to see the collection in perfection, but many of the earlier varieties are now at their best. Amongst the acquisitions of this year of the Japanese type we noted Camille Flammarion, dark violet; Bouquet de Dames, white; Cesare Costa, poppy red; Gloire du Rocher, orange amber; J. Stanborough Dibbens, bronzy yellow; Mohawk, maroon crimson; William Lane, cinnamon shaded rose; Viviand Morel, rose; Sylphide, chrome yellow; W. H. Lincoln, golden yellow; Mrs. F. Clinton, canary yellow; Mr. A. H. Neve, pink and white, passing to pure white; President Harrison, large, salmon red; Mr. D. B. Crane, bronzy yellow; Mrs. A. Blanc, pink; W. Tricker, rose; President Réné de St. Foix and others. The last named is a beautiful golden bronze with drooping florets and blooms of good average size. They are much larger than those of L'Ile des Plaisirs.

Many of the last year's additions to the collection are also interesting, as showing what is being done with the favourite flower. One of the darkest is Alberic Lunden, intense amaranth-crimson. Annie Clibran, or the pink Mademoiselle Lacroix, has also found its way here. The purple-carmine M. Ulrich Brunner is a bold and conspicuous flower. Others are W. W. Cole, bright red, Lillian S. Bird, a beautiful pink, and Louis Bœhmer, the hirsute variety, just expanding, while several of the fine late ones are not yet in character.

Old varieties are retained, and their number added to where it is possible to get hold of them. Of these, Elaine, white, La Triomphante, rosy-lilac, Chevalier Domage, golden yellow, M. William Holmes, F. Marrouch, crimson-tipped gold, Wm. Robinson, with yellow tubular florets, Margot, rose, Arthur Wood, crimson and gold mixed, and M. Deleaux, red, are all at their best. A Japanese variety named Bismark, with terra cotta flowers, and something in the way of Sarah Owen, has recently been added to the collection. M. Robert Owen, a Japanese variety with tubular white florets, may also be noted, as well as M. M. Fabre, a soft rose variety with heads of medium size. Incurved varieties are grown in quantity, but few are in perfection with the exception of M. R. Bahuant, cerise, and Geo. Glenny. Others with promising flowers are Golden and White Beverley, Ami Hoste, rosy buff with yellow tips, and Mrs. F. Mistral, rosy purple with silvery tips. In a fortnight's time the visitor will be able to see them at their best.

New Varieties Certificated.

The following new varieties were certificated by the Floral Committee of the Royal Horticultural Society on the 18th inst.

Baron Hirsch.—New seedling incurved varieties of Chrysanthemum have been rare or almost absent for the last twenty years or more. The new varieties which have been turning up for many years past have all been sports from old or already existing kinds. The old sorts were of English raising, and now that a fresh start has been made in the seedling Baron Hirsch, raised by Mr. Robert Owen, Castle Hill, Maidenhead, we may expect to see some fresh introductions of great merit. *A priori* there seems no reason why incurved varieties should not be raised now-a-days as well as formerly. That under notice is of large size, semi-globular, measuring 4 in. to 5 in. across, perfectly full, and high in the centre with regularly incurved florets, imbricating alternately with one another, broad, and of a beautiful golden-bronze, always darkest in the centre and during its progress of expansion, while the outer and older florets gradually become paler showing more of the yellow. The upper surface of the florets is crimson, but of course hidden. The leaves are large, leathery, and moderately deeply cut. Mr. Owen says the seed parent was either Baron Beust or Prince Alfred. An Award of Merit was accorded it.

Mrs. C. Myers.—In this we have an October flowering, reflexed Japanese variety, also raised by Mr. Owen as in the last case, and honoured with an Award of Merit. The bloom is of medium size, and pure white, or tinted with primrose-yellow in the centre when expanding. The florets are broad, regularly recurved, but not crowded in any way nor too compact in the centre. The leaves are large, deeply cut, and sometimes tinted with bronze.

William Seward.—The blooms of this variety are large, measuring 6 in. to 7 in. in diameter. The florets are long, moderately broad, reflexed, and of an intense crimson somewhat shaded with maroon, but brighter than the dull crimson of such a variety as Jeanne Deleau, and the bloom is very much larger. The reverse of the florets is bronzy buff, but this hue is only seen while the florets are in the young and unexpanded state. The bloom is moderately deep, full in the centre, but neither hard nor too much crowded. The leaves are large, deeply cut, and leathery. The variety was shown by William Seward, Esq. (gardener, Mr. J. Shrimpton), The Firs, Boston Road, Hanwell, and received an Award of Merit.

NOTES ON FUCHSIAS.

The Fuchsia as a greenhouse plant has been somewhat neglected of late years, more especially the large pyramidal specimens which used to figure so prominently at exhibitions. There is evidence, however, that Fuchsias will yet be more extensively grown for bedding purposes and planting out on the grass. The amount of variation is greater at the present day than when the old growers used to bring them to such perfection. We had ample evidence of this the other week on receiving a large boxful of cut sprays loaded with flowers in innumerable tints of colour from Messrs. Dobbie & Co., Rothesay, Scotland. Both single and double varieties were well represented, and the number of flowers on some of the large doubles, and all open at one time, says much for their vigour and free flowering nature.

Double Varieties.

The flowers of La France are very large and full, yet the broad petals are not crowded. They are of a deep violet, but gradually change to purple. As in the last case the sepals of Duchess of Edinboro are deep red, but the petals are white except at the base and of great substance. Mrs. E. G. Hill is remarkable for the shortness of the white petals, as well as the stamens and style, none of which are so long as the sepals. In Col. Domine, on the contrary, the sepals are reflexed, showing off the widely spreading white petals. The leaves of the variety are relatively small. The intense violet of Avalanche shows off well against the sepals; but the name does not strike us as very appropriate. The widely spreading mauve petals of Lizzie Viddler are also very distinct and pretty. Quite an avalanche as far as size is concerned are the flowers of Frau Emma Topper. The petals are flesh coloured, more or less deeply suffused with rosy veins.

Admiral Courbet shows a very curious mixture. At the base of the red sepals are two small red petals close together in pairs, making eight in all; inside of these is a series of very much larger intense violet ones, curiously scolloped or indented at the edges. A very pretty and evidently free flowering variety named Gustave Doré took our fancy from its light and elegent nature. The bright red sepals are paler internally, and longer than the shorter and compact, bell-shaped corolla. That of Molesworth, on the contrary, had very long and broad petals of a purer white, with some rose veining at the base only. Almost as large is Lamenaise, but the petals are shorter, more compactly arranged and of great substance. Dorothy Fry, judging from the specimens sent, is only to be considered as a semi-double with the white petals veined with rose at the base. Some of the flowers, however, had evidently dropped making it difficult to determine their real character. Crepuscle is a distinct looking thing with a short intensely purple corolla, long red sepals and small bronzy leaves. The mauve flowers of President F. Gunthier have short sepals, and look rather lumpy in consequence. A handsome and striking sort is Beauty of Exeter, with long red sepals and scarlet petals not too crowded. It is one of the boldest in flower, whatever the habit may be.

Single Sorts.

One of the most striking in this class sent us was a variety with a narrowly bell-shaped nearly black corolla, but no name was sent with it. The spreading carmine petals and the red sepals of Sedan

somewhat like the unnamed one, is John Gibbons, but the corolla is shorter and broader. The largest of the singles is General Gordon, with purple petals 1½ in. wide and nearly 1¾ in. long. A very pretty and evidently free flowering sort is Letty Lye, with scarlet petals and all the rest white. Something in the same way is Gem of Lavington, but the flowers are altogether larger, as are the leaves. On the contrary the corolla only of Flocon de Neige is white. Rose of Castile Improved is much larger than the old type. Beauty of Wilts is in the way of Letty Lye, but the tube is much longer, and Beauty of Clyffe Hall is smaller, with the flowers somewhat different in shape. The Earl of Beaconsfield is well known to most growers. The flowers of C. N. May are large, soft purple and red; those of Swanley Gem are similar in hue but very short, with spreading petals, and graceful; Harry Brookes also differs in shape; Lustrous Improved somewhat resembles Beauty of Clyffe Hall in size and colour, but is evidently very floriferous; Lord Wolseley shows a curious mixture of violet and purple.

HARDY PLANTS AT LANGPORT.

Having heard so much of the Gladioli and other extensive cultures carried on by Messrs. Kelway & Son, at Langport, and seen their fine exhibits at many of our leading exhibitions, I had long resolved to pay their nursery a visit when opportunity offered, but it was not until one fine day in July last that the opportunity came. The long straggling town had a gay and festive appearance, it was in the throes of an election contest, but that concerned me not at all, I found more pleasure among the hardy plants than in the polling booth.

The Messrs. Kelway's nursery is on the outskirts of the town, and about one mile from the railway station. The Delphiniums were the first things that attracted my attention, for they were just at their best, and there was about one acre of them. They made up such a sight as I shall not soon forget, so vast was the quantity in bloom, so grand the spikes, and so rich and varied the different shades of blue. Although I have been a grower of these lovely hardy border plants for some twenty years I was not prepared to see so much improvement in colour, and was much struck with the intensity of the shade in such varieties as Sir Trevor Lawrence, Lord Brassey and others, as compared with the old Bella Donna. The varieties which have a shade of bronze in the centre are also very fine, the contrast between the bronze centre and the deep blue exterior being very striking. But the shades of colour in many of the newer sorts almost baffle description, and I shall not attempt it. It is in the doubles and semi-doubles that the greatest advancement has been made, and many of them are truly lovely. They are much larger and more open than the old compact doubles of the Ranunculoides type, and consequently are much more valuable for ordinary garden adornment. The light blue flowers with the large white eyes are very striking, and of this section Britannia is, I think, the very best Delphinium I ever saw. Other good sorts that caught my eye were Prince Oscar, semi-double, bright blue plum colour with yellow centre; Princess Maud, Lord Charles Beresford, Robin Adair, and the Shah. Hitherto the prevailing colour in Delphiniums has been blue, but the Messrs. Kelway have some breaks away from this hue, notably a good single white, and a fine creamy white double which will be heard of in due time.

The Delphiniums do not receive any special treatment here, being simply planted on a strong loamy soil in an open position. Some few were tied to stakes, but the majority do not require it, being so dwarf by comparison with the old sorts. This dwarfness of habit is a great gain, and the greater portion of the Langport plants were not more than 4 ft. to 5 ft. high, yet carrying immense spikes of large blooms.

Of the perennial Gaillardias there were numerous large beds in full bloom, and the flowers were so large, and the colours so striking, that bearing in mind the characteristics of G. picta and grandiflora, one could hardly realise that they belong to the same race. Imagine a Gaillardia measuring from 5 in. to 6 in. across, and that is the size that James Kelway sometimes attains; Dazzling, scarlet with a gold edge, Buffalo Bill, William Kelway, Oliver Wendell Holmes, and Magenta King are all highly desirable kinds. The Gaillardias are very showy and last a long time in bloom.

The Pyrethrums, both double and single, were almost over at the time of my visit, but an enormous quantity is grown, and they are exposed in the open to every wind that blows. These are plants that abhor coddling, and they get none of it at Langport. The Gladioli were not in bloom, but a tremendous quantity is grown, very large breaks of ground being devoted to their culture. Pæonies too are handled to a large extent, some six or seven acres of ground being planted with them, and most vigorous and healthy the stock looked. Roses do well in the strong rich soil, and they were grandly in bloom. A large breadth of land was devoted to seedling briers, great quantities of which are budded with Tea Roses, for which no other stock is used by Messrs. Kelway.

Nothing pleased me much more than to look upon a large patch of that good old Pink, Napoleon III., and I enjoyed also a look through the collections of Campanulas, Saxifrages, and other genera of hardy plants.

Under glass a great feature was a magnificent crop of some two or three sorts of Cucumbers, grown specially for seed, Prince of Wales and Kelway's Prolific were very fine, and of the former the yellow ripening fruits hung as thickly as they well could do. In another house I noted a fine stock of dwarf Cannas, with some very fine varieties among them; and I should not omit mention also of a good strain of single Petunias, which made a gay display.

Mr. William Kelway, who lives near the nursery, also makes a feature of hardy plants in his own garden, a new one, in which he has gathered together a grand lot of things, and there I saw also Daphne Mezerium, more beautifully berried than I had ever seen it before.—*Western.*

STRAWBERRIES.

The past season will not be remembered for its heavy crops of fine Strawberries—in Scotland, at all events—and the fact of the crowns being unripened and unprepared for the severe frosts in April may in some measure account for the shortcomings. Notwithstanding all that we hear and read about Strawberry culture, it is difficult to persuade old hands, like myself, that we have made any progress for a generation. Undoubtedly there are many varieties now that were not known thirty years ago, and some of them worthless enough. When there were but a few to choose from except Keen's Seedling, British Queen, and a few others, we had finer crops and fruit of better quality than we have now.

The old system of cultivation was to manure well, trench deeply, and get strong healthy foliage and large crowns by the end of the year, and such Keen's and British Queens as our fathers and grandfathers gathered we should like to see now. These remarks were suggested by the sight of some plots of Strawberries, with strong foliage and in robust health, in a Perthshire garden; and which, year by year, are managed on the old system, viz., removing a quantity of foliage and digging deeply among the plants—a practice that would shock some of our modern practitioners. I have not adopted this plan myself, but cannot be blind to facts. The garden in question is noted for its production of fine fruit, and Strawberries in particular; yet the latter, though deeply dug among every autumn, do not get much manure, as the foliage grows rank without it.

The cutting of the roots in the manner indicated causes a fresh break of roots from the old ones that are more vigorous feeders than they would have been had they remained. Our friend gave up modern practises because he found them wanting. It it well-known to Strawberry growers that young rootless runners in June will make finer fruiting plants by autumn than those rooted the previous year, and no one puts any value on the latter for forcing. Perhaps the best Strawberry grower that I am acquainted with cuts off all the foliage and runners, and manures liberally as soon as his crop is gathered. This system gives entirely new foliage, vigorous and healthy, and new roots are put forth ready to consume greedily the nourishment put within their reach.—*Stirling.*

Forest Gate and Stratford Amateur Chrysanthemum Society.—The first annual exhibition of this society will be held on November 4th and 5th, at the Norwich Hall, near Forest Gate Station.

GARDENING MISCELLANY.

THE VIRGINIAN CREEPER.

In your remarks on this beautiful climber in your issue of the 8th inst., you refer to what use it can be applied for beautifying walls, buildings, etc., but there is another purpose to which it can be applied, and the one in which it perhaps excels all others, namely, for table decoration. There is no more charming feature than its beautiful red leaves when used in this way. They can be used in scrolls or designs laid flat on the cloth, and mixed with some light coloured flowers, or they can be used to take the place of Maidenhair Fern for centre pieces, epergnes or silver baskets, and when its bright red foliage is mixed with Gloire de Dijon Roses, and Clematis Jackmanii, and its long trailing branches arranged to hang loosely from the top of an epergne and falling gracefully upon the cloth, the whole forms a feature in table decoration which for prettiness and simplicity it would be hard to beat. There is one point, however, in its use for table decoration that must be borne in mind, and that is, not to overdo it. No style of table decoration requires to be overdone, but the foliage of the Ampelopsis is of so brilliant a hue when seen by artificial light, that it becomes very dazzling to the eyes when used too freely.—*H. W.*

A HYBRID BEGONIA.

When we published *The Tuberous Begonia* we stated (p. 18) that B. Frœbelli did not appear to be amenable to hybridisation, nor did it ally itself with any of the other species. Since then, however, we have had reason to alter our opinion, for several hybrid seedlings have been obtained through the persistent efforts of Messrs. J. Veitch & Sons. On the 20th of October, 1888, we recorded the production of a batch of seedlings from B. Frœbelli crossed with a deep scarlet flowered variety of the tuberous type. The result was the production of numerous seedlings varying in colour from deep scarlet, almost crimson, to rosy pink. The leaves were hairy on both surfaces as in the case of the seed parent, and more or less bronzed on both surfaces. A few days ago the Messrs. Veitch kindly sent us some flowers of another hybrid, showing a definite departure from Frœbelli, more particularly in the foliage. The leaves were oblate, obliquely heart-shaped at the base, slightly scabrous above, but not hairy and partly shining. The under surface is smooth, shining, and slightly bronzed. The hybrid therefore shows a more definite tendency towards the tuberous type as at present recognised. The pollen parent was a tuberous variety with crimson-scarlet flowers. The blooms of the hybrid measured 2⅝ in. across the larger sepals, all of which were bright scarlet on both surfaces. One of the flowers sent was peculiar inasmuch as it had only two stamens instead of the usual brush of them. This character, however, will in all likelihood not be permanent.

NEW HYBRID STREPTOCARPUS.

The feasibility of hybridising S. Galpini with another species has been demonstrated. We may therefore, in course of time, expect to get a new race, different from those already existing, or on the other hand it may be completely blended with the older types. The fresh blood may, however, increase the size of the flowers and improve the form of the flowers. Judging from the shape of the flowers of S. Galpini, the tube of progeny obtained from it will be shorter and the lamina more expanded. A hybrid between S. Galpini and S. Rexii was shown before the public on the 18th inst., at the Drill Hall, Westminster, and came from the Royal Gardens, Kew. It was raised from seed this year, and bears a single large ovate-oblong leaf, ribbed and wrinkled above, and hoary with grey hairs on both surfaces. One or two small leaves may also be noted on the plant, but whether they will attain any size remains to be seen. This character can no doubt be improved considerably in course of time by crossing it with other kinds. The flowers are larger than those of S. Galpini, with a short whitish tube externally. Several flower-stems are produced on the same plant, each bearing a cymose raceme of many blooms. The flowers are similar in shape to those of S. Galpini, but they are of a lilac-blue, and the three-lobed blotch in the throat is of an intense violet, extending downwards into the throat, in place of the white occurring in S.

Galpini. This it has no doubt derived from some improved variety of S. Rexii, many of which are characterized by the dark markings in the throat.

LOBELIA SPLENDENS VICTORIÆ.

It is impossible to say too much in praise of this fine autumn blooming plant—it should be found in every garden. There is nothing to compare with it in colour during the month of October. It is often to be seen in a half-starved condition—I saw it in this unhappy condition myself last year in one of the London parks, but in this form it bears no comparison with the plants from 3 ft. to 5 ft. high which generous treatment will give. What grand spikes such plants will produce, how freely they branch, and how long they last in bloom. We have been enjoying a glorious display brought about under the following circumstances:—We had a bed of Roses that had been specially well prepared for them, and planted the Lobelias thinly amongst them. When a friend called in the month of June he was much struck with the contrast between the deep bronzy hue of the Lobelia and the greenery of roses, and thought the combination perfect. We find the long flower stems of the Lobelia invaluable too for filling vases; and I have used them also with admirable effect on the dinner table.—*Con.*

SEEDLING CARNATIONS.

Although the Queen of the autumn may absorb mind and thought just at this particular season, there are objects of love in the floral world which are worthy our attention, and which cannot be pushed aside and their merits altogether ignored. Much has been said and written about blue Carnations, but perhaps I may say with reference to blue Pelargoniums and blue Carnations, those who are led to believe that we possess really blue flowers have a portion of green obscuring their visionary faculties. Blue there may be, but it is infinitesimal in proportion to other constituents in the flowers said to be blue. A flower may possess a bluish tint or hue, but because of this it cannot truthfully be designated really blue. What an achievement could we but produce a blue Dahlia! To my knowledge it has been a subject talked about for at least half a century, without securing the colour pure and simple so long wished for. Amongst my seedling Carnations flowered this season, I have many shades of grey and slate, some really approaching a bluish hue, but not sufficiently so for me to be so green as to try to palm them off as blue Carnations. I have several of these, some well-formed flowers with various flakes of a dissimilar colour, and which are exceedingly interesting. The blooms I send you have been cut from plants which were growing in the seedling bed, and a few weeks since were taken up and potted and are destined to afford much pleasure during the sombre days of autumn. I do not wish to submit these flowers for any intrinsic worth they may possess, but simply to show that we have now advanced to a period in the history of floriculture when even Carnations may be had all the year round.—*George Fry, Lewisham.*

THE GOLDEN BALM.

The finest plant for a yellow edging which I have seen this season is the Golden Balm, and no plant gives less trouble in keeping up stock. No Pyrethrum has been able to compare with it. Cuttings taken off in August or September are easily rooted if placed under handlights or in the shade. Lifting and dividing the roots is a method of increasing this plant too, and these by being less likely to grow grossly are more likely to deepen in colour. The value of hardy plants for decorating parterres and flower gardens cannot be over-estimated after the experience of the past season. Pentstemons were long in coming into flower, but they have been a grand show since the end of July, and are of much service still, especially for cutting.—*Stirling.*

BULBS FOR SPRING FLOWERING: CHIONODOXAS.

Flowers are always more appreciated in spring than at any other period of the year, and most beautiful and interesting as are the Snowdrop and the Winter Aconite, the Chionodoxas certainly lose nothing by comparison, although they cannot claim to be as old inhabitants of our garden. I look upon both C. Luciliæ and C. sardensis as among the best bulbous plants we grow, and I hope the time is not far distant when we shall see them springing up through the grass as plentiful as Snowdrops in private gardens.—*Con.*

FRUIT NOTES.

A Prolific Apple.

The present season affords a good opportunity of noting some of the hardiest and best bearing varieties of Apples, and we observe that Lord Suffield in particular fully maintains its reputation. Not only is this old favourite an uncommonly free bearer, but that, too, as I have proved, under untoward conditions as the sequel will show. Some ten years ago a considerable extent of fruit tree walls, forming an outside garden boundary, was unprotected from the attacks of rabbits when a severe storm of frost and snow set in which continued for several weeks. The depredators referred to made a number of recently planted trees the centre of attack in the emergency with which they were forced to contend. One of these trees, a particularly clean, strong, and well furnished specimen of Lord Suffield Apple, was among the worst victims, the bark being mostly stripped from it for about two feet from the ground, the depth of frozen snow of course assisting the enemy to operate freely on the upper part of the main stem. As I had heard, long before this experience, that fruit trees thus damaged were rendered worthless, I had made up my mind for the worst, but that such a theory is fallacious subsequent facts abundantly proved. Not only has this partially denuded tree yielded satisfactory crops of fruit regularly since the time it was so unceremoniously stripped of so much of its bark, but most of the specimens were for several years in succession of handsome size, and on different occasions dishes of them were exhibited successfully in the classes for weight at the county shows.

Probably the heaviest crop the tree has yet produced was gathered this season, the fruits, however, being slightly under the size we have occasionally seen them, the result probably of thinning being less freely performed than when larger specimens were realized. Free fruiting varieties, such as Lord Suffield and some others, always pay well for liberal autumn top-dressings of rich farm-yard manure. For old trees this is almost indispensable, their maintenance in vigour and fertility being dependent on such a practice being systematically adopted. We were recently informed on good authority of an old Apple tree—which grew in a farmer's garden in this district, the fruit of which had become, through age and improper cultivation, comparatively worthless—which was rejuvenated in a somewhat peculiar manner. During a severe storm of wind the tree was blown over. In order to get it into position again the owner got the assistance of several men provided with ropes, which they succeeded in doing, and I ought to add that a liberal bed of good manure had been previously provided for it. Suffice it to say that grand crops of fine fruit, free from blemish of any kind, was the result of the accident and consequent operation of replanting.—*M., Ayrshire.*

Apple Swedish Reinette.

In general appearance this may be compared to Worcester Pearmain, but it is larger as a rule and almost, if not quite, as handsomely coloured. It is above the medium size, or large, ovate-conical, sometimes shorter but scarcely flattened, and always broadest near the base. The skin is of a deep red or crimson, except on the shaded side which is sometimes yellow, and the whole is speckled over with russety spots. The small and half-closed eye is set in a narrow, slightly plaited basin. The flesh is firm at first, but when it has attained maturity it soon becomes soft, and would ultimately get mealy if not used. It is in perfection during the month of October and may be used then as a dessert Apple. At this period it is crisp, but tender, sweet and agreeable but not very juicy. The flesh is yellow, more or less tinted with red just under the skin and having streaks of red at a greater depth, as in the case of Duchess Favourite. It has fruited very well in the gardens of the Royal Horticultural Society at Chiswick.

Apple Landsberger Reinette.

Amongst the multiplicity of Apples at the present day it seems strange that so many inferior ones should still be grown and find their way into market. Good varieties as they find their way into cultivation on a large scale, must eventually drive the bad ones out of the field. The British public is not very discriminating sometimes, otherwise more value would be placed upon varieties of good flavour independently of colour. The fact is that the varieties of Apple are but very little known amongst the general public, often sold under wrong names, and oftener still without any name at all. The fruit of Landsberger Reinette is ovate-conical, above the medium size, pale green, and shining till it has been in the fruit room for some time when it changes to pale yellow. In favourable localities it is flushed with crimson on the sunny side, but in the gardens of the Royal Horticultural Society, at Chiswick, where it otherwise does very well, it is generally devoid of this high colouring. The eye is closed in a narrow, and shallow, slightly plaited cavity. The flesh is white, ultimately becoming yellowish, tender, crisp and very juicy, with a slight and agreeable acidity, at least in its early stages of maturity in October. The fruits keep till Christmas and are suitable alike for dessert or culinary purposes. The tree bears well and might more often be planted than some of the worthless sorts that occupy gardens and find their way into market from various sources.

New Fruits Certificated.

Melon Beauty of Syon.—The fruit of this new variety is of small size, say from 3½ in. to 4½ in. in diameter, globular, and gives promise of being a highly flavoured sort, and therefore useful for table purposes. There are great differences of opinion as to whether large or small Melons are the best, but when exhibitors stage Melons in competition for the best flavoured sort, we generally find that the small fruits win the prizes. The skin is of a deep golden yellow, thinly netted, and very faintly furrowed longitudinally, but otherwise quite smooth. The rind is thin, and the scarlet flesh of great depth, sweet, juicy, and of excellent flavour considering the lateness of the season. It was obtained from Hero of Lockinge crossed with the pollen of an unnamed variety. A First-class Certificate was accorded it when exhibited by Mr. G. Wythes at the last meeting of the Fruit Committee of the R.H.S.

Apple Monstrous Incomparable.—The fruit of this variety is of great size, globose, but somewhat elevated to the crown, 3½ in. to 4¼ in. in diameter near the base where it is broadest, and somewhat flattened at the base. The skin is perfectly smooth and even, greenish-yellow, changing to a soft, pale yellow, reminding us of Golden Noble as far as colour is concerned, with a few green specks near the base, and tinted with golden or bronzy yellow on the exposed side. The eye is closed in a moderately deep, rather narrow, and slightly plaited cavity. The stalk is short, in a rather deep and round cavity. The fruits were grown upon a small tree on a wall, and the only one known to be in the island of Jersey. The tree is supposed to have been imported from France a few years ago. An Award of Merit was accorded it when exhibited at the meeting of the Fruit Committee of the R.H.S. on the 18th by Mr. H. Becker, 13, Beresford Street, Jersey.

NEW ZONAL PELARGONIUMS.

The following new Pelargoniums received Awards of Merit at the meeting of the Floral Committee of the Royal Horticultural Society, on the 18th inst.

Raspail Improved.—As in the case of the original Raspail, this belongs to the zonal section. Both flowers and trusses are very large, well borne above the foliage, and the former are semi double and bright scarlet. A single flower on measurement was found to be 2⅛ in. in diameter when pressed against a rule. The habit of the plant is dwarf and compact, somewhat similarly to the old Vesuvius, and the leaves are also similar except that the zone is of a fainter bronzy hue. The old double-flowered varieties with small and hard or compact flowers seem to be dropping into oblivion.

Madame Bondeville. The flowers of this sort are single, of large size and borne in bold, handsome trusses. They are white with a scarlet edge like a wire edged Picotee, but are also lightly suffused with scarlet on both surfaces with the colour spreading from the darker tinted veins. Some flowers are more heavily suffused than others in a somewhat broken manner, giving them the appearance of crushed Strawberry. At all events the variety may be looked upon as one of the most pleasing and distinct of the lighter coloured zonal Pelargoniums now in cultivation. The leaves are of a deep green with a light green centre, and therefore distinct in that respect. Both varieties were exhibited by Messrs. H. Cannell & Sons, Swanley.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

STOKING.—To my mind a good stoker is as essential in the successful cultivation of Orchids as a good heating apparatus, and sufficient piping to keep up the required temperatures during winter. A good stoker will aways have his fires well under command, and will be always on the alert in case of sudden changes in the weather, whilst a bad one generally manages to have a large fire at the wrong time. This week we have found it necessary to have recourse to fire heat during the night for the Odontoglossum houses, as to allow the temperature to go below 50° would cause a check to the many growths fast making up and pushing spikes, and cause the tips of the leaves to turn brown. Especially will this be so if they have been grown very shady and consequently of a flimsy nature. A low temperature, too, sometimes causes the buds to turn yellow and drop off. On bright mornings the fires are drawn both from the furnaces heating the cool houses and the Cattleya house, for to let sun heat and fire heat clash would increase the breeding of thrips, aphis, red spider, etc., to an alarming extent. They are lighted again in the afternoon sufficiently early to admit of the water becoming warm enough to keep the temperature at a uniform height when the sun declines. The old-fashioned way of shutting up and syringing early so as to conserve the sun heat, is not much practised now by Orchid growers, air being kept on both day and night, with the result that we have greater solidity of growth and increased floriferousness, and the flowers last longer.

Where Orchids are grown largely the expenditure in fuel must of necessity be large, and anything that can be done or suggested to keep down the fuel bill and at the same time keep the temperature at the required height, will no doubt be acceptable to a large number of amateurs. I may say that we use Anthracite coal and breeze mixed, which is the most effectual and at the same time the cheapest fuel we have ever used, the breeze fills in the interstices between the coal and helps to keep a good body of fire for ten to twelve hours if properly banked up. Of course the temperature should be got up to the required height before banking up for the night. The Anthracite requires a good draught, and should not be broken too small.

SHADING.—The blinds on the Cattleya house may now be removed, but care should be taken not to allow the Vandas growing in this house to suffer in very bright weather such as we are now getting. They are easily shaded by placing a newspaper over them during the hottest part of the day. It may be necessary to make use of the blinds on the cool house while the splendid weather of the last few days lasts, also for the warmer section.

POTTING AND WATERING.—All potting should have been finished by now, except in very rare cases, as after this date we do not consider it advisable to disturb the roots. Although the majority of Orchids will not require to be watered so frequently during the winter months, they must, however, not be allowed to become shrivelled, but should be examined at least once a week, as to in any way neglect Orchids is to court failure; not that they are more difficult to grow than some other plants when their requirements are understood, but because they require the proper attention at the proper time. We shall discontinue giving manure water for the next few months, except to strong-growing plants such as Cymbidiums, Lycastes, Phajus, strong-growing Cypripediums, etc.

TEMPERATURES.—East India house, 65° to 68° by night, according to the weather, with a rise of 10° by day. Cattleya house, 55° at night if cold and frosty, with a rise of 10° by day or 15° if bright will do no harm. Cool house, 50° at night, 60° by day. —*C.*

Miltonia Bluntii Lubbersii.

THE ordinary form of this Miltonia is a showy plant, but too seldom seen in collections. The habit of the plant may be compared to that of M. Clowesii and the form of the flowers likewise, but in M. B. Lubbersii the flowers are twice as broad in all their parts, and the lip even more. The variety is by some considered to be a hybrid between M. Clowesii and M. spectabilis, or its variety M. s. Moreliana. At all events the subject under notice is very handsome. The sepals are lanceolate, acute; the petals oblong, cuspidate, and all are heavily blotched with deep purple, almost covering the pale yellow ground, and tinted with violet at the base. The lip is obovate, reflexed at the sides, white suffused with blush, deepening to purple towards the base, which is mostly occupied with a large, deep purple blotch. The three ridges of the crest are of a deeper purple, while there are some crimson stripes in front of them. The pseudo-bulbs are lanceolate, compressed, tapering to either end, and of the same hue as those of M. spectabilis, bearing one or two lanceolate leaves at the base and two at the top. The flower stems attain a height of 12 in. or 18 in., bearing a raceme of flowers on the top. We noted this beautiful variety, flowering with Messrs. Charlesworth, Shuttleworth & Co, Park Road, Clapham.

Miltonia spectabilis superba.

THE duration of the flowers of this Orchid is notable, for a specimen in the nursery of Messrs. Charlesworth, Shuttleworth & Co., Park Road, Clapham, has been flowering for the last seven weeks and had some fine flowers when we saw it. The size of the flowers may be gleaned from the fact that they measure 4 in. across the petals, while the lip is 2 in. long and 2¼ in. wide above the middle. The sepals and petals are white, faintly suffused with purple near the base. The lip is the most conspicuous organ of the flower, as it is in the type and all its varieties. It is white suffused with lilac, while the veins deepen to purple, and terminate in a large purple blotch at the base. The column, although not very large, is rendered more conspicuous by having bold, deep purple wings. The Miltonias should be more extensively grown for autumn decoration, as their large and pleasantly coloured flowers serve to brighten up the Orchid houses during the late summer and autumn months.

WHAT TO DO IN THE GARDEN.

Euphorbia fulgens (jacquiæflora).—The bending down or arching of the main shoots of this winter flowering subject induces the lateral buds to break low down on the stems, and in this way a greater supply of bloom is obtained at an earlier date than under ordinary circumstances. When the top of the shoots is cut off later on, a number of the side shoots is thereby induced to break and give a later supply of cut bloom.

Caladiums.—The silvery-leaved Caladium argyrites can be kept growing all the year round especially if a few batches are employed. Where the stock is ample, it should not be allowed to go to rest where much decorative material is required in winter. Late batches of the larger growing sorts will now be getting shabby and may be allowed or encouraged to go gradually to rest by limiting the supply of water,

Begonias.—The batches of several of the Begonias prepared for winter flowering will soon commence blooming. B. insignis as a rule does not flower much before Christmas, but batches of B. ascotensis and its allies will come in useful at the present time. Several of the fine and comparatively new varieties of B. semperflorens will also be of invaluable service, including B. s. carminata gigantea, B. s. rubrum, Vernon's var. and some others.

Centropogon Lucianus.—This useful winter flowering subject will succeed best from now onwards through the winter in an intermediate house. The temperature here is just sufficient to keep it growing steadily and strongly, so that the stems and foliage are sturdier and the flowers of greater substance than when a higher temperature is given. If green fly should make its appearance, have the plants fumigated directly and lightly, if need be, on two successive nights. If allowed to become infested, the plants ever after look unsightly.

Young Dracænas.—Much forcing of young plants should be avoided if possible until the new year is well turned. A high temperature during the period of bad light causes the stems to get drawn and thin, thereby inducing a lankiness that is undesirable. February will be a good enough time to place them in heat.

Aphelandras.—The fine foliage of A. aurantiaca, A. fascinator and others should be as much an object of the cultivator's care as the flowers. It is sensitive to the evil effects of bad light, which soon causes the leaves to drop. Keep them well exposed to light, and do not permit of crowding at any time.

Pinks for forcing.—Plants intended for forcing should be lifted from the open ground without further delay and potted up firmly. They may then be placed in cold frames where they can be protected from heavy downpours of rain. They may after being established, be transferred in batches to warmer quarters.

Cold frames.—Cuttings and plants in pots located in the cold frames cannot be kept too freely ventilated at this time of the year; in fact the sashes may be drawn off during the day except during heavy rain. This of course applies to such things as Carnations, Pinks, Pentstemons, Phloxes, Pansies that are hardy or in all cases nearly so. The object in having the lights on is to ward off frost to some extent on frosty nights and to keep the soil in the pots from getting sodden with rain. If kept close, these hardy subjects get urged into growth at an unpropitious time and against their natural inclination, thus making them more tender than they would otherwise be.

Peaches.—The early house should be got in readiness for closing about the beginning or sometime in the course of next month. The trees should be untied from the wires and thoroughly cleansed with a stiff half worn painters brush, if at all infested with brown scale. Theyshould then be dressed with a strong solution of Gishurst Compound.

QUESTIONS AND ANSWERS.

NAMES OF PLANTS.—*Ellergreen*: 1, Echinops Ritro; 2, Veronica virginica: 3, Sedum spectabile; 4, Erigeron speciosus; 5, Geranium Endressii; 6, Buphthalmum salicifolium; 7, Aster lævigatus; 8, Aster Novi-Belgii var.; 9, Antennaria margaritacea. —*W. Ruphus*: 1, Nigella damascena; 2, Chrysanthemum lacustre; 3, Echinops Ritro; 4, Veronica spicata; 5, Helianthus decapetalus; 6, Chrysanthemum uliginosum; 7, Aster Novi-Belgii var.; 8, Solidago sp.—*J. M. K.*: A species of Cymbidium evidently grown in a cool house, but it would be unsafe to attempt naming it without flowers. Give the plant a warmer house.

LILIUM CANDIDUM.—*A. R. L.*: If the bulbs were lifted at the proper time, say towards the end of August or in September, they may be left unplanted for some time longer, but no advantage will be gained by keeping them out of the soil. Bulbs that have not been disturbed till now should be replanted immediately, for they will almost certainly have produced fresh roots by this time, and possibly also leaves, for the latter are developed during autumn and winter as far as the root leaves are concerned, and where such is the case it is very improvident to disturb them if it can be helped. The young roots cannot fail to be injured, growth checked, and the substance of the bulbs to some extent wasted. The true secret of moving, transplanting, or repotting all kinds of Lily bulbs is to do it when they are perfectly at rest. Their natural vigour is then not wasted by making growth that may afterwards be checked or injured. If you are obliged to lift them now, do so carefully with a fork so as to bring up the roots as entire as possible; pull away offsets and have the flowering bulbs planted by themselves. Fresh loamy soil suits this Lily better than rich composts of any kind. The young offsets may be treated in the same way in a reserve portion of the garden.

DICTIONARY.—*J. Lofthouse*: The work to which you refer is doubtless Nicholson's *Dictionary of Gardening*, published in four volumes, price £3. There has been no other published of late years.

MOUNTAIN ASH.—*J. Lofthouse*: The berries of the Mountain Ash are perfectly safe and make a beautiful jelly. They are not much used in England, but largely in Scotland.

MESOSPINIDIUM.—*J. M. K.*: One or two of the species are sometimes classed with Odontoglossum, but all the lot of them have been placed in a separate genus for some years past, and should be classed by themselves as the flowers are perfectly distinct from those of Odontoglossum. The lip being adnate to the column reminds one of Epidendrum, but the pollina are quite different, being similar to Odontoglossum. The proper name for all the group is Cochlioda, which includes C. sanguinea, C. vulcanica, C. rosea, and C. Nœtyliana.

SHOWBOARD FOR GRAPES.—*Novice*: There is no standard size for showboards for Grapes, each exhibitor using boards in proportion to the size of his bunches. They are always, however, made rectangular in form, and for a pair of ordinary-sized bunches a board 14 in. high at the back, 12 in. wide on the base line, and 20 in. in length, will be quite large enough. The sloping board should be 17 in. wide, and fixed 2 in. below the top of the back-board. This

will give you ample space to bore holes in for securing the bunches firmly.

SIZE OF CHRYSANTHEMUMS.—*W. D. W.*: Edwin Beckett is a bloom similar to Sunflower, but deeper and bulkier. The size of the bloom of almost any variety depends upon the skill of the grower. The blooms of Edwin Beckett which we have seen would measure 6 in. in diameter; Wm. Tricker, 6 in.; and Louis Bœhmer, 6½ in. to 7½ in. The other variety, W. K. Woodcock, we have not seen, as it is not so common apparently as the others in the south.

NAMES OF FRUITS.—*Acle* (no name given): Apple, Lane's Prince Albert. Pear, Passe Colmar.

COMMUNICATIONS RECEIVED.—J. H.—J. P.—H. W.—Experience.—G. J. I.—Gardener.—A. H.—J. C.—W. B. B.—G. M.—J. L.—R. O.

TRADE CATALOGUES RECEIVED.

WILLIAM CLIBRAN & SON, Oldfield Nurseries, Altrincham.—Roses, Hardy Trees and Shrubs, Fruit Trees, &c.

CHARLES TURNER, Slough.—Carnations, Tree Carnations, Picotees, and Pinks.

PITCHER & MANDA, Hextable, Swanley, Kent.—Selected Novelties in Chrysanthemums.

LONDON SEED TRADE.

October 24th, 1892.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a steady sale for Red Clover and some export demand for White and Alsike at full prices. Perennial Ryegrass owing to scarcity is much dearer. Italian Ryegrass steady. Mustard scarce. Rape firm.

COVENT GARDEN MARKET.

October 25th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d	s. d.		s. d.	s. d.
Grapes..... per lb.	0 6	1 6	Pine apples.		
Kent Cobs ...100 lb.	100 0		—St. Michael's, each	2 6	6 0
Peaches ... per dozen	2 0	6 0	Apples...per ½ sieve	1 0	3 6
Melons ... . each	1 0	1 6	Plums...per ½ sieve		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Articbokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, per lb.	0 6		Lettuces ...per dozen	1 6	2 0
Beet..... per dozen	2 0	3 0	Musbrooms, p. basket	1 3	2 0
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Cauliflowers, Eng. dz.	3 0	6 0	Radishes... per dozen	1 6	
Celery.....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers .....each	0 3	0 6	Spinach, per strike...	1 6	
Endive. French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	0 9
Herbs .....per bunch	0 2	0 6	Turnips ... ..per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Asters .....per doz.	4 0	6 0	Chrysanthemum, doz.	4 0	9 0
Begonias ...per doz.	6 0	12 0	— large, doz.....	12 0	30 0
Cyperus .....per doz.	4 0	12 0	Heliotrope, per doz.	4 0	6 0
Dracæna term., doz.	24 0	36 0	Marguerites, per doz.	6 0	12 0
Dracæna viridis. doz.	9 0	18 0	Mignonette, per doz.	6 0	12 0
Erica Hyma lis, doz.	12 0	18 0	Palms in variety, each	2 6	10 0
,, Gracilis, doz...	9 0	12 0	Palms, Specimen ...	15 0	63 0
Evergreens, invar. doz	6 0	24 0	—scarlet .....per doz.	3 0	6 0
Ferns, invar..per doz.	4 0	18 0	Solanums.....per doz.	9 0	12 0
Ferns, small, per 100	6 0	10 0			
Foliage Plants, doz.	12 0	60 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s d		s. d.	s. d
Arum Lilies, 12 blms.	4 0	6 0	Pelargoniums		
Asters.....doz. bun.	6 0	8 0	—scarlet.....12 bchs.	4 0	6 0
Bouvardias, per bun.	0 6	1 0	Primula, double, bun.	0 6	0 9
Carnations. 12 blooms	1 0	3 0	Pyrethrum doz bnchs	2 0	4 0
Chrysanthemum, dz bn	4 0	9 0	Orchid Bloom in var.		
— .....doz. blooms	2 0	6 0	per bloom, from	0 3	1 0
Eucharis ...per doz.	4 0	6 0	Roses, doz bunches	4 0	6 0
Gardenias 12 blooms	1 6	3 0	Roses, yellow, dozen	2 0	4 0
Gladioli...doz. spikes	1 0	2 0	— French, per bnch	3 0	6 0
Heliotropes, 12 sprays	0 6	0 9	— French, 100 blms	6 0	12 0
Lilac, White, French,			— Red..... doz. blms.	1 0	2 0
per bunch...	4 0	6 0	— Saffrano...per doz.	1 0	2 0
Lilium Harrisii,			— Tea ..... per dozen	1 0	3 0
doz. blooms	4 0	9 0	Stephanotis, dz. sps.	2 6	4 0
Liliums var., dz. blms.	2 0	4 0	Tuberoses, per doz	0 3	0 9
Maidenhair Fern, 12 bs.	4 0	6 0	Violets, Parme. French		
Marguerites, 12 bun.	1 0	3 0	per bunch ..	3 0	4 6
Mignonette... 12 bun.	3 0	6 0	—Czar, French, bun.	1 6	2 6
Pelargoniums, 12 sps.	0 9	1 0	—Small ,, doz. bun.	2 0	2 6
			—English, doz. bun.	0 0	2 6

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ST. JACOBS OIL

Cures Neuralgia, Rheumatism, Sciatica, Gout, Sprains, and Bruises. It acts like magic. It penetrates to the seat of the disease. It is for outward application only.

FLOWER SHOWS, &c., 1892.

[*The Editor will be greatly obliged if Secretaries of societies will communicate to him the dates of their exhibitions as soon as fixed.*]

NOVEMBER.

1.—Royal Horticultural Society: Committee Meetings at Drill Hall.
1.—Kent County Chrysanthemum Show (2 days).
1.—Brixton Chrysanthemum Show (2 days).
1.—Barnstaple Chrysanthemum Show (2 days).
1.—Brighton and Hove Chrysanthemum Show (2 days).
1.—Watford Chrysanthemum Show (2 days).
2.—Ascot Chrysanthemum Show (2 days).
2.—Ealing Chrysanthemum Show (2 days).
2.—Portsmouth Chrysanthemum Show (3 days).
2.—Croydon Chrysanthemum Show (2 days).
3.—Steyning Chrysanthemum Show.
3.—Hertford Chrysanthemum Show (2 days).
4.—Crystal Palace Chrysanthemum Show (2 days).
4.—Bolton Chrysanthemum Show (2 days).
4.—Forest Gate and Stratford Chrysanthemum Show (2 days).
5.—Crewe Chrysanthemum Show.
7.—St. Neots Chrysanthemum Show.
8.—National Chrysanthemum Society at Royal Aquarium (3 days).
8.—Birmingham Chrysanthemum Show (3 days).
8.—Kingston and Surbiton Chrysanthemum Show (2 days).
8.—Enfield Chrysanthemum Show (2 days).
8.—Sevenoaks and West Kent Chrysanthemum Show (2 days).
8.—Leeds Chrysanthemum Show (2 days).
8.—Batley Chrysanthemum Show (2 days).
8.—Waterloo (near Liverpool) Chrysanthemum Show.
8.—Devizes Chrysanthemum Show.
9.—Battersea Chrysanthemum Show (2 days).
9.—Bath Chrysanthemum Show (2 days).
9.—South Shields Chrysanthemum Show (2 days).
9.—Cardiff Chrysanthemum Show (2 days).
9.—Bournemouth Chrysanthemum Show (2 days).
9.—Hornsey Chrysanthemum Show (2 days).
10.—Chelmsford Chrysanthemum Show.
10.—Birkenhead and Wirral Chrysanthemum Show.
10.—Finchley Chrysanthemum Show (2 days).
10.—Spalding Chrysanthemum Show (2 days).
10.—Tiverton Chrysanthemum Show.
10.—Calne Chrysanthemum Show.
11.—Leicester Chrysanthemum Show (2 days).
11.—Sheffield Chrysanthemum Show (2 days).
11.—Eccles and Patricroft Chrysanthemum Show (2 days).
11.—Wellingborough Chrysanthemum Show (2 days).
11.—Dundee Chrysanthemum Show.
11.—Bradford and District Chrysanthemum Show (2 days).
11.—Derby Chrysanthemum Show (2 days).
15.—Royal Horticultural Society: Committee Meetings at Drill Hall.
15.—Wimbledon Chrysanthemum Show (2 days).
15.—Manchester Chrysanthemum Show (2 days).
15.—Liverpool Chrysanthemum Show (2 days).
15.—The Hartlepools Chrysanthemum Show (2 days).
15.—Plymouth Chrysanthemum Show (2 days).
15.—Twickenham Chrysanthemum Show (2 days).
16.—Bristol Chrysanthemum Show (2 days).
16.—Hull Chrysanthemum Show (2 days).
16.—Hanley Chrysanthemum Show (2 days).
16.—Rugby Chrysanthemum Show (2 days).
17.—Edinburgh Chrysanthemum Show (3 days).
17.—Neath Chrysanthemum Show.
17.—Rotherham Chrysanthemum Show.
17.—Wantage Chrysanthemum Show.
18.—Chorley Chrysanthemum Society (2 days).
18.—Stockport Chrysanthemum Show (2 days).
22.—Dalkey Chrysanthemum Show.
24.—National Chrysanthemum Society: Meeting of Floral Committee.

DECEMBER.

7.—National Chrysanthemum Society: Meeting of Floral Committee.
13.—Royal Horticultural Society: Committee Meetings at Drill Hall.

The Gardening World.

SCALE OF CHARGES FOR ADVERTISEMENTS.

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*** *Advertisements for the current week, and also "Stop Orders," must reach the office not later than the first post on Wednesday Morning.*

1 CLEMENT'S INN,
STRAND, LONDON, W.C.
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H. ENGLISH'S

Strong Plants, Carriage Paid.

Extent of Glass Structures, 54,000 *Superficial Feet. Extent of Nurseries*, 57 *Acres.*

18	Greenhouse Ferns, assorted and named...	2	6
12	Greenhouse Ferns, 6 var., including Maiden-hair	1	9
12	Maiden-hair Ferns, 12 var., most lovely kinds...	5	0
6	Maiden-hair Ferns, 4 distinct var., named	2	0
3	Adiantum Farleyense, most handsome Maiden-hair...	2	6
3	Greenhouse Asparagus plants, strong, well rooted	1	9
6	Aralia Sieboldi, handsome foliage plants, strong	2	6
3	Lydogium scandens, the pretty climbing Fern	1	9
6	Greenhouse Selaginellas or Mosses, including golden	1	6
12	Assorted Ferns for cool greenhouse without heat	2	6
3	Crotons, highly coloured, best varieties	2	6
3	Dracæna indivisa, about 1 ft. high	2	0
6	Large choice greenhouse Ferns, A. Farleyense tenerum, concinnum, latum, &c., 1 ft. high.	3	0
6	Fuchsias, 6 varieties, named	1	6
1	Tacsonia, 1 Hoya, 1 Solanum jasminoides	2	0
6	Primula obconica, always in flower, strong	2	0
6	Zonal Geraniums, best named varieties	2	3
6	Ivy Geraniums, 6 var.	1	6
6	Foliage Begonias (B. Rex), handsome leaves	2	0
3	Passion Flowers, 3 varieties, named	1	6
12	Tuberous Begonias, assorted colours	4	0
3	Double White Primulas	1	9
12	Gloxinias, extra fine strain	2	6
6	Cyclamen persicum, good strain	1	9
1	Stephanotis and 2 Hoyas	2	0
3	Hydrangeas Dr. Hogg	1	6
6	Heliotropes, 6 varieties	2	3

ENGLISH'S HARDY PLANTS.

6	Delphiniums, mixed colours, light and dark	1	9
4	Marguerites, white and blue, named	1	6
6	Perennial mauve Michaelmas Daisy	2	0
6	Sedums, in 6 varieties, named	2	0
6	Lavender or Southernwood, strong plants	1	6
6	Christmas Roses	2	6
12	Hollyhocks, mixed, from double flowers	2	6
6	Assorted winter-flowering Begonias	1	6
12	Sweetbriars, strong plants	2	3
20	Canterbury Bells. Aquilegias, or Campanulas	1	9
3	Large-flowering Clematis, purple, etc., named	2	6
6	Mrs. Sinkins, new white Pink (12 for 1s. 10d.)	1	4
12	Irish Ivies, strong plants, 2 ft. to 3 ft. high	1	9
6	Named perennial Phlox, 6 var.	1	6
6	Perennial Michaelmas Daisies, white, very large	2	0
12	Iceland Poppies, pretty perennials	2	0
12	Roses on own roots, best kinds	4	6
6	Helianthus (Perennial Sunflowers)	2	0
12	Chrysanthemums, 12 distinct varieties	2	0
12	Pansies and Violas, best named kinds	1	9
12	White Marguerites	2	6
6	Lobelia cardinalis, intense red flowers, perennial	2	0
3	Scarlet Salvias, very free flowering	1	3
6	Tritoma Uvaria (Red-hot Poker)	2	0
6	Rudbeckia Newmani, bright yellow, perennial	1	9
6	Nicotiana affinis (sweet-scented Tobacco plant)	2	0
100	assorted hardy perennial plants, named	5	0
12	Carnations, from double flowers	2	0
12	Pentstemons, assorted colours	1	6
6	Perennial Pyrethrums, assorted colours	1	6
40	Wallflowers, blood-red, yellow, etc.	2	0
12	Wallflowers, Double German, mixed	1	6
6	Double Scarlet Geums	1	6
6	Carnations, Crimson Clove, Purity, Gloire de Nancy, etc., named	3	0
12	Perennial Gaillardias	2	0
1	Tulip Tree, 1 Adiantum Tree	2	0
6	Assorted flowering shrubs, 1½ to 3 ft	2	9
12	Auriculas, fine plants...	1	6
3	American Blackberry	1	6
6	Roses in pots, 6 varieties, named	8	6
3	Deutzias, 1 Passion Flower, 1 Tacsonia	2	0
6	Hardy Primulas, Sieboldi, cashmeriana, etc.	1	6

CHEAP HARDY CLIMBERS.

AMPELOPSIS VEITCHI (small-leaved V. Creeper) Hederacea sempervirens ... JASMINES, white and yellow ... HONEYSUCKLES, Dutch, Scarlet Trumpet, variegated and evergreen ... CLEMATIS FLAMMULA and MONTANA .. IVIES, Irish, 4 to 5 ft. IVIES, variegated Gold and Silver. CLIMBING ROSES. ... — Any 6 for 2s. 6d. Any 12 for 4s. 6d.

ENGLISH'S ROSES.

6 Choice Tea and Noisette Roses (Isabella Sprunt, Souvenir d'un Ami, Safrano, Maréchal Niel, &c.), 4s. 6d.; 12 distinct, 8s.

6 Hybrid Perpetual and Bourbons (Duke of Connaught, La France, Prince C. de Rohan, Gen. Jacqueminot, &c.), 3s.; 12 distinct, 5s. 6d.

3 White Banksian, Persian, or Austrian Roses, 2s. 6d.

6 Moss Roses, 6 varieties (12 for 7s. 6d.), 4s.

3 Handsome Japanese Roses, 2s. 6d.

EXTRAORDINARY PLANTS of Maréchal Niel, Climbing Devoniensis, Gloire de Dijon, and W. A. Richardson, 3 to 5 ft. high, 1s. 6d. each; 6, 6s. 6d.; 12s. a dozen.

STANDARD ROSES, very fine, 15s. doz.; 6 for 8s.; thousands of plants to offer, all carriage paid.

PALMS.—Best varieties, named, 6 for 2s. 6d., 4s. doz.; larger plants, 4 to 6 leaves, 1s. each, 3, 2s. 6d.; a few larger, 2s. 6d. each, 3 for 6s. Kentias, 3 for 2s. 6d.; larger, 3 for 4s. 6d., carriage paid.

A lovely wreath or cross of natural flowers, 7s. 6d., 10s. 6d., 15s.

Any 11s. worth may be selected from this advt. for 10s.; any 23s. worth for 20s. All plants in this advertisement are carriage paid. Catalogue gratis.

P.O. Orders and P. Notes payable at Clevedon.

H. ENGLISH, Clevedon and Clapton Nurseries, Clevedon.

12 LARGE LAURELS, 4s.; 12 Poplars, 5 to 6 ft., 2s. 6d.; 6 Silver Poplars, 2s.; 6 flowering Shrubs, 4 to 5 ft., 2s. 6d.; 12 Red or White Currants, 3s.; 6 Evergreens, for window boxes, 2s. 6d.; 12 assorted Hardy Climbers, 3 to 5 ft., 4s. 6d.; all strong stuff, package free.—H. ENGLISH, Clevedon and Clapton Nurseries, Clevedon.

FRUIT TREES.—Standards, dwarf-trained or Espalier, Bushes, and Pyramids. Apples, Cherries, Plums, and Pears, 2s. 9d. each, 30s. doz.; very strong Maidens, 10s. doz. Currants and Gooseberries, 4s. dozen. Strawberries, 2s. 6d. per 100, best named varieties, package free.—H. ENGLISH, Clevedon and Clapton Nurseries, Clevedon.

In ordering from this advertisement please mention THE GARDENING WORLD.

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No Connection with any other Firm of the same Name.

ANT. ROOZEN & SON'S

GUINEA PACKAGES
(Delivered Entirely Free in London)
OF
CHOICE HARDY BULBS.

COLLECTION "F" FOR SPRING GARDENING,
Contains 1015 Bulbs.

50 Hyacinths, distinct colours
50 Tulips, single early
50 „ double
25 „ single late
20 Narcissus, Polyanthus
30 „ incomparable
24 „ Poeticus
24 Anemones, double
50 „ single
50 Persian Ranunculus
400 Crocus, in 4 distinct colours
50 French Ranunculus
24 Gladiolus
50 Snowdrops, single
50 Spanish Iris
24 Scilla Hyacinthoides
24 „ Siberica
4 Lilium Umbellatum
16 Eranthis Hyemalis (Winter Aconite)

COLLECTION "C" FOR INDOOR,
Contains 336 Choice Bulbs for 72 Pots and Glasses.

Half of either of the above for 11s.

The above Packages may be had from our Agents,

Messrs. MERTENS & Co.,
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On receipt of Cheque or Post Office Order.

Our Descriptive BULB CATALOGUE (104 pages, in English containing FULL CULTURAL DIRECTIONS, *will be sent post free on application to our Agents as above, or ourselves direct at*

OVERVEEN, near HAARLEM, HOLLAND.

"The Bulbs we had from you gave great satisfaction."

SEND FOR
Soddy's Bulb Catalogue.
Gratis and Post Free from
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MR. DODWELL'S
GRAND CARNATIONS.
THE FINEST GROWN.
All Classes, 10/6 per dozen.

Mr. Dodwell's List of Specialties is now ready. Send Stamp and get copy.

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COME & SEE
OUR
CHRYSANTHEMUMS

H. CANNELL & SONS'

CATALOGUE of 500 New Varieties, including two new sets from Italy, sent post free. Our house, 160 ft. by 26 ft., built expressly for the above is now filled with all the finest varieties in cultivation, including a fresh consignment direct from the first raiser in Japan, and which we have every reason to believe will rival the Jubilee set we introduced with such success; altogether this house will contain not less than 1,200 varieties of all well-grown plants. For comparison and selection throughout the season it will present such a sight and opportunity never before afforded to all lovers of this flower. All the best appliances for showing them in the beight of perfection supplied.

SWANLEY, KENT.

FRUIT TREES.
ROSES AND VINES
In Vast Quantities, and of Excellent Quality.
INSPECTION INVITED.

HUGH LOW & CO.,
The Nurseries,
BUSH HILL PARK, LONDON, N.

NEW CARNATION,
"KEIR PRINCE."

This Grand Novelty will be found a decided acquisition. From its remarkably vigorous constitution it is certain to take a leading position in the Carnation world, producing plenty of "grass" and flowering profusely.

Whether for Border or Conservatory decoration "KEIR PRINCE" will certainly become a general favourite. In colour it is a rich glowing scarlet, and perfect in form.

Price, 2s. 6d. each; 24s. per doz.

R. B. LAIRD & SONS, EDINBURGH.

NEW CHRYSANTHEMUMS.

NORMAN DAVIS
Begs to intimate that he has among the New Chrysanthemums of the present season, several of exceptionally fine quality, including the two magnificent New Crimson Japanese

WILLIAM SEWARD
AND
J. SHRIMPTON,
The finest introductions of recent years, and which will be distributed by him during the coming Spring.
Catalogue on application.
CHRYSANTHEMUM NURSERIES,
LILFORD ROAD, CAMBERWELL, LONDON, S.E.

THOMSON'S
GRAND NEW
CARNATIONS AND PICOTEES.

Mrs. J. Chamberlain, finest salmon self, obtained five F.C.C. this season, 5/- per pair.
Negress, dark ruby self, three F.C.C., 5/- per pair.
Goliath, largest yellow ground, grand form, 5/- per pair.
Firefly, fancy scarlet maroon, 3/6 per pair.
Boadicea, H P.E., clear ground, 2/6 per pair.

Our General Collection includes all the best varieties in cultivation. We have gained a large number of first prizes, medals, and certificates this season. Strong plants ready in October, 6/- and 9/- per doz. Catalogues gratis on application.

THE NURSERIES,
SPARK HILL, BIRMINGHAM.

NOW IS THE TIME TO PLANT.
SEND FOR OUR
NEW DESCRIPTIVE AND PRICED CATALOGUE
Of FRUIT TREES, ROSES, CONIFERS, SHRUBS, FOREST TREES, CLIMBERS, etc.
AN IMMENSE STOCK GROWN.
LANDSCAPE GARDENING A LEADING FEATURE.

GEO. JACKMAN & SON,
Woking Nursery, Woking, Surrey.
ESTABLISHED 1810. AREA—150 ACRES.

SPECIAL CULTURE
OF
FRUIT TREES & ROSES.
A Large and Select Stock is now offered for Sale.
The Illustrated and Descriptive Catalogue of Fruits post free.
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THOMAS RIVERS & SON,
The Nurseries, SAWBRIDGEWORTH, Herts.

ARMITAGE'S BULBS.
An Immense Stock. Quality Unsurpassed.
PRICES MOST MODERATE.
Write for CATALOGUE, POST FREE on APPLICATION.
Hyacinths, Tulips, Crocus, Snowdrops, Narcissus, Liliums, Chinese Sacred Lilies, Gladioli, etc.

ARMITAGE'S ROSES.
Unrivalled Collection, 12 finest varieties, Dwarfs, 7s. Standards, 16s.
Delivered free to any Address in the Kingdom.

ARMITAGE Bros., The Old Established Seed & Bulb Business, NOTTINGHAM

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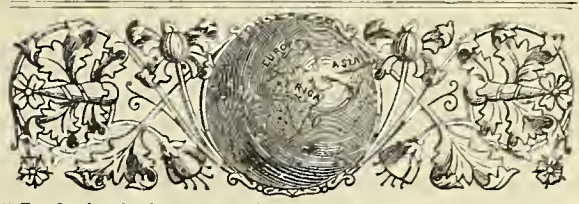

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Nov. 7th.—St. Neots' Chrysanthemum Show.
Sale of Bulbs at Protheroe & Morris' Rooms (and every day in the week).
Bulb Sale at Stevens' Rooms.
TUESDAY, Nov. 8th.—National Chrysanthemum Society at Royal Aquarium (3 days).
Birmingham Chrysanthemum Show (3 days).
Kingston and Surbiton Chrysanthemum Show (2 days).
Enfield Chrysanthemum Show (2 days).
Sevenoaks and West Kent Chrysanthemum Show (2 days).
Leeds Chrysanthemum Show (2 days).
Batley Chrysanthemum Show (2 days).
Waterloo (near Liverpool) Chrysanthemum Show.
Devizes Chrysanthemum Show.
Clearance Sale at Farm Nursery, Stafford.
Sale at American Nurseries, Bagshot (3 days).
WEDNESDAY, Nov. 9th.—Battersea Chrysanthemum Show (2 days).
Bath Chrysanthemum Show (2 days).
South Shields Chrysanthemum Show (2 days).
Cardiff Chrysanthemum Show (2 days).
Bournemouth Chrysanthemum Show (2 days).
Hornsey Chrysanthemum Show (2 days)
Bulb Sale at Stevens' Rooms.
THURSDAY, Nov. 10th.—Chelmsford Chrysanthemum Show.
Birkenhead and Wirral Chrysanthemum Show.
Finchley Chrysanthemum Show (2 days).
Spalding Chrysanthemum Show (2 days).
Tiverton Chrysanthemum Show.
Calne Chrysanthemum Show.
Bulb Sale at Stevens' Rooms.
FRIDAY, Nov. 11th.—Leicester Chrysanthemum Show (2 days).
Sheffield Chrysanthemum Show (2 days).
Eccles and Patricroft Chrysanthemum Show (2 days.)
Wellingborough Chrysanthemum Show (2 days).
Dundee Chrysanthemum Show.
Bradford and District Chrysanthemum Show (2 days.)
Derby Chrysanthemum Show (2 days).
Orchid Sale at Protheroe & Morris' Rooms.

The Gardening World.
Edited by BRIAN WYNNE, F.R.H.S.
SATURDAY, NOVEMBER 5th, 1892.

THE CHRYSANTHEMUM SHOWS.—What may not inaptly be described as the first shots in the competition in show Chrysanthemums of the present winter season were fired so early as the 27th and 28th of the past month at Gosport and Havant. These were, of course, mere outpost skirmishes of only the most trifling importance, for the obvious reason that they took place far too early in a season that for the Chrysanthemum is distinctively late—so late in fact that even in favoured Cornwall one at least of the local societies has had to postpone its show for a fortnight. It may be that some peculiar force exists around Portsmouth which gives growers in that district unusual advantages, but so far as our enquiries have gone the general impression is, that flowers are fully a fortnight later than last year, and many who have made a fine display in the second week in November are rather doubtful whether they will be even at their best in the week following.

Really we have not had an ideal Chrysanthemum season. The summer-time was fairly good, but the autumn generally has been cold, wet, and ungenerous. Hence not only did the wood and buds lack that maturation which warm autumns usually generate, but the blooms are later, and may be perhaps coarser than usual. It is very

well to say that a liberal amount of firing may assist the more rapid development of the blooms if desirable, but then so few growers care to help their blooms in that way if it can be avoided, as the flowers under such conditions lack that exact finish which is characteristic of natural products.

If some of the later shows should, as a result of a deferred season, pick up some of the finest blooms they will have some cause to rejoice that reward is not always to the swift. During the holding of the shows many matters of interest to exhibitors will be well talked over and threshed out, and it is very possible that the proposal to increase the size of show boards will find more or less of general acceptance.

Town Chrysanthemums.—Those of our readers who are enabled to grow their Chrysanthemums and to bloom them also in the pure air and the free light of the country have little knowledge of the troubles which beset town growers or those who reside in thickly populated suburban districts. Fogs, blacks, gusts of cold damp air, these are but a few of the difficulties which have to be surmounted, especially as these are troubles that are found in greatest force usually in October and November. When looking in, the other day, upon the very fine collection which Mr. H. J. Jones has now in abundant bloom at Hither Green, Lewisham, we found that to correct some of the evils which just now afflict the grower, a broad length of tiffany had been stretched the entire length of the 100ft. span-roofed house, and over the tie bars which run across the rafters overhead. This tiffany was 12ft. in width, but so thin that it scarcely obstructed the light in any way.

"Now," said Mr. Jones in response to our enquiry as to its object, "you see it sometimes in the early morning saturated with moisture, the drops standing upon its upper surface like great beads. All this presently dries and is saved from falling upon the flowers. Then you see we have almost always an ample top ventilation through which of necessity comes a current of cold air. The tiffany checks, warms, and distributes that current, and also catches falling blacks—a matter of great importance in a smoky district." So much for the value of the tiffany.

The top ventilation is governed by an almost automatic arrangement, and a boy can open or close 50ft. lengths in an instant. As to the grand show of some 2,500 plants in this very fine show house we advise our readers to see for themselves—for it is a grand collection of all the best old and new varieties. The show is free, but we noticed with satisfaction Gardeners' Orphan Fund collecting boxes in the house, to which the attention of visitors is generally drawn.

The Lord Mayor's Show.—We trust our friends of the Fruiterers' Company will not be angry if we venture to express a belief that the proposed exhibition of a sort of triumphal fruit car or trophy with the usual paraphernalia of the municipal procession next Wednesday, in the streets of London, will prove much more effectual in helping to promote "the objects of the Fruiterers' Company, which include the more extended cultivation of Hardy Fruits in the British Isles," than will a score or a hundred of Mansion House Banquets.

Now whilst we heartily agree with the suggestion that British and Irish or home hardy fruit culture should be brought home to the public as forcibly and effectively as possible, we recognise the danger there is of the proposed car or trophy failing to exhibit that importance, and hence becoming rather an object of laughter than of actual impressiveness. It is not enough to hope that in its composition everything that bids fair to create criticism will be avoided, but we wish to see the display made so good an one, so effectual as to leave on the minds of the public the impression that Fruit Culture is an eminent and to some extent prosperous form of industry. The proposal savours in relation to horticulture so much of novelty that indifferent judgment may mar its production, just as good sense may make it, in the estimation of onlookers.

We should rather have liked to see a proposal of this kind conducted by the Market Trade, and probably had Covent Garden been approached the growers and salesmen there would have cheerfully responded. The car which it is purposed to exhibit is intended, so far as our information goes, rather to represent the Nursery Trade than either the Market Trade or even the Fruiterers' Company, but the wider its basis as representing the whole home fruit growing industry the better shall we be pleased.

Autumn Tints.—We are getting no Indian summer this year, and as a consequence autumn tints are of the poorest. Cold weather, heavy rains, wind storms, and very sharp frosts have played havoc with leafage. There has been on its part very little response to the occasional and all too infrequent gleams of sunshine. The frosts, too, have caused the leaves on many trees that ordinarily give to us the most attractive hues, to fall unduly early, and what in warm autumns have curtained the trees in gold, red, brown, or other beautiful hues, already lie on the ground trampled beneath the feet of mortals with as little concern as if decayed Cabbage leaves.

After all there seem to be few trees that give to us colours in the autumn so naturally as do the Acers, but even these have had this season very fugitive colour period. The beautiful forms of Ampelopsis only on gravelly or sandy soil, or in very favoured positions, have put on that rich blood-red coating the which so ordinarily marks the late autumn. Not a few gardeners are of such a matter of fact mind, that they think far more of getting all the leaves down, that the annual and final winter sweeping or cleaning of nature's carpet may take place. If not this season, at least during ordinary seasons, every leaf that falls means some loss of colour and beauty.

The lover of the beautiful in nature may not be a gardener and perhaps detests the tidiness incidental to garden methods. To him a leaf is an object of admiration. To the gardener it is too often an object of annoyance, until it has been duly collected into the wheelbarrow, and has been taken to its bourne. We hope yet to combine in a large decree the enthusiasm and natural love of one and the utilitarian tidiness of the other in ardent appreciation of beautiful autumn tints another year.

Mr. George Manning, only son of Mr. T. Manning, of the Royal Exotic Nursery, Chelsea, died, we regret to hear, on Tuesday morning last.

Mr. R. Smith, of Kenward, Yalding, an excellent Kentish gardener, has obtained the appointment as lecturer on horticulture to the Shropshire County Council.

Mr. James Robert Macleay, son of the Hon. Alexander Macleay, F.R.S., for some years secretary of the Linnecan Society, and brother of the late Sir George Macleay, of Pendell Court, died on the 28th ult., aged 81 years.

Preston and Fulwood Horticultural Society.—The usual monthly meeting of members of this society will be held in the Council Chamber of the Town Hall, this (Saturday) evening, Nov. 5th, 1892, when Mr. James Hathaway, gardener to Lord Lathom, will read a paper on the Tomato and its cultivation. A number of prizes for various subjects will be subsequently awarded.

A Horticultural School in Holland.—We learn upon good authority that Mr. A. M. C. Jongkindt Coninck, late of the Nurseries, Dedemsvaart, Netherlands, is commencing a Technical School at Bussum, near Amsterdam, which was opened on November 1st, for the thorough training of young gentlemen in horticulture in all its branches. Mr. Coninck is well adapted for such work, for which he has already achieved quite a considerable reputation.

Mr. E. S. Dodwell is again, we regret to hear, very seriously indisposed, and his physician insists upon his complete repose. We are asked under the circumstances to crave the forbearance of correspondents whose letters may not receive prompt acknowledgment.

Gardening Engagements.—Mr. Robert Blackstock, for the past two years steward and gardener to Tollemache Scott, Esq., Bosworth Park, Market Bosworth, Leicestershire, as gardener to Sir Emilius Laurie, Bart., Maxwellton House, Dumfries-shire. Mr. Richard Davies, formerly gardener to Lord Charles Scott, Boujedward, Jedburgh, N.B., as gardener and overseer to J. Martin White, Esq., of Balruddery, near Dundee.

Princes Street Gardens, Edinburgh.—Lord Shand, the arbitrator between the Corporation of Edinburgh and the North British Railway Company, has awarded £23,500 to the Corporation, £1,000 to the Bank of Scotland, and £2,000 to the Crown for their respective interests in the portions of the Princes Street Gardens required by the railway company.

Chrysanthemum Viviand Morel.—Perhaps the one new variety of Chrysanthemum on which there was the greatest run last season was the immense, rosy-pink, reflexed "Jap.," Viviand Morel. It is a grand exhibition variety, and a white sport has already been seen in public. We have now to announce that there is also a yellow one, and a very fine one too, which has originated this season with Mr. Norman Davis. It will be tested for constancy before being shown, and should it maintain its early promise will be named Charles Davies.

American Seed Trade Weights and Measures.—A committee of the American Seed Trade Association appointed in the summer to consider the cental system, unanimously recommend all seedsmen in the United States and Canada, on and after the 1st of January next, to quote the following seeds at per 100 lbs. instead of per bushel :—Clover, Timothy, Blue Grass, Orchard Grass, Red Top, Lawn Grass, Millet, Hungarian, and all kinds of grass seeds ; also Buckwheat, Cane, Broomcorn, Sunflower, Osage, Hemp, Castor Beans and Pumpkin Seed.

The Glasgow Botanic Garden.—A correspondent of the *Glasgow Herald* writes :—" As horticulturist, arboriculturist, and landscape gardener, our superintendent of parks has had about 40 years' experience and management, and is in every respect competent to undertake the superintendence of our Botanic Gardens, in the growth and health of the plants, which as a park is perfectly of a piece with those already under his able government. And under the scientific presidency of a Professor of Botany of the University just appointed, our Botanic Gardens should be included under one control. As to the ratepayers' interests and responsibilities there should be one account for all."

The Conifer Conference.—The long anticipated report of the Conifer Conference held at Chiswick in October, 1891, has been published during the present week, and can now be obtained by the Fellows of the Royal Horticultural Society. It forms Vol. 14 of the Society's Journal, and is a bulky volume to boot, consisting of nearly 600 pages. It contains all the papers read at the Conference, including those of Dr. Masters, F.R.S., and Professor Carl Hansen, of Copenhagen, which have since been considerably extended.

The Clover and Grass Seed Harvest.—In their annual report on the seed harvest for 1892, Messrs. James Carter & Co. remark that it is a memorable one in many points. Last year an unfavourable

condition of prevailed and "The scarcity of fine quality Clovers in particular became early apparent and caused values to rule very high. At a later period the entire absence of these higher grades left an opening for the cheaper classes which were readily snapped up, and as a consequence the new season opens with a market that is absolutely bare of yearling offerings. In England the circumstances governing the new crop are very similar to those prevailing at the previous harvest, a long and severe winter followed by a generally ungenial summer with an over-abundance of autumn rains, has brought about a very unsatisfactory result, and in addition to this unkindness of the season at home in Germany the crop is short, and, owing to the drought, for similar reasons the crop in France is almost a failure. In America the outlook is uncertain and unfavourable, prices rule high and samples are weak, washy, and inferior."

Gardeners' Orphan Fund.—The first meeting of the Executive Committee after the recess was held on the 28th ult., Mr. B. Wynne presiding in the absence of Mr. Marshall through indisposition. Mr. Barron announced that the special receipts during the interim amounted to over £530, including £500 from Mr. and Mrs. Harry J. Veitch; £6 6s. from the Wimbledon Horticultural Society; £2 2s. from the Burton-on-Trent Horticultural Society; £5 collected by Mr. G. W. Cummins at the Beddington Show; 10s. collected by Mrs. Bowerman at Hackwood Park; 30s. from the Walkley Amateurs' Horticultural Society; £6 collected by Mr. H. J. Clayton, Grimston Park; 10s. from Mr. W. Denning, Hampton; £1 1s. from Mr. W. Miller, Ruxley; £2 15s. 3d. from Mr. R. Dean, result of sales of flowers given by exhibitors at the Royal Aquarium and Earl's Court Shows; collecting boxes—Messrs. Sutton & Sons, Reading, £1 11s. 6d.; Mr. John Atheston, Preston, £1 1cs.; Mr. J. B. Stevenson, Bournemouth, 12s. 9d.; and Mr. J. Hamilton, Byrkley Gardens, Burton-on-Trent, 15s. The Committee unanimously resolved to at once invest the £500 in accordance with the wishes of Mr. and Mrs. Veitch, and accorded them a hearty vote of thanks for their most generous gift. The usual votes of thanks were also accorded to the other contributors. A resolution expressive of the loss which the Committee has sustained by the death of Mr. C. H. Sharman, and of condolence with his widow and family, was also passed. Mr. Robert Ballantine, Chairman of Committees of the National Chrysanthemum Society, was unanimously elected a member of the Committee in the place of the late Mr. Sharman.

NEW CHRYSANTHEMUMS.

The following new varieties were awarded First-class Certificates at the meeting of the Floral Committee of the National Chrysanthemum Society on the 26th ult.:—

William Seward.—This splendid new deep crimson reflexed "Jap" was described at p. 134 when its merits were recognised by the Floral Committee of the R.H.S. It is a show variety of rare merit, being as large as Etoile de Lyon, and a glorified Jeanne Deleaux in colour. The blooms run to 9-10 in. in diameter, and one of the flowers shown at the Aquarium contained about 500 florets. It was raised by Mr. John Shrimpton, gardener to W. Seward, Esq., The Firs, Hanwell, and the stock has passed into the hands of Mr. Norman Davis, of Lilford Road, Camberwell, for distribution.

John Shrimpton.—This like the last named was raised by the gardener whose name it bears, and will also be sent out by Mr. Norman Davis. It may be said to be a greatly magnified Cullingfordii, and for general cultivation will take a high place. The plants from which the flowers were cut were 2½ ft. high and carried four or five flowers each. The large leathery leaves are produced all the way up the stem close to the flowers. The latter are 7 in. to 7½ in. in diameter, and very compact, full and high in the centre. The florets are of a bright rich crimson, and bronzy yellow on the reverse. The blooms are smaller and lighter coloured than those of William Seward, but more compactly arranged, and like that belongs to the Japanese reflexed section.

Baron Hirsch.—The blooms of this new incurved variety measure about 5¼ in. in diameter, and 2½ in. to 3 in. in depth. For description see p. 134. It was exhibited by its raiser, Mr. Robert Owen, Castlehill, Maidenhead.

Col. W. B. Smith.—The florets of this American variety are long, pointed, and incurved, but the outer and older ones soon become drooping and incurved at the tips. The upper surface is cinnamon buff, and the reverse old gold. It belongs to the Japanese section, and is perhaps not sufficiently incurved to be classed amongst the incurved Japanese. The blooms, moreover, are of great size with much material in the centre, but opening freely enough, and the compact portion measures 7 in. to 8 in. in diameter, but 10 in. or 11 in. if the longer flowers were spread out. This promises to be one of the best varieties the Americans have sent us.

Ryecroft Glory.—This may be described as an early flowering decorative variety, growing about 2½ ft. high, and branching about a foot from the ground, and furnished with one to four flowers at the end of each shoot. The flowers are 2½ in. to 4 in. in diameter, and bright yellow with broad, spreading, blunt-pointed florets, that are canary-yellow on the reverse which is very little shown in the fully expanded bloom. The same plant produced a crop of bloom seven weeks ago, and is again in full bloom now, and therefore very useful for decorative purposes. It is a seedling of this year raised by Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, who was the exhibitor, as he was also of Col. W. B. Smith.

W. A. Manda.—The popular term applied to this variety is Yellow Ostrich Plume, a name fitly applied to it on account of the yellow flowers, and the bristly appendages covering the florets, but more especially on the back of the broad, incurved tips. The whole bloom measures about 9 in. in diameter from tip to tip of the outer and horizontally spreading florets. The central ones are incurved, of a bright, almost golden-yellow, but the outer and older ones are paler. They are tubular till near the tip where they divide into two lips, a broad lower one, and a narrow upper one, which becomes the lower one by the manner in which the tips are incurved. These characters give a grace and elegance to the whole flower which is, however, quite full in the centre. The plant attains a height of 4 ft. to 5 ft., has good foliage, and is easily grown. A stand of flowers was exhibited by Messrs. Pitcher & Manda, Hextable, Swanley.

W. H. Atkinson.—The leaves of this variety are large, leathery, not very deeply cut, with bronzy purple veins and more or less purple underneath. The variety may be described as a reflexed Japanese with blooms 6½ in. to 7 in. across. The florets are very numerous, broad, closely imbricated and salmon-red overlying yellow, with a pale yellow reverse seen only when the florets are still young and incurved. The bloom is of great depth and might well be described as a gigantic Triomphe du Nord, both as to shape and colour. It was a seedling raised by Mr. H. J. Jones, of Lewisham, but was exhibited by Mr. C. Blick, The Gardens, The Warren, Hayes, Kent, who was the grower.

Mrs. Herbert Fowler.—The stems of this variety attain a height of 3 ft., and are densely clothed with large, leathery, moderately cut leaves. It may be described as an incurved Japanese variety, with globose flowers 7 in. to 8 in. in diameter and 4 in. deep, rosy purple, obscurely striated with darker and lighter shades, and silvery white on the reverse, shaded with pink. The florets are broad, incurved, spreading or ascending, and all of these being much mixed, both surfaces are about equally shown in a head of bloom. Flowers and a cut stem showing habit were exhibited by W. H. Fowler, Esq., Claremont, Taunton.

CHRYSANTHEMUM NOTES.

New Varieties at Maidenhead.

A recent visitor to Mr. Robert Owen's nursery writes:—The new incurved, Baron Hirsch, described in your last number as golden bronze, is now of a bright chestnut colour with a shade of crimson. It seems that the early buds always come of the bronzy hue, and later on come of the true colour. The grand Robert Owen will, I fear, not be ready for the Aquarium, but Viscountess Hambledon may be sufficiently out by that date. They are proving more than equal to their early promise. Mr. Owen has a sport from Violet Tomlin, something of the shade of old John Salter, and sulphur yellow inside; also one of the prettiest of "mums" in colour, a seedling raised three years ago and an advance on the Felix Cassagneau recently certificated.

New Varieties at the Ryecroft Nursery.

Col. W. B. Smith.—This new American Japanese variety promises to be what Viviand Morel was last year, the flower of the season. It may be early yet to say what varieties among the season's novelties will stand out with marked effect, but it looks as if this will be a clipper. Other noted growers also have it in fine form. I have seen it blooming on plants and in a cut state, and the flowers are very large, massive and yet in no way coarse. The petals are somewhat incurved and a cinnamon or light chestnut hue, shaded with red.

Mrs. Harman Payne.—This belongs to the incurved Japanese section, and very fine indeed. Mr. Jones regards it as among the finest of the new flowers. It is of French origin; colour, deep rose. This is not at all a common tint in the section, and may prove to be a great acquisition.

T. H. Dennis.—This is a grand, loose flat petalled flower of the style of Edwin Molyneux. The petals are not quite so long, but its true character will perhaps hardly be visible this season. The colour of the outside of the petals is deep red, and on the reverse bronzy-yellow. It promises to make a telling variety for the enlarged stands.

President Carnot.—This is something after the style of R. A. Bahuant, and the blooms, while making up in fine compact incurved form, have more of golden the reverse of the petals than has the variety named.

Hetty Dean.—This is not a big reflexed Japanese but it is a lovely ivory-white, a particularly pleasing flower that may develop larger blooms another year. Mr Jones justly regards this as one of the loveliest whites in cultivation, and I agree.—*X.*

TOMATOS AT CHISWICK.

The Tomatos grown on the border in front of the old Peach wall at Chiswick during the past season afforded a useful object lesson as to what Tomatos may be expected to do in the open air in the south of England. Of course the past summer has been very favourable on the whole for that kind of crop, and what has been done this year it may not be possible to repeat the following year, should the weather be decidedly unfavourable. August and September are practically the months during which the fruits ripen; for to have fruits before August it is necessary to have the plants well advanced under glass, and perhaps the aid of a wall to hasten the production and maturity of the fruit. Towards the end of September, unless that month is very dry, a considerable number of the large fruiting varieties are liable to be deteriorated by the splitting of the fruits.

Altogether we counted 36 varieties in the border, but for general purposes a sixth of them is all that is necessary; others might of course be added in certain cases for the sake of variety if that is considered desirable. Foremost amongst those suitable for outdoor work we would place The Conference, with fruit of medium size, but freely and early produced, four to eight in a bunch, and well set to the top of the stems. The flavour leaves little to be desired as far as Tomato flavour goes, and which we could desire to be a little more decided with less of the characteristic odour of the plant. When well ripened the fruits of course lose the greater part of this objectionable character. Chemin and Ham Green Favourite produce larger fruits of faultless form and smoothness, but like many other improved and tender skinned kinds the fruits are liable to split towards the end of the season with the accession of much wet. A variety named seedling (McGregor) produces fruit similar in size to that of Ham Green but more globular, deeper, and beautifully smooth. It may be considered as a second early, and is also liable to split. For indoor work it is an excellent sort producing beautiful fruits in quantity. Similar in habit is Advancer, but the fruits are more flattened than those of the last, slightly ribbed at the base, not very numerous in the bunch but fairly distributed to the top of the stems. The leaves are much curled, like those of Ham Green Favourite. To the above may be added Blenheim Orange for the sake of variety, but it requires to be grown under glass to bring out the agreeable flavour in perfection for which it is noted. It bore a very fair crop, but is liable to splitting which soon spoils the flavour.

The free setting and early ripening qualities of Horsford's Prelude would lift it into the front rank

as an outdoor Tomato, provided it had been larger. The fruits are small, globose, smooth, four to eight of usable size in a bunch, and the bunches are produced freely to the top of the stems. Tennis Ball is an equally early and free setting kind with larger, globular fruits about the size of a tennis ball, but the quality is inferior, inasmuch as there is scarcely any characteristic flavour at all. The plants well laden with fruit have, however, a fine appearance.

The leaves of Champion are much wrinkled but otherwise flat, deep green and very distinct. The fruits are of large size, smooth and of excellent flavour, with a solid and juicy flesh, including numerous but very small seed cavities. The colour not being of the popular scarlet or crimson red militates against it in the public favour, although we feel certain it is merely ignorance or prejudice that is the ruling motive in its disfavour. The stems are short jointed and bear with considerable freedom considering the large size of the fruits. Italian Wonder might find a place amongst outdoor Tomatos on account of its free fruiting nature and its earliness. The fruits are similar to those of the old Chiswick red, but their dull red hue is against them for commercial purposes. Earliest of All is evidently a selection or a seedling from the Large Red, and like that it crops fairly heavily, although the plants here showed nothing extra. That might be accidental as only a few plants were grown. The fruits begin to ripen moderately early.

To the above may be added a number of varieties, some of them very old or even ancient, and which may be regarded as Tomatos of fancy on account of their small size, variation in shape and colour. They are also recommendable for outdoor culture on account of their earliness in ripening, and as a means of supplying variety on the table of private gentlemen, but for commercial purposes the most of them would be comparatively worthless on account of their diminutive size, and because they would fetch but a small price in consequence. One of the best of them is Golden Nugget, with small, globular, bright yellow fruits shaded with golden amber on the exposed side. It is certainly pretty, very early and fruits freely with six to sixteen fruits in a bunch. The flavour is unimpeachable, but the flesh is rather thin and of a clear yellow. The Yellow Pear-shaped is wrongly named as the fruits are oval or Plum-shaped, about the size of a pigeon's egg, bright yellow, free and early. The Pear-shaped is a bright red or scarlet variety, free, early, and very ancient but small. The Cherry Red has small, globular red fruits, very freely and early produced. The peculiar livid colour of the Peach Tomato tells strongly against it with the public, but the quality does not altogether warrant this prejudice. The fruit is globular and downy on the surface like a Peach, hence the name. It produces a fair crop out of doors. The Yellow Plum has small, shortly oblong, smooth, clear golden-yellow fruits, tapering slightly upwards, and crops fairly well.

Another series of varieties may be mentioned as more suitable for indoor culture than any of the above on account of their lateness. Some of them are widely recognised as of first-class importance under glass. Foremost amongst these may be placed Perfection. Out of doors it crops only moderately, producing a few huge fruits that are liable to spilt and decay before attaining maturity; by the time they commence to ripen there our climate is too wet for them. Perfection Surpasse is a Continental variety similar to Perfection, but ripening rather earlier in the open ground, with a fairly good crop, and wonderfully free from splitting. In a fine season it might succeed in the open air, but not otherwise. A fair crop is produced by Gilbert's Surpasse, but the fruits are liable to split. It resembles Ham Green Favourite both in fruit and foliage. The same might be said of Sensation, but the fruits are larger and the crop moderate. Indoors it would no doubt do better; it a fine looking fruit. Closely allied also is Clibran's Tomato, but the plants fruited better all along the stems. A heavy crop was produced by Challenger, but the deeply globose, bluntly angled, and crimson-red fruits are liable to split towards the end of September. Sutton's A1 is similar to Ham Green Favourite, but has larger fruits and crops well, but is too late for outdoor work. Regina may be placed in the same category as the last, but it ripens slightly earlier.

Market Favourite is a variety which seems to be an improvement upon the old Large Red, and of the size of Ham Green Favourite, without the refinement or smoothness. It crops heavily but is rather late out of doors. As is well known the Mikado has the objectional soft pinkish red colour, and is thereby prejudiced with the public, but that is gradually being overcome. The huge fruits are, however, unsuited for outdoor work. That named Northern Beauty is much in the same style as McGregor's Seedling, but the fruit is not quite so shapely and the crop last season was only moderate. The fruits of Volunteer are of great size, in fact too big for outdoor culture, and closely resemble those of Perfection. It crops only fairly in the open ground.

The larger fruiting yellow varieties do not as a rule give much satisfaction out of doors. Blenheim Orange has already been mentioned, but to obtain its desirable flavour we would recommend that it be grown against a wall, or, failing that, to be grown under glass. Of the yellow varieties at Chiswick this year the surest and safest yellow for outdoor work is the small fruiting Golden Nugget. The fruit of Large Yellow is of medium to small size, smooth and golden yellow, but the crop was only moderate. The fruit of that named A.B.C. is very large, ribbed and liable to decay by holding moisture at the base, and the crop was only fair. Golden Sunrise produces huge, flattened, nearly smooth, bright yellow fruits, but only a few of them with one to four fruits in a bunch, and variable in shape. Somewhat similar is Golden Queen, but the fruits are smaller, the medium sized ones being smooth and the large ones ribbed at the base.

Two other varieties complete the list of those grown at Chiswick in the open air. One is Highbury Prolific, with medium sized, broadly oblong, smooth or slightly ribbed, bright scarlet fruits. The crop was fair and ripened moderately early, but as there was only a few plants it is hardly possible to speak definitely of its value at present. The other is Invicta, notable for the huge size of its flattened and slightly ribbed crimson-red fruits, but rarely more than three of them are produced in a bunch. We consider that all the large fruiting varieties should be grown under glass if they have qualities to recommend them. They are too liable to split during wet weather, and ripen too late in all but the most favourable seasons to ensure success or profitable culture out of doors in our climate.

LILIES AND THEIR CULTURE.

(*Concluded from p.* 130)

Culture in Pots.

Though Lilies are comparatively easy to grow outside, to do them well in pots requires some care in potting and unremitting attention during the growing season. A good compost that suits nearly all Lilies is composed as follows: three parts peat, two parts loam, one part leaf-soil, and one part of sand and small pieces of charcoal. These ingredients should be thoroughly well mixed and all worms carefully removed; the leaf-soil employed should not be too old. The use of small pots is not to be recommended. The 5-in. size is, except in the case of very small bulbs, the smallest permissible.

Old cinders that will pass through a half-inch sieve, but will not pass through a quarter-inch sieve, form an efficient drainage. On this put about 2 to 3 in. of compost, according to size of pot; whiteu with silver sand, press the bulb gently into it, and fill up with compost till the top of the bulb is only just visible; but unless there is at least 1½ in. clear space between the compost and the top of the pot start afresh with one of a larger size. Fill the pot up with cocoanut fibre, and stand in a cold frame on a hard bottom to exclude worms. When the frame is full put about 2 in. of fibre over all. Both compost and fibre should be used in a nice moist state. Do not water unless absolutely necessary, and ventilate freely. About March the fibre should be removed carefully, when, if the bulbs are doing well, the roots will be found running up into it. These roots should be carefully covered with a light top-dressing of loam, leaf-soil, and old Mushroom-bed manure in equal parts, with a little sand.

As the stems appear and begin to throw out roots they should be encouraged by top-dressings of the same mixture. Lilies in pots should at all times be treated as hardily as possible, or the stems will draw up weakly, but at the same time frost must be carefully guarded against. As soon as all danger from the latter is at an end the pots should be placed outside on a hard bottom. The pots themselves and the first foot of the stems should be shaded from the sun, as Lilies are very liable to a disease generally known as sunstroke, for which there is no cure, but prevention. From May onwards the greatest care must be exercised in watering. If the soil is once allowed either to get dust dry or sodden with water, disaster is nearly sure to follow.

As soon as the pots are full of roots, weak soot or guano water twice a week will benefit both the blooms and bulbs. Nitrate of soda, at the rate of 1 oz. to the 4-gallon can, once a fortnight will put splendid colour into the foliage. During hot, sunny weather a good shower with the syringe over and round the plants will keep the foliage clean and assist the buds to swell evenly. The use of liquid manure should be continued till the stem begins to turn colour, when the supply of water should be gradually diminished, but the soil should never be allowed to get dust dry nor must the pots be exposed to heavy rain. The longer the foliage can be kept green and healthy the better the new bulb will be.

About October the bulbs should be shaken out carefully, care being taken not to break any new roots that have formed; the old roots should be cut off, decaying scales and off-sets removed, and then re-potted as before.

In gathering blooms, they should be cut separately, and not taken off with a foot or so of stem, as this weakens the bulb.

The pests that generally attack Lilies are greenfly and slugs (thrip and spider rarely trouble them); tobacco powder and hand-picking will get rid of these.

The following species and varieties may be briefly described as follows:—

L. Auratum.—The finest common Lily we have. From 2 ft. to 7 ft. high, leaves irregular, flowers from three to 100, but average five to twenty, individual flowers large, measuring from 7 in. to 14 in. from tip to tip, colour white with reddish-brown spots, a deep yellow band running down the centre of each division of the perianth. Buyers of imported bulbs should not be in a hurry to purchase. The consignments arriving here about the middle of December generally give the best results. It does well in pots and can be easily forced.

Cardiocrinum.

L. giganteum.—Stems 6 ft. to 10 ft. high, large heart-shaped leaves; ten to twelve fragnant flowers 5 in. to 6 in. long, white, tinged with pinkish-purple inside, and green on the outside. I have never seen it flowered in a pot. The flowers usually hang down. Slugs are particularly fond of this variety. The bulb is very large and takes four or five years to come to flowering size. It will stand more feeding than the generality.

Eulirion: funnel shaped.

L. longiflorum.—One foot to 3 ft. high; leaves scattered; fragrant, white funnel-shaped flowers, one to eight in number and 5 in. to 7 in. in length. An early Lily excellent for forcing, but is liable to be cut by frost in open ground.

L. Harisii.—The best Lily known for forcing purposes. It much resembles longiflorum, but grows taller, has more and larger flowers, and these have the divisions of the perianthe more turned back. Not for open.

L. Wallichianum superbum.—A magnificent Lily, but little known, 4 ft. to 6 ft. high; flowers large, fragrant, creamy-white in colour, with a greenish-yellow tinge on the inside. It is a late bloomer and more suited for pots than the open ground. It produces bulbils in the axils of its leaves, all of which will become flowering bulbs in the third year if taken off and potted up in light, sandy soil.

L. Krameri.—A very distinct Lily, stem very slender; flower solitary, of a delicate pale pink tinge. Quite hardy.

L. candidum.—The well-known white, sweet-scented garden Lily. It differs from most others in that it should be planted in August as it sends up tuft of radical leaves which remain green all the winter. The flower stem not appearing till March it can be easily forced.

L. WASHINGTONIAN.—A very fine Lily, leaves in whorls 3 ft. to 5 ft. high; flowers, white, fragrant, with a few lilac-coloured spots, twelve to twenty in number, about 3 in. long. It requires more peat in the potting compost. Quite hardy.

ARCHELIRION: OPEN FLOWERED.

L. TIGRINUM SPLENDENS.—A late-blooming improved form of the ordinary Tiger Lily, which it resembles exactly except that it has from six to twenty flowers which are larger than the type, and more profusely spotted. Hardy.

L. AURATUM PLATYPHYLLUM.—Like the type, but the flowers are of greater substance, the divisions of the perianth are broader, and the spots not so marked.

L. RUBRO VITTATUM.—Resembles the type, but the yellow band is replaced by one of deep claret colour,

L. SPECIOSUM.—The three finest forms of this are Kratzerii, Melpomene, and rubrum cruentum (macranthum). These so far surpass the ordinary rubrum roseum and album that no one who had seen them would ever trouble to grow the latter again.

ISOLIRION: ERECT FLOWERED.

L. CROCEUM.—The ordinary yellow garden Lily.

L. UMBELLATUM.—Reddish-orange.

L. ELEGANS.—Venustum, apricot; maculatum, dark blood-red, spotted darker; Prince of Orange, golden-yellow, black dots.

MARTAGON.

L. CANADENSE.—Two feet high, leaves in whorls, bulb rhizomatous, one to four flowers, nodding, about 2 in. long, red or orange-red, spotted claret; does best in peat, three bulbs to a 9-in. pot, well drained.

L. PARDALINUM.—Bulb, short rhizome, 3 ft. to 4 ft. high, leaves in whorls, flowers three to six in number. about 2 in. long, orange or red with dark spots. Peat, 3-in. to 9-in. pots.

L. SUPERBUM.—Rhizomatous, 4 ft. to 6 ft. high, leaves in whorls, flowers six to twelve to twenty, nodding, 3 in. to 4 in. long, bright orange with red markings and claret coloured splotches. Peat.

L. HUMBOLDTII.—A grand Lily, 4 ft. to 5 ft. high, leaves in whorls, flowers six to twelve to thirty, 3 in. to 4 in. long, bright orange red with claret coloured splotches and dots, with red anthers. This is one of the finest Lilies grown when well established, but it seldom does well the first year; sandy peat suits it well in a rather shady situation. Does not do well in pots.

L. MARTAGON is well known, but L. Martagon album is very distinct, bearing fragrant white flowers.

L. HANSONI.—A distinct variety, leaves in whorls, 3 ft. to 4 ft. high, flowers 2 in. long, four to ten to thirty in number, orange with a reddish tinge, dotted with purple on lower half; the segments are very thick and waxy. The best of the Martagons; bulb like tigrinum.

L. MONADELPHUM.—A magnificent Lily from 2 ft. to 5 ft. high, leaves scattered; from two to twenty fragrant flowers, from 2 in. to 3 in. long; a marked feature of this variety is the crimson anthers contrasting well with the black spotted lemon yellow flowers. Very variable.

L. TESTACEUM.—An absolutely indispensable Lily, 4 ft. to 5 ft. high, many leaves, which stand straight up, long, near the base, and gradually getting shorter towards the top; flowers three to ten in number, 3 in. across, pale apricot when first open, gradually darkening to rich apricot, smelling strongly of Honeysuckle; good for pots and forcing; more loam in compost.

L. LEITCHLINII somewhat resembles colchicum, 2 ft. to 3 ft. high, rather thin stem, brown in colour, and often covered with down; flowers few, lemon yellow in colour and scritless. Won't do in pots as stem often runs underground for a foot or more before it ascends.

L. BATEMANNIÆ.—From 3 ft. to 4 ft. high, leaves alternate, flowers four to eight in an umbel, nearly cup-shaped, rich orange-apricot, unspotted; intermediate in form, between Martagon and elegans.

L. PYRENIACUM FLORUM.—A small martagon-like flower, lemon yellow with dark spots, strongly scented. Very early and will grow anywhere.

L. CHALCEDONICUM.—Martagon flowers, few in number, but very distinct as to colour, only rich red unspotted variety known, 3 ft. to 4 ft. high. Grow anywhere when well established.

A SELECTION OF THE BEST TWELVE LILIES.

BEST TWELVE.—Candidum, testaceum, auratum, chalcedonicum, Humboldtii, longiflorum, Washingtonianum, tigrinum, Kratzerii, rubrum cruentum, superbum, Melpomene.

Or the preceding twelve and these twelve for a selection of twenty-four:—

Croceum, elegans (in variety), Syontyianum, pardalinum, umbellatum, canadense, Martagon, Martagon album, Hansoni, Batemanniæ, giganteum, Krameri.

For pots the following are suitable:—

Pyreniacum, Leitchlinii, Platyphyllum, rubro vittatum, Parryi, Brownii, candidum, testaceum, auratum, Melpomene, Kratzerii, rubrum cruentum, tigrinum, longiflorum, Harrissi, Wallichianum, elegans (variety), Washingtonianum.

THE VEGETABLE GARDEN.

Forcing Rhubarb for Quality.

THE system mostly adopted in order to secure a supply of Rhubarb at an early period of the festive season, is that of placing covers over strong and well prepared crowns forming plantations in the open quarters, and building over them a sufficient quantity of fermenting materials to maintain the requisite temperature, and the result so far as weight and appearance are concerned is in most instances satisfactory enough. Regarding flavour or general quality, however, my experience coincides with that of those cultivators who, contrary to the finding of others, have been most successful in securing excellence in quality from the produce of roots placed under glass where sun and air has free access to the plants. So marked have I known the difference of samples in this respect, that some years ago in early spring, on two consecutive occasions, I sent two dishes of the same variety Victoria to table, forced under the two methods referred to. The set of plants under glass were placed as near the roof of a low pitched structure, a maximum of light being thus afforded them. Soon afterwards I was told that the house-grown Rhubarb was of unmistakably superior flavour to any that had been obtained from plants forced outside, although it was not previously known that both samples were forced under different conditions.

To those who have the convenience for forcing Rhubarb under glass there is the additional advantage of being to some extent independent of sudden weather changes which often lowers the temperature of the heating materials employed in forcing out of doors, thus disappointing the expectation of the grower in securing an extra early gathering. For the earliest dishes, from the 23rd to 31st December, we have found it a suitable time to introduce good roots of such early sorts as Linnæus or Prince Albert to the forcing house about the 11th November, maintaining the night temperature at from 55° to 60°. Abundance of moisture should be afforded as soon as the crowns have started.—*M., Ayrshire.*

The Mushroom House.

THIS house will now require constant attention, and the beds should be made up as fast as the materials can be obtained, if space is available. The horse-manure should be placed in an open shed, in a layer about 18 in. deep, and be frequently turned to prevent over-heating. When a sufficient quantity is obtained, and in good condition, the beds can be made; as to when the manure is in a fit state can best be told by experience. It must have already heated sufficiently to take away the strong heat, say for about a fortnight. The beds should be made about 1 ft. thick at the front and sloping to the back, and rammed as firm as possible.

The newly-made bed will soon be found to be heating, and should be tested with a stick pushed into it, or a proper thermometer kept for the purpose, which is much better. If in a few days the heat becomes steady at about 90° it can be spawned. This is done by placing pieces of spawn about 2 in. square just under the surface of the manure, and about 9 in. apart each way. If the day after spawning, the heat of the bed does not rise, cover it with about 3 in. of good loamy soil, which should be beaten down with the back of a spade and slightly wetted to make the surface smooth. The bed can be covered with a little hay to keep it from drying, as it should not be watered for about five weeks after spawning. If after spawning the bed should begin to lose its heat too soon; it should be covered with a foot of short litter to help to keep up the temperature. At the end of five weeks the covering should be removed to inspect the bed; if the mushrooms are coming only a thin covering need be left on, and if dry in any part it must be slightly watered, with tepid water. The temperature of the house should be maintained as near 55° as possible, and the house and beds should be kept regular both as regards temperature and moisture.

Water the beds as little as possible, but throw water on the floor and syringe the walls to keep the atmosphere moist as required. If this is attended to very little direct watering will be necessary. I believe one cause of failure is not spawning the beds soon enough; it is surprising at times what a lot of heat spawn will stand without injury, and at the same time I have seen beds give good crops that have had very little heat in them at all.—*G. H. S.*

New Peas.

SINCE the advent of Duke of Albany and Telephone, I do not consider that we have made much advance. True there are enthusiastic hybridists whose motto is "Excelsior," and all honour to them; but I fear their enthusiasm oftentimes carries them too far. I am very partial to Peas with haulms ranging from four to six feet in height, yet for obvious reasons we cannot wholly dispense with dwarfer sorts, as gradations in rods, exposed situations, narrow borders, and even celery ridges have to be studied in the economy of the garden. The following varieties have been grown these last two seasons, and, pitted against good standard sorts, have not shown much distinctive merit:—Early William, Prima Donna, Oracle, Celebrity, Colossus, Ambassador, Sensation, Victor, The Stanley, and Exonian. The two last named were the best of the set named, but the finest new Pea in my estimation is The Daisy. The haulm is only from two to three feet high, but yields a profusion of remarkably long, blunt, straight pods. The slats also are filled to compression with eight to eleven large deep green Peas of fine marrow flavour. It appears to me to be an improved form of Stratagem. —*B. L., Lindley, Nov. 1st.*

Potatos.

THE past season has been one of the worst on record, in the north, for producing Potatos of fine quality. Disease has been bad and the tubers generally have been watery and deficient in flavour. On high and dry sandy soil the results are somewhat different, but even then complete satisfaction has not been given by the much-valued tuber. The Irish system of "lazybed" cultivation has its advantages when seasons are cold and damp, as the past has been. I have seen remarkably fine Potatos in Ireland (even in low damp situations) grown on the system indicated. I have never attempted it in England or Scotland, but would be glad to know if others have, and with what results. Among the best late Potatos I have seen this year for good crop, quality, and size of tuber, nothing beats Magnum Bonum.—*Stirling.*

Tomato—the Peach.

To those who enjoy Tomatos in the raw state, the variety named The Peach is a thing of beauty and a delight to the palate. The round, medium sized fruits are borne in clusters of fine weight, and in colour they resemble a peach, hence I presume the name. Good examples have a rich downy appearance, and the flesh is very solid.—*B. L.*

SCOTTISH NOTES.

ROYAL HORTICULTURAL SOCIETY OF ABERDEEN.—The annual meeting of the members of this society was held in the Music Hall Buildings, Aberdeen, on Saturday evening, 29th ult. Lieut.-Colonel Crombie, chairman of the acting directors presided, and there was a large attendance. The chairman, in submitting the annual report, said that the financial surplus on the year amounted to £435 18s. 9d., which, added to the balance brought forward from last year, made the sum of £696 3s. 7d. at the credit of the society. He formally moved the adoption of the report. Mr. William Pyper, of Hillhead, seconded., and after an animated discussion the report was adopted. Lord Provost Stewart was re-appointed hon. president; Lieut.-Col. Crombie, chairman: Mr. Alex. Robson, vice-chairman; and Mr. A. M. Byres, secretary and treasurer. The hon. directors and acting directors having been appointed, the proceedings closed with a vote of thanks to the chairman.

FLORICULTURE.

Auriculas.

It is only an accident, common to seedling plants of all kinds, and no peculiar weakness in those of the Auricula, that some we love die young. There are delicate constitutions that no culture can invigorate; hence no grower is ashamed to own to losses which all his care could not prevent.

As to the question what effect decapitation would have upon shy seedlings that will not breed, it is well known that usually there are dormant eyes which the stimulus of having no head above, and some healthy roots below, will force into growth. But the seedlings I alluded to, as being unprolific for years, were those that form no eyes upon the stem that can be induced to break—though I have done what I could, short of risking the life of the plant.

To a beginner, "decapitation" may be rather a severe and misconstructible term. If it is desirable that the head should live, it must not be cut out of the foliage like the heart of a cabbage, for there would then be no neck left ripe enough to root. But if the operation means cutting off the top of the plant below all the leaves, and a few vigorous main roots, then it amounts to little more than the customary practice at repotting time, which is rather a cutting off of tails than heads, the plants being started afresh, with only the last twelve months length of stem, which will include all the most active parts.

I am sorry that there is yet another misconception of "R. D." as to the ways and means of the Auricula. "If we cannot distribute offsets of new seedlings, will we not shed abroad our best new seeds?"

We are asked to consider the fat packets of choice Carnation seed, and the generous distribution thereof, while we are keeping Auricula seed papers full of possible treasure much to be desired, and that might be shared.

Let me show how far such comparison holds good, and the vanity of it! In no one season have I been able to save more Auricula seed than could be piled upon a shilling. All my seed of 1891 would have lain upon a sixpence. The seed of 1892 would barely have covered the face of a threepennybit. Where is the spare packet?

Mr. Simonite's corresponding harvests have been even less than mine. For obvious reasons we have set for seed only our very best flowers; we want quality before quantity, and have often had no returns. With every care and advantage, Auricula seed will be ever an uncertain crop. I mean seed of high parentage.

In successful years, and otherwise, the pains taken may have been just the same, but results are irregular, sometimes past accounting for.

Some varieties are most difficult to obtain seed from; and in them all, the organs of reproduction seem very susceptible to injury and checks for a plant that is so hardy.

No one, I may assure "R. D.," should be unable to save Auricula seed while Mr. Simonite can. I doubt if anyone has disadvantages equal to his in the very town of dark, and dewless, sulphureous Sheffield—or if anyone has more than the equivalent of the otherwise occupied time that he has.

We both have a good deal more to do with flowers than the growing of Auriculas. Then April days are long!—sunrise before five, sunset after seven, and the side-lights late and early.

The flowers of the Auricula are not like the herdsman's "*incerta vacca*," nor even as the Carnation blossom, in which the anthers of the day have lost their pollen by the sun is high. I have fertilised Auricula flowers any time between 4 a.m. and 8 p.m., and I have done it by candle-light. Can anyone never have a few spare minutes in such a glorious spread of lenthening daylight for this light work?

"R. D." speaks of an "Auricula ring," and of "a monopoly." There is neither the one thing nor the other. There could only be a monopoly if we had patents and injunctions and such-like pleasant and inexpensive restrictions against anyone but ourselves saving Auricula seed.

But, as I said before, "there is no chance in raising seedling Auriculas that has not lain open to all growers," and I have advocated the raising of seedlings as a most interesting, and, as it may prove to be, the best way of enriching a collection—till other new sorts can be had.

As to certificates I do not care for them, and it is long since I presented a plant for one. A good Auricula does not need one. Let it speak for itself. It will.

The real "Ring" I rather think may be considered that formed by self-exclusion by those who prefer to stand aside from seedling work, or are damped by early disappointments, and who either may or may not feel troubled because they cannot enter into other men's labours.

The natural difficulties in the way of this are called "the vested interest in Auricula culture rearing itself to oppose the general good"! Such words are at once strong and weak. Some of us raised Auricula seedlings when there were no shows to show them at, and would continue the work though all the shows fell through. "The general good" in "R. D.'s" estimate is to "let well alone," and try for nothing better. Have as near as possible a level, uniform and stagnant. Suppress and tax enterprise. Let a man spend years over the improvement of his flower, and obtain something fit to carry all before it, but stop it more or less of its full honours.

I say that even such tactics would deter no true florist from his pursuit, but this is the first time I have heard them spoken of as conducive to the general good of either the Auricula or of those that take a genuine interest in it.

"R. D." has taken into account neither the exigencies of the case with the Auricula, nor what is due to superior flowers and the labours of those who produced them. He looks to the prizes rather than to what wins them.

Besides all this he writes as though only two or three were raising seedlings, and as if these few composed that vicious circle "The Ring." The fact is far otherwise. More and more growers have entered upon seedling work, and new seedlings will be well-marked features, more successful or less, in many collections.

However, might there not be, as "R. D." suggests, a protected class formed, in which only old sorts should compete?

Yes! Just as in the Royal National Tulip Society there was once an easier Twelve than the Royal Twelve Dissimilar. It was contended that for the smaller owners a Twelve, from which powerful collections would be distincted or diverted, would be only a fair protection. So a class demanding only nine dissimilar varieties was set up.

Does "R. D." know what the result was? This—that instead of being sought as a refuge for the the weak, it came to being pluckily looked upon as an inferior thing; and that easier class of protected Twelves eventually sank or was withdrawn for want of interest and support.

In Tulips, I did not show in Twelves till I could face the Twelve Dissimilar. That was the answer of the smaller Tulip growers.

It may be that nothing short of some similar test would settle the cognate question as regards Auriculas. But nevertheless, in culture of any florist flower, the true florist spirit is the same throughout; and any protected class will be escaped from as soon as possible. This ought so to be. The impress of its status should wholesomely affect "all who enter here." Not that they should "all hope abandon," and stay there for ever, but that they should long and strive to be in the forefront of the battle, even though they cannot at once be in the front rank.

I am sure that some have such thoughts as these uppermost in their pursuits of floriculture, and feel the pleasure, desire, and instinct, of trying to improve their pet flower. Let it not be thought that I am adverse to anything that would be for the good of the Auricula, and tend to its wider culture; but I cannot too strongly deprecate any attempt to check the new seedling in its career of promise.

And although it is not discouraging, it yet is somewhat curious to feel that we are reading, between such lines as "R. D.'s," something akin to gloom and sadness over the successes of Auricula seedlings. The wail is somewhat of a new thing. No distant echoes of such a cry have come down to us from other days.

Our fathers rejoiced to see a better thing than the best there had been heretofore. They gave it place and honour, and got it when they could, "R. D."! We live in days that, despite all difficulties, are brighter in some ways than those were. I have known, even of flowers that were in commerce, the names and sources of supply denied to the enquirer, and the molehills of culture made mountains high. I would not say it was the spirit of the age, but that spirit was in the age.

Now am I glad that "the string of adjectives" fell harmless as to "R. D.'s" head. I daresay they would, since that was not the object I aimed them at; but I did "heave rocks"—as they term it across the "Big Sea-water"—at a scheme for excluding new seedlings from all open competition—and my words were as the lightness of pumice stone to granite blocks for what such schemes are worthy of. There must be new seedlings, and those seedlings must rank by their deserts high or low; and their reputation, to be worth anything, must be won against all comers new and old.

Think of the carter and his wheel, although "R. D." maintains that "there is no evidence to prove that he did not try his hardest to get it out of the rut before he appealed to the gods for assistance."

Why! there is every evidence to show that he did not try beforehand.

If a push did it after his ungranted prayer, a push would have done it before. And he need not have prayed at all. Eh? "R. D."!—*F. D. Horner, Burton-in-Lonsdale.*

A Blue Carnation.

The realisation of a blue Carnation, unless it be a dyed or stained one, is evidently as far distant as it was seventy or eighty years ago, both on the continent and in this country. Several amateurs and others imported Carnation seed from Germany about that time, and one exhibitor showed a batch of flowering plants raised from an importation of seed, on the 21st July, 1818, at a meeting of the London Horticultural Society. They were chiefly yellow ground Picotees marked with various shades of crimson, scarlet, purple, slate, and black. These facts show that the modern grey, slate, and heliotrope coloured Carnations or Picotees are nothing new. It has been remarked by several correspondents that there is no real blue in any of these so-called blue varieties. The microscope reveals the true state of matters as pointed out by Mr. Geo. Chaundy at p. 81. The way that Nature dishes up her colours has the effect of making things appear different from what they really are—to all intents and purposes producing an optical delusion.

I recently examined one of these grey or slate-coloured Carnations, and which was variously striped or flaked with scarlet. The colours are entirely confined to the epidermal cells of both surfaces, and which are specially developed for the display of colouring pigments. The cells of the upper surface are of large size, and ovoid or egg-shaped with a broad base, and the upper and bluntly pointed end projecting considerably above the surface of the petal. The cells of the lower surface are also large but more nearly globular, and the colours here are less intensified. Those of the centre of the petals are small and wholly devoid of colour. The scarlet stripes are due to orange-yellow colouring matter diffused throughout the cell sap and the other contents. The cell sap of the grey portions is in most cases quite clear, though sometimes slightly clouded with pigment. The characteristic appearance is due however to a single large pigment corpuscle chromoplastid) at the base of the cell, rarely in the middle. Sometimes there are two smaller chromoplastids, rarely three of different sizes and all smaller than the solitary one. These bodies are globular, solid, and of an intense, rich purple, but giving the petals a grey or slate colour by their being seen through a considerable depth of clear cell sap and the colourless cell wall. The satiny lustre of these flowers is due to the epidermal or pigment cells being elevated in the form of blunt cones above the general surface. The velvety gloss of the Pansy is due to the same fact.—*J. F.*

The National Auricula and Carnation Societies.

The supporters of the Auricula and Carnation Societies met at the Horticultural Club on the 26th ult., on the occasion of the annual meetings of each. Mr. Martin R. Smith presided, and there was a small attendance. These two societies are the Siamese twins of the horticultural world. They coalesce at certain points and are separated at others; and, though the business of both is transacted by

the same body, the finances of the two societies form the basis of separate annual statements. The annual report of the Auricula Society referred to the increasing interest felt in that beautiful and fascinating flower, tbe brilliancy found in the alpine varieties appearing to bit the popular taste. No doubt one grey-edged Auricula looks exactly like another to the uninitiated—the same with the white edges and tbe greens—and tbey fix upon tbe selfs as those wbich most appeal to tbeir admiration. One can quite understand why unenlightened ones should think there is quite enough of green in the leaves without having any in the flowers, and therefore they turn to the alpine sections, where the marked contrast between the golden centre and the vari-coloured margins to the flowers naturally attracts. The report admitted that the alpines, with the brilliant and striking fancy Polyanthuses and Primroses made up the leading features of the show. New varieties of all sections were produced, notably of the alpines. The classes for species of Primulas were well filled. The report appeals to members to assist the society by competing, or, if they do not compete, by sending contributions not for competition.

The Carnation report was cast in a buoyant tone, for the society has issued a manual on Carnation culture, and mainly tbrougb the exertions of tbe president a large accession of members has taken place. Tbe report praises tbe show held in July last as one of the largest and best ever seen, the exbibition of border types being particularly good. The self and fancy varieties and yellow grounds increase rapidly in numbers and also in the estimation of the public. The "Carnation Annual" was sent gratis to all subscribers of the society of 10s. and upwards. Tbe cost of publishing the annual was borne by the president, and be has also distributed seeds of Carnations from fertilized flowers among tbe members.

The balance sheet of the Auricula Society showed that the subscriptions amounted to £64 11s., and the prizes paid to £65 8s. 6d. so tbat tbe year is closed wi h a deficit. In point of members the society appears stationary. On tbe other hand the Carnation Society has increased largely, ninety-four new members having been added during tbe year. The annual subscriptions amounted to £134 1s., the prizes paid came to £78 14s., and a balance is carried forward of £65 16s. 5d. In addition there is a reserve fund of £40.

Sir John Llewelyn, Bt., was re-elected President of the Auricula Society, and vice-presidents and committee were re-elected and added to. Mr. M. R. Smitb was re-elected president of the Carnation Society, and vice-presidents and committee also with additions. Tbe scbedules were revised and the Carnation one added to in a large degree. The Carnation Society being now so ricb in funds it is a pity it cannot get away out of the dungeon-like Drill Hall at Westminster, to some place wbere tbe surroundings and ligbt are more in harmony with the exbibition, but it seems so bopelessly wedded to the R.H.S. Everyone who bas had experience of the Drill Hall must admit tbe force of tbe Rev. F. D. Horner's description of it in the GARDENING WORLD of a fortnight ago as a dismal place for a flower show. The matter of the judges at both shows always, an unsatisfactory arrangement, was also gone into. The exhibition of the National Auricula Society will take place on April 25th, and that of the Carnation Society on July 25th.—*R. D.*

THE VARIEGATED HOP.

THERE are only two known species of Hop, the common and well known Humulus Lupulus, a native of the temperate parts of Europe, Asia and North America. The other one, generally known as the Japan Hop (H. japonicus) in this country, is a native of China and Japan and was introduced as recently as 1886. The foliage is similar to that of our native species, but finer and more beautiful, the leaves being deeply and sharply five to seven-lobed, and serrate. It is more amenable to different methods of treatment than the common Hop as it can be raised from seeds and grown as an annual for covering bowers, trellises, summer houses, verandahs, fences, poles, or in fact in any other way which may suit the convenience or the fancy of the cultivator. It grows with great rapidity, and is therefore bound to become popular when it gets known to the general public.

HUMULUS APONICUS VARIEGATUS

A beautiful variegated form (Humulus japonicus variegatus) has already made its appearance in the nursery of Herr Frederick Roemer, seed grower, Quedlinburg, Germany, and is put down on his list of novelties for next year. He sends us a photograph of a plant grown upon a tall pole, from which our illustration was prepared. He states that 80 per cent. of tbe seedlings come true from seeds. We have also received some of the variegated leaves tbrougb tbe medium of an amateur friend, who has seen the plants in Germany. In the earlier stage the leaves are of a light yellow, irregularly splashed and blotched with light green and dark green, the two tints of the latter being quite distinct, with several shades of difference between them. As the leaves get older, the yellow gives place partly to a paler yellow, but more extensive ly to a silvery white. Many of the leaves are also wholly yellow, or wholly white, according to their age. It is almost certain to become a garden favourite.

NOTES FROM PENNSYLVANIA.

I HAVE read with a great deal of interest tbose articles that have appeared from time to time in your columns, like volcanic outbursts, on the status of the gardener, and especially your editorial of a few weeks ago. Througb it you sbowed each one of us that only by conscientious application to duty and aspirations to a higher intellectual life can we raise ourselves above the ordinary unskilled labourer.

I once cberished the idea of a vast union of gardeners; then for all hands to strike and win what we as a body deserve, higher wages, a limited number of hours of toil, and fortnigbtly payments in preference to monthly, etc. But my faith in unionism is sbaken. Since I came to the United States I bave seen strong, flourishing unions tbe cbief inciters to bloodshed, lawlessness, and misery. I have seen those unions, wben Wealtb became the aggressor, broken up like some old hulk, and to-day scarce a vestige of them remains. To-day in tbis country non-union labour is more eagerly sougbt after, aye, and higher wages paid to it than to members of labour organizations, whose dictation as to how this world shall work is growing arrogant and insufferable. We cannot all be great, but let all who can or will snatch every spare moment for study, to strike out into tbe world of science, literature, and art, and out tbrough the world itself and see wbat it is doing. By doing so you will reacb a broader and a higher status, and you will soon find yourself the possessor of more buman intelligence than have half a-dozen every-day grubbers.

A man who can work with both brain and hand will always have enough to do with the highest remuneration, and in this Republic there are centuries of work for such men. Vast prairies, wooded valleys, and rugged mountain sides bave yet to be turned into smiling gardens and pleasure grounds. The gardener of tbe Old World has done and is doing noble work to make this world the new. His thorough practical training in the gardens at home place bim far above the native gardener. But we all need more brains with our work.

We are enjoying the Indian summer at present. The days are pleasantly warm and the nights cool, a relief from the torrid beat we had to submit to tbis summer. The forests are in a blaze of colour of every hue. Tree trunks clad with Japanese Ivy (Ampelopis Veitchii) now turned from green to vermillion are certainly grand. The meadows are simply painted with Golden Rod. Tbe Grape crop has been heavy, tbe berries large with excellent flavour. Tbe weatber was dry witb plenty of sun-

shine during the ripening period. Tomatos are still ripening abundantly on the vines. Egg plants are still plentiful.

The thermometer touched freezing-point for two nights on the beginning of October, and a cold wave may be looked for at any time. Chrysanthemums and Cosmos make the garden gay these fall days. Pot-grown Chrysanthemums are housed and promising well. The bulb season is now upon us.—*Jas. S. Reid, Ashbourne, Pa., U.S.A.*

VIOLETS.

In a pit where a mild warmth was provided from fermenting materials five or six weeks ago, a plantation of Marie Louise Violets was shortly afterwards made, which has now commenced to flower, and the plants give promise of a large crop of blooms. The bed consists of two sets of plants. One of these sets are from stubby pieces which were detached from large clumps which were pulled to pieces early in May, the others being propagated from trimmings removed from plants in October, 1892. The latter were dibbled thickly into a seed-pan, where they remained till they were full rooted. In May last a bed of good soil was prepared for them on a border with an eastern aspect, in which they were planted about a foot apart each way. These have turned out to be equally as good plants as those obtained by division of the roots and much more floriferous.

Most of them I noticed early in September had started flowering in the open. A third set of plants which were planted late in May with but few rootlets—and would during a warmer season have made good flowering plants—have made little headway and will have to be used as stock plants for next season. If a grower were restricted to one variety, the selection of Marie Louise would not disappoint him if ordinary attention is bestowed on its cultivation, and a little artificial heat is at command during the winter and early spring months.—*M., Ayrshire.*

THE EARWIG.

"The earwig is not a pleasant creature, and everyone hastens to kill it when he sees it. But, according to Professor Glaser, the earwig is a great aid to the gardener. With its slender body it penetrates everywhere and extirpates the pupæ of the worst destroyers of fruit by sucking out their contents. It hunts for the pupæ of all kinds of moths which make havoc among our corn and fruit crops, and finds them out in their remotest recesses within the plants, the old berries, the flowers, and so on. Instead of trying to protect their Stocks, Carnations, and Dahlias from the earwig, the gardeners ought to protect the little insect and put planks and mats on the ground, that it might creep underneath during the day."

The above paragraph, culled from a weekly newspaper, has afforded me some anxiety inasmuch as I have always considered the insect in question to be one of the worst enemies of the gardening fraternity. The damage done to Dahlias, Sunflowers and Chrysanthemums this year has, if possible, been in excess of previous seasons, the Chrysanthemum in particular exhibiting in all its deformity the result of the earwigs' depredations.

That this insect is one of the most destructive to the buds and flowers of certain plants I have no manner of doubt—the lantern has demonstrated that; that our "friend" is also carnivorous I am perfectly assured, but that he is to be placed in the same category as the ladybird or the rove-beetle, I never before suspected. That, however, the earwig performs some function in the economy of Nature, besides rendering himself obnoxious to the gardener, I cannot doubt, and, possibly, Professor Glaser may be in possession of information which warrants him in arriving at the above conclusion. On the other hand it is not improbable that the Professor has been misquoted, for all the authorities I have been able to consult relegate this pest to the limbo of nuisances. In Mr. Nicholson's *Dictionary of Gardening* it is also placed amongst the harmful animals; and, at a discussion which I raised before the Ealing Gardeners' Society recently, the unanimous opinion was strongly adverse to the preservation of this little creature in any shape or form. But we may all be wrong—the gardeners may be obtuse, and Professor Glaser on the right track after all.

It is therefore with the object of eliciting more light that I appeal to the readers of the Gardening World, for I cannot help thinking that, assuming the extract to represent the Professor's view, there is, at least, a modicum of truth contained therein. I am aware that the British Museum is enriched with something like 200 species, mostly unnamed, which would imply that naturalists have not as yet given very close attention to the genus Forficula. The number of species indigenous to this country is the mystic one of seven, but only one, for all practical purposes, is involved in this litigation, namely, F. auricularia. There is also, I believe, much foolishness disseminated in respect to the popular name which has no affinity to the human ear—except in so far as the expanded wings do resemble that organ—but is a corruption of *ear-wing*. Any information which will lead to the discovery of virtues not generally attributed will be thankfully received by many, including *C. B. G., Acton, W.*

MICHAELMAS DAISIES IN POTS.

Although not an entirely new feature, it cannot be said that Michaelmas Daisies or perennial Asters are very frequently seen in pots. When well grown however they are exceedingly neat and pretty. Pots have a dwarfing effect upon them, especially if the pots are small and if they are grown on from cuttings taken in the spring. This method of treating Chrysanthemums is of course well known, as well as is the case of certain other plants which need not be mentioned here. Mr. Norman Davis, of Lilford Road, Camberwell, has been making experiments with a considerable number of species and varieties in his nurseries this year, and sees ample room not only for continuing his experiments but of greatly improving upon those of the present year. All the cuttings were put in about the end of April, and when rooted were grown on singly, some in 48 and others in 32-size pots; but he says that all can be treated in this way and grown on in 60-size pots. To produce bushy stuff, however, he says that he would place two rooted cuttings in a 48-size pot or three in a 32-size pot. They only require one shift from the small pot, and can be stood anywhere out of doors until they are coming into bloom.

For those who like Asters it is difficult to state with certainty which is the best where many really fine things claim attention. Many are inclined to think that Aster Amellus, or its variety A. A. Besarabicus, is *par excellence* the choicest and best of all Asters. They would probably be of the same opinion, if they saw the plant in pots. Mr. Davis has some in large and some in small pots, the former being about 18 in. high with a broad spreading panicle of bloom, while the latter are only 6 in. to 8 in. high and extremely pretty with their large blue-purple heads of bloom. Altogether different in type is A. diffusus horizontalis, about 16 in. high with pyramidally branching stems, and myriads of purple and white rayed flowers. Much in the same way is A. vimineus, with small white flowers forming elegant and graceful sprays. Owing to its peculiar habit, A. multiflorus is not so suitable for pots as the last two, but the small white flowers are very profuse Quite a pigmy is A. dumosus, forming globular and compact masses of white bloom, on a bush 4½ in. to 7 in. high and 4 in. to 6 in. across.

There are several first class blue kinds including the popular A. Novi-Belgii densus, 12 in. to 15 in. high, and forming a dense panicle of bright blue flowers. A. N.-B. Robert Parker grows about 2 ft. high and has large, mauve-coloured flowers. A. Novæ-Angliæ pulchellus is considered by many as one of the best of the tall-growing varieties. In pots it varies from 15 in. to 24 in. high, and produces large, blue-purple flowers in quantity. Under ordinary conditions A. acris is a dwarf growing kind, but there are several varieties of it in cultivation differing in the size and colour of the blue flowers as well as in the height of the stems. The tallest form with the largest and brightest flowers is the best for pot work, as its large panicles are most effective.

It is astonishing how dwarfing the effect pot culture has upon A. Novæ-Angliæ and its varieties. In the open border they grow 4 ft. to 6 ft. high or more, but cuttings in pots flower freely and earlier than they would otherwise do at a height of 18 in. to 2 ft., forming long racemose panicles. The flowers of the variety rubra are of a deep purplish-red, while those of roseus are of a warm rosy colour, and perfectly charming. A. lævigatus is a choice and floriferous dwarf subject under ordinary border culture, but it is even dwarfer in pots, say 12 in. to 14 in. high, and forming a suitable companion for A. Novi-Belgii densus, similar in height but different in colour, the flowers being of a beautiful shade of rosy pink.

A. cordifolius elegans takes rank with A. vimineus for the grace and elegance of its numerous small, blush or pink coloured flowers. The leaves are heart-shaped and therefore quite distinct from those of the others, and the branching stems are slender and twiggy. Another sort named A. paniculatus blandus has much branched and bushy stems with very numerous white flowers. A. incisus, variously known as Boltonia incisa and Calimerus incisa, has blush white flowers of good size, produced on long footstalks, but they are not sufficiently numerous to be effective for pot work. The most effective and handsome perhaps of all the white varieties is A. Novi-Belgii Harpur Crewe, which owes its peculiar beauty to the size, number and purity of its white flowers. Like all other Asters when grown in pots, it keeps its freshness best when put under glass in a cool house, just as the flowers are opening. They are thus made secure against the bad effects of pelting storms of wind and rain as well as atmospheric dirt. Out of doors is a bed of the finely branched and twiggy A. ericoides, with small white flowers and numerous miniature leaves resembling those of a Heath—the latter fact suggesting the name. The plants had been in pots but were transplanted for the sake of filling the bed and taking away its bareness by the lifting of something else. The plants are only 15 in. to 18 in. high and very bushy.

CELERY-GROWING IN FLORIDA.

For several years a small quantity of Celery has been grown for the supply of the great tourist hotels of Jacksonville and St. Augustine, and good prices have been obtained for it, especially in the first years of the undertaking. As high as one dollar a bunch was frequently received for it in February and March some years ago, but lately the acreage has been increased, so that 85 cents a bunch has been about the best price obtainable in Jacksonville and Atlanta, the price dropping to 35 cents in April and May. It has been found that about 25 acres would supply the demand in the two cities named. This year two or three venturesome growers have dared to offer Florida Celery in New York in competition with the famous article from Kalamazoo and other points, and these offerings have been well received. Some of the earliest shipments sold in New York for 6 dollars a case—about 60 bunches—and from that price down to 4 50 when it arrived in good condition, and much less when in bad order. Shipments by all-rail express have gone through in good order, but some that were sent in steamer-refrigerators spoiled.

B H. Alden, of Lawtey, Florida, sows his seed in midsummer. To protect it from the drenching rains and hot sunshine of the summer "rainy season" he sows it in beds sided up with boards about a foot high, on which coverings can be laid. After making the surface very fine and smooth he sows the seed, and does not cover it with earth at all, but spreads gunny-sacks over it and sprinkles them twice a day. The beds are covered up dark and tight, and this gives a warmth which germinates the seed in about three days. It would require ten days or more to sprout it under ordinary methods and conditions. As soon as the seeds begin to sprout, the gunny-sacks are removed and placed on the boards covering the beds. During the day the ends of boards are lifted here and there to give the plants air.

In this way Mr. Alden secures an almost perfect stand of Celery. To protect the plants against vermin, chiefly flea-beetles, which are thick, he sprays the beds with a strong infusion of tobacco. The plant tops are snipped off now and then with a sickle or with shears, to make the plants grow stocky, and a thousand or more seedlings are removed and potted for several weeks.

For his earliest crop Mr. Alden transplants in November. To prepare fertilizer for his beds, he has several tons of muck from a Cypress swamp dug and dried. With this he heavily litters his cow-stalls. This is stirred occasionally to make it absorb

all fertilizing elements and mix them thoroughly. With a mass of this, measuring perhaps 5 cords, he mixes 200 lb. of Florida soft phosphate, and firms it down with water in which has been dissolved 25 lb. of high-grade sulphate of potash. It is allowed to heat somewhat two or three times, to destroy germs and seeds, but not enough to "fire-fang" before it is turned. This compost is strewn liberally in the furrows, and the plants are set above it in rows, about 4 ft. apart.

Cultivation and bleaching go on here much in the same fashion to which the northern reader is accustomed. Mr. Alden tried some stiff paper cylinders over a few plants, but their effect was not satisfactory, and he soon abandoned it for the banking system. His soil is a stiff, heavy sand—locally known as "flatwoods"—with a very slight inclination to the east. There is a subsoil of clay about 18 in. below the surface, that retains water and fertilizer well. This sand can be shaped up stiff and strong, almost like iron-moulders' sand in a foundry. The banks reach almost to the top of the spade-handle, and run nearly to a feather-edge on each side of the plants. When smoothed and firmed with a spade they will turn water like a roof.

The variety most grown is Boston Market. It was ready for use in January, and we ate it for three months fresh from the beds. Some of the stalks were bleached 18 in., all were crisp, nutty and free from rust. A neighbour who did not use any soft phosphate, and whose plants did not grow so thriftily, had some rust. I have seen Kalamazoo Celery in Jacksonville markets that was decidedly more rusty than Mr. Alden's crop.

There is plenty of good Celery-land in the flatwoods and hummocks of Florida, but the flatwoods land needs to be carefully selected to avoid iron-stains. This, I think, would make the Celery-stalks rusty.—*Stephen Powers, Braaford County, Florida, in "American Gardening."*

CELOSIA PYRAMIDALIS.

This is perhaps one of the finest flowering plants for autumn decorative work that we have, its brilliant red and yellow flowers forming quite a pleasing contrast to the dark, dull days of autumn. For grouping in conservatories, corridors, and staircases, they have perhaps no equal at this season, and when used in close proximity to the electric light the effect is very striking. They are plants of easy culture, and for autumn work the best way is to grow on plants that have flowered in the summer. As soon as the summer flowering is over, which will perhaps be about the end of July or the beginning of August, the plants should be cut back and repotted, those that have flowered in 48's should be potted on into 32's, and those in 32's shifted on into 24's or 16's, but it is not advisable to overpot them, as they occupy too much room in staging.

The compost that suits them best is a mixture of good loam and leaf soil with manure from an old Mushroom bed, or dry cow manure broken up very fine, with a fair sprinkling of sharp silver sand, and the whole well mixed up. When potted they should be plunged in a sharp bottom heat and the syringe freely used among them to keep down thrip and red spider, two pests they are very susceptible to. They will soon begin to make new growths and the plants begin to develop a neat pyramidal form, and are not so straggling as plants raised from seed at this season.

They should be gradually hardened off as the flowers develop themselves and are not only ornamental but exceedingly useful when arranged either by themselves or mixed with Chrysanthemums. They well repay the trouble taken when treated in this way, and are indispensable to those who have to provide a great variety of plants for decorative purposes at this season of the year.—*H. W.*

WHAT IS IT?

The query of your correspondent, on page 130 of the Gardening World, is one which has perplexed the minds of many, both amateur and professional. All who own gardens, and especially all who grow Chrysanthemums, know too well that other insects besides the earwig have been at work amongst their favourite flowers. The experiences of Mr. David Hull are common to the gardening craft, and the destruction which is perpetually going on in the vegetable world, by these plant parasites, can only be effectually counteracted by stringent measures—extra vigilance. The lamp by night and the watchful eye by day, will work wonders; and, although this involves much labour and does not commend itself to everyone, yet it is the only way I know of to ensure success. The frog-hopper (Aphrophora Spumaria) is not difficult to recognise or to exterminate, and the editorial remarks thereon are very *apropos*; but the other insect (Lygus campestris), which would pluralise the query, is less better understood. As an amateur grower of the plant which he is specially and particularly fond of, viz., the Chrysanthemum, I have, like Mr. Hull, observed his remarkable agility, and I think, although we do not know much about him, that, at least, we have got a *casus belli* against him. I have consulted an F.L.S., a friend of mine, on this subject more than once, and at last he promises to take action, which, if of a reassuring character, shall be communicated to the Gardening World.

The subject of insect life in relation to horticulture is occupying a good deal of attention, and independent of its practical value to the gardener, trains the mind to make the most minute investigations. The mischief, however, is done for this season, for October is a great decimater in the insect world, therefore it remains for us, the sufferers, to use our experience of the past in the direction of more systematic effort in the future, to consolidate our knowledge of what has transpired towards that consummation which we all devoutly wish for—comparative immunity from all the ills that *cellulose* is heir to.—*C. B. G., Acton, W.*

GARDENING MISCELLANY.

CROWN OF THORNS.

The above is another name given to Calvary Clover, the Medicago Echinus of botanists. Now and again the seeds or fruits get into the hands of amateurs in this country, and who are perfectly ignorant of the nature of the plant or its requirements; hence many inquiries are made respecting it. The plant itself may be compared to a dwarf creeping species of Clover, with small and by no means showy flowers. It is represented in this country by several wild or naturalized species, which never excite any curiosity, but three at least of which are of some importance as fodder-producing plants. The most generally cultivated species is M. sativa, with rather showy heads of blue purple flowers succeeded by twisted or curved pods. The fruit of M. Echinus undergoes a considerable amount of twisting, and like several other exotic species then becomes an object of great curiosity. In this particular case it is many times twisted, till it forms an oval mass about the size of a small Gooseberry, and densely covered with short interlacing spines; hence the application of the name Crown of Thorns. The leaves consist of three leaflets, each of which is furnished in the centre with a bright purple blotch, fancifully compared to a spot of blood. From this circumstance, as well as the native country of the plant, the name of Calvary Clover has been derived. The plant may be grown as an object of curiosity during the summer months in the open garden, saving the fruits in the autumn, and sowing the seeds under glass in spring, to get the plants fairly into growth before planting them out in May. We recently saw a plant in a pot with pendent stems 2 ft. long, and bearing a few fruits, in one of the houses in Dulwich Park. Somebody had obtained it as a curiosity, and not knowing how to deal with it, left it in the care of the superintendent of the park.

TREE PANSIES.

Many, or indeed the bulk, of the cultivators of Pansies, either for exhibition or bedding purposes, would laugh at the idea of staking them. Nevertheless there are several of the bedding varieties, sometimes spoken of under the name of bedding Violas, that are well adapted for the purpose, and if treated in that way would be productive of a somewhat novel effect as far as Pansies are concerned. I planted a mixed lot of bedding Violas about the beginning of June, and some plants of Columbine refused to throw up suckers, and this they persistently refused to do all through the season. As the primary or original stems continued to flower as freely as ever and to elongate I staked them to prevent them falling over on something else. Had I pegged them down, no doubt suckers would have arisen. They continued to elongate, and after a time developed a shoot at every joint, and these shoots in due time also commenced flowering. At the present time the main stems are 20 in. to 22 in. high, so that the shorter branches give the plants a pyramidal outline. The free flowering and continuous nature of this variety may be conceived from the fact that the plants commenced to bloom soon after being planted, and still bear a few flowers, while they have never at any time been without a few, and kept quite floriferous up to the end of September. The plants are in a sheltered position near some shrubs, but with exception of staking have received no special treatment. There are others which would behave in the same way, including York and Lancaster and Lucy Ashton, both sports from Columbine, and probably several others.—*J. F.*

HORTICULTURAL SOCIETIES.

Royal Horticultural, *Nov. 1st.*—The exhibits at the meeting on Tuesday last were not very numerous, but the groups or collections were mostly of some size. The more prominent features were Nepenthes, Orchids, Chrysanthemums, Begonias, Bouvardias, some vegetables and fruit. A large collection of Nepenthes was exhibited by Messrs. J. Veitch & Sons, Chelsea. Some of the pitchers were of huge size, particularly those of N. Chelsoni, N. Burkei excellens, N. Hookeri, and N. Rafflesiana. Those notable for colour included N. Mastersiana, of which there was a dark and a light variety, also N. Curtisii superba, and others. A Gold Medal was awarded the collection. A group of Bouvardias was exhibited by — Morgan, Esq. (gardener, Mr. J. McLeod), Dover House, Roehampton. The brilliant scarlet President Cleveland was very conspicuous in the group, and to a smaller extent President Garfield and Alfred Neuner. A Silver Banksian Medal was awarded the collection. A group of winter-flowering Begonias, including Duchess of Connaught, pink and white, Crimson Gem, rosy-carmine, Reading Snowflake, white, and Princess Beatrice, blush, was brought up from the gardens of the Royal Horticultural Society at Chiswick. They were grown in 24 and 32-sized pots and were characterised by their dwarf and bushy habit. A small collection of various stove subjects was also shown by Messrs. J. Veitch & Sons, including Begonia barbata and Pandanus Baptistii. Fine trusses of Ixora macrothyrsa were shown by Mr. R. Mackellar, Abney Hall Gardens, Cheadle. Rhaphidophora lancifolia was exhibited by Lady Cave (gardener, Mr. Poole), Cleve Hall, Downend. A fine truss of Hoya imperialis was shown by Mr. F. W. Moore, of the Glasnevin Botanic Gardens, Dublin. Some stands of Chrysanthemum blooms were exhibited by Messrs. H. Cannell & Sons, including a stand of twelve blooms of Viviand Morel of huge size and in some cases richly coloured, but variable, also twelve handsome blooms of Col. W. B. Smith, a flowering branch of Golden Ball, and a new incurved variety named Mrs. H. W. Goulden, of a uniform delicate silvery-pink. An incurved and somewhat hirsute Chrysanthemum named Bellamour, and a Croton named Beatrice Horsfall were staged by Mrs. Horsfall (gardener, Mr. Morrall), Bellamour, Rugeley, Staffs. A small group of Chrysanthemums including Mademoiselle Nathilie Brun and Emily Doon, was shown by Messrs. J. R. Pearson & Sons, Chilwell. Some shoots of various trees and shrubs were shown by Mr. Anthony Waterer to illustrate the effect of the autumn colouring of the leaves. Some Nerines were shown by Sir Trevor Lawrence, M.P., Bart. (gardener, Mr. Bain), Burford Lodge, Dorking. Some cut blooms of Chrysanthemums were exhibited by Mr. H. J. Jones, Ryecroft Nursery, Lewisham, including a large flowering variety named W. H. Atkinson. A perpetual flowering Carnation named Barrone Rothschild was shown by Lord Rothschild, Tring Park, Tring.

A large group of Orchids was exhibited by Messrs. B. S. Williams & Son, for which a Silver Flora Medal was awarded. Prominent in the collection were varieties of Cattleya labiata, Oncidium varicosum, Pleione lagenaria, P. maculata, and various others. Some Nerines were also shown in this collection. A Silver Banksian Medal was awarded

to Messrs. F. Sander & Co. for a group of Orchids. A raceme of Angræcum caudatum carried seven fully expanded flowers. A fine piece of the new Cymbidium hybridum Winnianum carried five racemes of bloom; and Cattleya labiata Sanderæ was also very pretty and delicate. Some flowers of Lælia elegans excellens were shown by T. Statter, Esq. (gardener, Mr. Robert Johnson), Stand Hall, Manchester. A small group of Orchids was also exhibited by Messrs. Hugh Low & Co., Clapton, including fine pieces of Vanda cœrulea and Cattleya labiata vera. Spathoglottis Veillardii rubra was sbown by Sir Trevor Lawrence, Bart., M.P. Messrs. Charlesworth Sbuttleworth & Co., Clapbam, exhibited a fine piece of Miltonia Bluntii Lubbersii in bloom. Cypripedium Arthurianum pulcbellum, Cattleya leucoglossa, and Dendrobium Stratius, all hybrids, were shown by Messrs. J. Veitch & Sons.

Some prizes were offered for Chrysanthemums, but the competition was very poor. The first prize for a collection was awarded to L. J. Baker, Esq. (gardener, Mr. T. Osman), Ottershaw Park, Cbertsey. Mr. G. Wythes, Syon House, was second. The first prize for 12 new Cbrysanthemums was awarded to Mr. J. Douglas.

At a meeting of the Fruit Committee a Bronze Banksian Medal was awarded to Mr. T. H. Crasp, Canford Manor Gardens, Wimborne, for a collection of Apples, all of which were highly coloured. Two baskets of highly-finished bunches of Gros Colman and Alicante Grapes were shown by Mr. W. Iceton, Putney Park Lane, Roehampton, for which he rereceived a Cultural Commendation. A similar award was made to Mr. R. Milner, Penrice Castle Gardens, Swansea, for some very large Onions. A small collection of Turnips, and a much larger collection of Savoys, was brought up from the Society's gardeus at Chiswick.

CHRYSANTHEMUM SHOWS.

Kent County.

The Kent County Chrysanthemum Society is one of the most prosperous around the great metropolis. It holds its shows in a commodious structure, the Skating Rink at Blackheath, it brings together annually an admirable show, and lacks nothing on the score of local support. The show held on Tuesday and Wednesday was hardly up to the usual standard, the competition all round being slacker, owing to the scarcity of open blooms in so many collections. For the season, however, it was distinctly good, and the honorary secretary, Mr. H. J. Jones, and his committee are to be congratulated on doing so well under very trying circumstances.

The leading exhibitors were Mr. Whittle, gardener to C. H. Goschen, Esq., Ballards, Croydon; and Mr. Leadbetter, gardener to A. C. Hubbuck, Esq., Chislehurst, both of whom were fortunate in being able to stage such grand blooms as they brought forward. Mr. Whittle was 1st for 36 Japanese and incurved varieties, being very strong with tbe former but not so good with the latter as the 2nd prize winner, Mr. Leadbetter. For 24 Japanese, Mr. Whittle also came in 1st, showing splendid examples, among others, of Col. W. B. Smith, Jeane Delaux, Mdlle. Marie Hoste, Gloire de Rocher, Avalancbe, Miss A. Hartshorne, Louis Boehmer, and Irving Clarke. Mr. McKenzie, Linton Park, Maidstone, came in a good 2nd. Mr. Whittle, among otber awards, also took the 1st prize for 6 blooms of Viviand Morel, with large and well coloured blooms, among which was one of great beauty, whicb was proclaimed the best "Jap." in the sbow.

In a competition with 6 Japanese, any variety, Mr. Rowbottom, gardener to H. R. Williams, Esq., Hornsey, secured all three prizes with very fine stands of Sunflower, W. Tricker and Puritan; and he also had the best 6 incurves in fine examples of Madame Darrier. In a fine bloom of this variety was found the best incurved flower in the exhibition Mr. McKenzie, Linton, had the best 12 Japanese; Mr. Leadbetter, the best 12 incurves; and Mr. J. B. Wheadon, Bickley, the best 12 blooms of varieties of the Rundle family. The best examples of Avalancbe came from Mr. J. Hewett, Hillside House, Hythe; and Mr. Dobson, gardener to F. P. Preston, Esq., had the best group of Chrysanthemums; and Mr. Lyne, Foxbury, Cbisleburst, bad the best group of stove and greenhouse plants, including a beautifully bloomed specimen of hybrid Rhododendron. Mr. H. J. Jones contributed a fine group; and welcome contributions of fine foliaged plants came from Messrs. E. D. Shuttleworth & Co. Interesting collections of fruit and some admirable bouquets, added much to the general attractions of the exhibition.

"AMONG THE MOUNTAINS."

On Monday evening, Oct. 24th, Professor W. Hillhouse (from Mason's College) gave a most interesting lecture before a large meeting of the members of the Birmingbam and Midland Counties Gardeners' Mutual Improvement Association. The chair was taken by the president, Sir Thomas Martineau. The accomplished botanist and lecturer, in introducing his subject, "Among the Mountains," said it was not so much his purpose to describe and expatiate upon mountain scenery as to attempt to demonstrate the near and strong resemblance, if not always exact identity, between species of alpine plants extending over especially the mountainous ranges in various parts of Europe and Nortb America; a fact he felt justified in assuming which went far to prove tbe theory entertained by geologists of, probably myriads of years past, the undivided connection of continents at tbe present time separated by oceans now hundreds of miles in width. Formerly the geologist was almost alone in propounding such a speculation, until the sister-science, botany, asserted her claims to attention in this respect. As illustrative of the power of alpine plants to preserve their characters over long periods of time, the Professor incidentally enumerated a few genera and their species, such as Draba confusa, or incana, Potentilla, Ranunculus, Gentiana, Rosa, and in particular the alpine species of Saxifraga. Reference was also made to the wonderful faculty of the seeds of some kinds of plants to preserve their vitality for ages at certain depths in the earth whilst in a dormant state, and when turned up and exposed to increased heat and light, presented a species previously unknown to the district. Regarding the operations necessary to effect the evolution of the "tropical" and "glacial" period, he would leave it to the astronomer to elucidate. In reply to one of the members present as to when we might expect the next glacial period, the Professor said he would not attempt to speculate. He would, however, venture to assure the querist, by way of consolation, that the present houses in Birmingham would have long ceased to exist ere the return of that period. After recommending the gardeners present to make the science of botany an especial study, he concluded an eloquent and most interesting verbal lecture, which secured the rapt attention of all present.

Tbe President, in moving a hearty vote of thanks to Professor Hillhouse for his interesting and instructive lecture, remarked that to bimself it had proved additionally pleasurable, inasmuch as he had had the honour of accompanying the accomplished lecturer on a lengthened visit to Switzerland, and did not fail to notice the earnest research of the Professor amongst the mountain flora. He also paid, in complimentary terms, a high tribute to the intelligence and ability of the gardeners with whom it had been his pleasure to come into personal contact.

Mr. John Pope, in seconding the vote of thanks, expressed the great pleasure with which he had listened to the eloquent and suggestive remarks of the lecturer, and which was rendered tbe more so by the fact tbat only recently he himself had visited and admired the grand scenery and interesting flora of the Swiss Alps. He must confess, however, that it had not occurred to him to contemplate the subject in the theoretical and speculative deductions so cleverly advanced by the Professor.

The vote was carried with acclamation, and the proceedings were concluded by a vote of thanks, moved by Professor Hillhouse, to Sir Thomas Martineau for his genial conduct in the chair, as well as for the great interest be had ever evinced in the welfare of the association. Mr. W. Latham, Curator of the Birmingham Botanical Gardens, in seconding the proposition, alluded in felicitous terms to the disinterested motives which had ever actuated the chairman in contributing liberally towards the well-being of the association.

At the close of the lecture considerable interest was shown by the members present in several specimens of a newly designed flower vase, patented by the inventor, Mr. W. Charles Laight, of Redditch, and who by the way is the inventor of two or three otber useful commodities. The vases vary in size from three to five inches in diameter, and the two larger sizes are embellished with an elegantly designed floral band about two incbes wide, surrounding the upper portion of the vase in a rich cream coloured ground and afford a pleasing contrast with the rich brown glazed surface of the vase, the inside of which is not glazed. The smaller sizes are not thus ornamented nor glazed, but have a pretty inter-embossed band imprinted upon tbem; provision in these latter is made for the attachment of three small brass chains for suspension. The chief feature, however, of the invention, consists in the novel and decidedly useful permanent attachment of tbe saucer to the vase; provision has been made, in addition to the usual hole at the bottom of the vase, for the egress of the water into the saucer; the utility of the saucer fixture is self-evident, and especially is it a boon in the suspending vases, besides adding to the virtues of tbe whole. Altogether the invention might readily command itself to public attention.—*W. G.*

FRUIT NOTE.

Apple Red Ribbed Greening.

Apparently this is only a local Apple confined to the south-west of England. It was exhibited at the National Apple Congress at Chiswick in 1883 by an exhibitor from Exeter, and we recently received a fruit of it to name from the neighbourhood of Gloucester. It was described at the Congress as a large conical Apple, angular, green, and flushed with bronze. The specimen we recently had was bluntly five-angled, greenish-yellow on tbe shaded side, thinly suffused with red and splashed or striped with red; but on the sunny side it was more heavily suffused with red, splashed and blotched with brigbt red. The closed eye was set in a shallow basin. The flesb towards the end of last month was yellow, soft, sweet, somewhat brisk, but pleasant eating. Tbis unusual quality might have been due to differences of soil and exposure so that the fruit got thorougbly ripened upon the tree. The more highly coloured condition of the fruit would give indication of better ripening.

ORCHID NOTES AND GLEANINGS.

Dendrobium ciliatum.

Comparatively seldom do we see tbis species in cultivation, and more rarely is it honoured witb a coloured illustration. There is, however, a full-sized figure of it in the *Orchid Album, pl.* 454. It may be described as one of the miniature species, with pseudo-bulbs varying from 4 in. to 18 in. in length, but according to our knowledge of it more often about 6 in. It is, however, greatly a question of culture. Tbe flowers are produced in drooping racemes from near the top of the young and still leafy stems, and generally measure about an inch in diameter. The sepals and petals are of a pale yellowish-green. The three-lobed lip is of a more decided yellow, beautifully lined along the sides with brown; tbe terminal lobe is triangular, and heavily fringed with long, brown, clubbed hairs, which give the whole flower an interesting appearance. Just as the pseudo-bulbs vary considerably in length and get strong under good cultivation, so tbe raceme of flowers varies in an equal ratio, bearing from six to eighteen flowers. For those who grow and have a liking for Dendrobiums, few more interesting little species than this could be added to a collection. Neither the size nor the colour of the flowers warrant us, bowever, in describing it as a sbowy species.

Pleurothallis teretifolia.

The species of Pleurothallis already known to science are very numerous, and still they come. Relatively very few of them are in cultivation, but many of them are certainly curious, and some interesting or even pretty. That under notice is both curious and interesting, and has been flowering for the past six weeks witb Messrs. Cbarlesworth, Shuttleworth & Co., Heaton, Bradford, and Park Road, Clapham. It was introduced by the firm from Pernambuco, Brazil, in company with Cattleya labiata. One of the striking features of the species is the terete, terminal leaf. It is not alone, however, in this respect, but we seldom if ever see any in

cultivation except the flat leaved ones. The slender stem cannot be described as a pseudo-bulb, but looks more like a leaf stalk than anything else, owing to the way the leaf surmounts it. The flowers appear to spring from the base of the leaf, and are borne in short, drooping racemes or clusters, of one to seven blooms each. The stem and leaf together vary greatly in height, say from 3 in. to 12 in., the leaf alone being 2 in. to 6 in. long. The flowers are of a deep brownish-purple, tubular, and curved, owing to the way in which the segments are connivent or drawn together. They are open at the top only. The lateral sepals are deeply concave, and the upper ones less so, but all are of a brighter and darker purple on the inner face. The whole plant is curious and pretty, lasting a long time in bloom.

Cypripedium Pitcherianum, Williams' var. The typical C. Pitcherianum was the result of crossing C. Harrisianum superbum with C. Spicerianum, but in the case of the fine variety under notice, C. Spicerianum magnificum was used as the other parent, and the progeny, as might be expected, is superior to the original hybrid. The upper sepal is green at the very base, then blotched, shaded, and veined with a rich vinous purple and pure white in the upper third. The petals are undulated on the upper margin like C. Spicerianum, and fringed with black hairs; the upper longitudinal half is brownish purple, while the lower half is greenish yellow, shaded with brown upwards, and having dark veins as well, spotted at the base. The lip is reddish brown, with a yellow edge to the pouch. The staminode is rosy purple, and green in the centre. It is of strong growth and vigorous constitution, with dark green, slightly tesselated foliage. There is a beautiful coloured illustration of it in the *Orchid Album, pl.* 453.

Cattleya labiata. Some flowers of the old Cattleya labiata have been sent us by Mr. R. Hinde, Broomfield, Sale, with whom it is flowering for the first time. The plants have evidently done well with him, judging from the size of the flowers sent, one of which measured 8 in. across the petals, while another was very little smaller. The latter was named C. l. Broomfield var., the sepals and petals of which were of a uniform warm, rosy lilac. The tube of the lip externally was similar, but in addition was striated with pale or whitish, forking veins. The lamina was of large size, roundish, deeply bifid, much undulated and crisped at the margin, and of a rich, intense purple, shaded with crimson, fading to lilac all round the margin; the side lobes on the contrary were white shaded with orange yellow towards the base and of a delicate lilac at the margin. The interior of the tube was striped with purple and white lines. The other flower was larger and a shade darker in colour all over the sepals, petals and the exterior of the tube of the lip; the lamina of the latter was equally rich as the Broomfield variety, but much less beautifully undulated and crisped at the margin. Accompanying the above was a beautiful variety of Lælia elegans, with white sepals and petals faintly shaded with blush. The tube of the lip was even purer white, both externally and internally. The anterior edges of the lip were deep purple, and the middle lobe rich crimson purple, fading somewhat towards the margin and running to the base of the tube in the form of a band. The throat on each side of the purple band was shaded with pale yellow. Taking it altogether it comes very close to the variety L. e. Schilleriana, under which many growers would classify it.

Odontoglossum ramosissimum. Cultivators generally do not take kindly to this species, probably because the flowers are small, a defect which is largely compensated for by their great number. Imagine a branching spike 3 ft. high or more, bearing 80 to 200 flowers, with beautiful wavy and crisped segments, blotched with purple or violet-purple on a pure white ground, and one gets some idea of the beauty of such a plant. Of course small specimens cannot be expected to give such results, but cultivators should first get the plant into a strong and vigorous condition before being properly rewarded for their work. We have several times seen fine specimens of this species in the nursery of Messrs. Charlesworth, Shuttleworth & Co., at Park Road, Clapham, and the other week noted several plants either in flower or in different stages of advancement.

WHAT TO DO IN THE GARDEN.

Cissus discolor.—Whether grown in pots or planted out, this climber should now be allowed to go to rest by gradually withholding water. Being of the nature of the Vine, it enjoys a rest during the winter months, and grows away with more vigour in spring when so treated. After the young shoots have got fairly well ripened they may be partly cut back, and the shoots developed in spring will be stronger. When planted out and trained under the roof, either upwards or horizontal, it is astonishing what length of shoots will be produced in a season, and the size of the leaves as well as their rich colour is ample remuneration for any trouble that may have been incurred.

Variegated Pineapple. — Occasionally this variety produces a fruit, and suckers are often thrown off from the crown. These may be taken off and rooted, as they make compact and valuable little plants for decorative purposes, lasting longer in a usable size than suckers taken off from the base of the old plants.

Billbergias and Tillandsias.--Water collects very readily in the crowns of these during the dull autumn and winter months, and to prevent the more tender of them from being rotted the plants should be gone over occasionally and the water emptied out. Less water at the roots is required in winter than in summer, but they must not be kept too dry, otherwise the evergreen leaves will suffer.

Azaleas.—For purely decorative purposes the less formal the plants of Indian Azaleas are so much the better, except when they get to a large size. Plants for exhibition purposes are much in the same position. They take up a great amount of space unless kept properly tied into shape, and that too as neatly and compactly as possible. The present is a suitable time to do it, more especially in wet weather when outdoor work is at a standstill.

Cytisus.—The common C. racemosus now so largely grown for decorative purposes in winter, must be kept properly moist at all times to maintain the health of the foliage as well as to enable the plants to throw up their flower spikes.

Bouvardias.—The plants that were taken indoors early in autumn have now taken freely to the fresh soil, whether planted out in a bed or potted up. Pot plants must not be neglected in the matter of watering; and if the plants are occasionally sprinkled overhead with the syringe they will be greatly benefited.

Selaginellas.—Several of the dwarf and dense growing kinds are very liable to damp off during winter if kept in pans or other large masses. S. apus is especially liable to this mishap, and some pots of it should be made up by pricking small pieces into pots of light sandy soil with some peat and leaf soil. The better aeration thus insured to the slender stems and leaves enables them to pass the winter in safety.

Vineries.—The earliest house may now be closed for forcing. No fire-heat will be required in mild weather for the first two weeks if the borders are covered with fermenting manure mixed with leaves. By this means there will be little difficulty in keeping up a night temperature of 50°, with a fair rise by day. On frosty nights such as have occurred lately a little fire-heat may be necessary to get the desired warmth. Look over the bunches of berries still hanging on the vines in order to remove any spoiling berries that would soon injure others. Keep the atmosphere dry and airy by the use of fire-heat. Muscats will be all the better if the temperature is kept somewhere between 50° and 55°.

Fruit trees.—Planting is now in full swing, whenever the state of the weather will permit of its being done. Wherever this is being done, however, it will be well to take care that the ground has previously been well prepared, otherwise the results may simply be dwindling and dying trees in the course of a few years. It should all be trenched at least 2 ft. deep, if the nature of the soil will permit of it, and at least loosened up to that, or even a greater depth. Unless the soil is unusually poor, no manure will be necessary for some years, except as a mulching, because young trees grow too rampantly—more especially if the soil is manured. The state of the ground as to drainage will also have to be taken into consideration, because if in any way waterlogged the trees cannot be kept in a thriving condition for many years.

Dahlias.—The recent frosts have in most localities settled the Dahlias for another season, and no time should be lost in getting them into safe quarters.

Fuchsias.—Plants that were used for bedding out are of no further service in the flower garden, and should be lifted and potted up, so that they may be stood away in some pit or greenhouse out of the reach of frost. It is the practice in some gardens to allow the soil containing the roots to get thoroughly dry. This is a mistake, as the roots inevitably get killed, and frequently the plants as well. The best plan is to stand the pots upright, as close together as possible, and to give water when absolutely necessary to keep the roots and stems alive.

Gladioli and Tigridias.—These may now be lifted and the corms stored away in moderately dry sand in a cool place, where they will not be excited into unseasonable growth. The rough scales should previously be removed when dry to render the corms less bulky.

Bulbs.—Hyacinths, Tulips, Narcissi, Crocuses, and other things of that nature should be got into the ground without further delay. The beds can all be cleared for that purpose now, as nothing of a tender kind is any longer of decorative value in any way. A good coating of old or spent hotbed manure dug into the soil would be a decided advantage to the plants in spring.

Strawberries in pots.—Those who force Starwberries in the autumn will have to be careful in the choice of a light and airy position for the plants, more especially during the time they are in flower. Vicomtesse Hericart de Thury is one of the best for autumn work.

Trees and Shrubs.—Now is the time to carry on the work of planting and transplanting of trees and shrubs. There is no great stress of work in the garden, and the recent rains have made the grounds sufficiently moist to render little or no watering necessary, except in special cases. It is a mistake to defer this kind of work till spring when so much other work calls for attention, besides the fact that a deal of watering is necessary to keep the trees and shrubs alive till they have formed fresh roots and got partly established.

QUESTIONS AND ANSWERS.

*** *Correspondents are requested, in order to avoid delay, to address all communications to* "The Editor" *or* "The Publisher," *and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed* "*Bambusa, London.*"

Lime in Vine Border.—*A Constant Reader*: When borders are made, lime in some form or other is mixed with the compost, but very seldom if ever in the form of quicklime, as that would decompose the vegetable matter in the soil at a greater rate than would be advisable. Lime rubble is the material generally used, and this is obtained from the debris of old walls and buildings that have been pulled down. This is what you should obtain and use in your border, spreading about three barrow-loads on the surface and digging it in, well mixing it with the soil.

Names of Fruits.—*Cedo Nulli*: 1, Reinette de Caux; 2, not recognised.

Names of Plants.—*Learner*: 15, Oncidium flexuosum; 17, Buddleia globosa. Send the other Orchids when in flower, and we will endeavour to oblige you. It is quite impossible to identify them by scraps of leaves and pseudo-bulbs.

Royal Horticultural Society.—*J. S. R.*: Residence in the States or anywhere else out of Great Britain and Ireland is no bar to your becoming a Fellow of this society. The subscription is one, two, or four guineas per annum, which you please, and you must be recommended for election by two present members. This we shall be happy to do for you should you wish it.

Chrysanthemums.—*G. A., Tenbury*: Etoile de Lyon, 14 ins. in diameter, is the largest Chrysanthemum bloom we have any record of, and they often come from 12 ins. to 13 ins. under good cultivation. If you have this variety, Stanstead Surprise and others of similar dimensions, you are doing them well.

Arum Lilies in Water.—*J. H.*: When the plants are resting it is advantageous to keep them on the dry side; but when they have fairly started into growth again, give them plenty of water. We have grown it in the ordinary way on staging and also standing in pans of water, and they do very well either way. They naturally grow on the margins of rivers with their roots in the mud or actually more

or less submerged in the water, so that you may safely pursue the method of growing them in pans of water if you like.

VIOLA SEED.—*R. J. K.*: Viola or Pansy seed may be sown almost at any time of the year, but you cannot expect the seedlings to make much growth after this time of the year, unless they are kept in a warm greenhouse or the weather keeps moderately mild. We should prefer keeping the seed till March, and would then sow it in a box or boxes, according to the quantity. By placing the boxes in heat the seedlings would appear more quickly; after they are up, the boxes should be transferred to cooler quarters, and ultimately to a cold frame, always keeping them close to the glass to prevent the seedlings from getting drawn. As the latter increase in size and the weather gets warmer, give plenty of ventilation. When well hardened off they may be planted out in beds sometime in May according to the state of the weather. They will commence flowering moderately early in the season and will keep on till autumn if they are not allowed to get crowded in the seed bed.

COMMUNICATIONS RECEIVED.—G. B.—J. S. R.—W. G. H.—E. S. & Co.—J. H.—G. B.—J. T. K.—A. D. W.—A. W.—P. B. W.

TRADE CATALOGUES RECEIVED.

E. D. SHUTTLEWORTH & Co., LIMITED, Peckham Rye, S.E.—Trade List of Nursery Stock.

DICKSONS & Co., 1, Waterloo Place, Edinburgh.—Fruit Trees, Roses, Carnations, and Violas.

EUGENIE GUEQUIER, Ledeberg-lez-Gand, Belgium.—Roses, Carnations, and other Hardy Plants.

LONDON SEED TRADE.

November 1st, 1892.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report that White Clover, owing to short supplies, is dearer. Red Clover has advanced owing to unfavourable weather having damaged the crop. Ryegrass crop has proved less than was anticipated, and this article is higher. Mustard scarce. Rape stead.

COVENT GARDEN MARKET.

November 2nd.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Grapes..... per lb.	0 6	2 0	Pine apples.		
Kent Cobs ...100 lb.	100 0		—St. Michael's, each	2 6	6 0
Peaches ... per dozen	2 0	6 0	Apples...per ½ sieve	1 0	3 6
Melons ... . each	0 0	0 6	Plums...per ½ sieve		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0	Horse Radish, hundle	2 0	4 0
Beans, French, perlh.	1 0		Lettuces ...per dozen	1 6	2 0
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 3	2 0
Cabbages ... per doz.	1 6	2 6	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	1 0		Parsley ... per bunch	0 6	
Cauliflowers, Eng.dz.	3 0	6 0	Radishes... per dozen	1 6	
Celery.....per bundle	2 6		Smallsalading,punnet	0 4	
Cucumbers .....each	0 3	0 6	Spinach, per strike ...	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 9	1 0
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Begonias ...per doz.	6 0	12 0	Chrysanthemum, doz.	4 0	9 0
Cyperus .....per doz.	4 0	12 0	— large, doz.....	12 0	30 0
Dracæna term., doz.	24 0	36 0	Heliotrope, per doz.	4 0	6 0
Dracæna viridis,doz.	9 0	18 0	Marguerites, per doz.	6 0	12 0
Erica Hymalis, doz.	12 0	18 0	Mignonette, per doz.	6 0	12 0
,, Gracilis, doz...	9 0	12 0	Palms in variety,each	2 6	10 0
Evergreens,invar.doz	6 0	24 0	Palms, Specimen ...	15 0	63 0
Ferns, invar..per doz.	4 0	18 0	—scarlet .....per doz.	3 0	6 0
Ferns, small, per 100	6 0	10 0	Solanums.....per doz.	9 0	12 0
Foliage Plants, doz.	12 0	60 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s d		s. d.	s. d
Arum Lilies, 12 blms.	4 0	6 0	Pelargoniums		
Asters.....doz. bun.	6 0	8 0	—scarlet.....12 bchs.	4 0	6 0
Bouvardias, per bun.	0 6	1 0	Primula, double, bun.	0 6	0 9
Carnations. 12 blooms	1 0	3 0	Pyrethrum doz bnchs	2 0	4 0
Chrysanthemum,dz bn.	4 0	9 0	Orchid Bloom in var.		
— .....doz. blooms	2 0	9 0	per bloom, from	0 3	1 0
Eucharis ...per doz.	4 0	6 0	Roses, doz bunches	4 0	6 0
Gardenias 12 blooms	1 6	3 0	Roses, yellow, dozen	2 0	4 0
Gladioli...doz. spikes	1 0	2 0	— French, per bnch	3 0	6 0
Heliotropes, 2 sprays	0 6	0 9	— French, 100 blms	6 0	12 0
Lilac, White, French,			— Red..... doz. blms.	1 0	2 0
per bunch...	5 0	6 6	— Saffrano...per doz.	1 0	2 0
Lilium Harrisii,			— Tea ..... per dozen	1 0	3 0
doz. blooms	4 0	9 0	Stephanotis, dz. sps.	2 6	4 0
Liliums var., dz.blms.	2 0	4 0	Tuberoses, per doz	0 3	0 6
MaidenhairFern,12bs.	4 0	6 0	Violets,Parme,French		
Marguerites, 12 bun.	1 0	3 0	per bunch...	3 0	4 6
Mignonette... 12 bun.	3 0	6 0	—Czar, French, bun.	2 6	3 0
Pelargoniums, 12 sps.	0 9	1 0	—Small ,, doz. bun.	2 6	3 0
			—English, doz. bun.	0 0	2 6

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FLOWER SHOWS, &c., 1892.

[*The Editor will be greatly obliged if Secretaries of societies will communicate to him the dates of their exhibitions as soon as fixed.*]

NOVEMBER.

7.—St. Neots Chrysanthemum Show.
8.—National Chrysanthemum Society at Royal Aquarium (3 days).
8.—Birmingham Chrysanthemum Show (3 days).
8.—Kingston and Surbiton Chrysanthemum Show (2 days).
8.—Enfield Chrysanthemum Show (2 days).
8.—Sevenoaks and West Kent Chrysanthemum Show (2 days).
8.—Leeds Chrysanthemum Show (2 days).
8.—Batley Chrysanthemum Show (2 days).
8.—Waterloo (near Liverpool) Chrysanthemum Show.
8.—Devizes Chrysanthemum Show.
9.—Battersea Chrysanthemum Show (2 days).
9.—Bath Chrysanthemum Show (2 days).
9.—South Shields Chrysanthemum Show (2 days).
9.—Cardiff Chrysanthemum Show (2 days).
9.—Bournemouth Chrysanthemum Show (2 days).
9.—Hornsey Chrysanthemum Show (2 days).
10.—Chelmsford Chrysanthemum Show.
10.—Birkenhead and Wirral Chrysanthemum Show.
10.—Finchley Chrysanthemum Show (2 days).
10.—Spalding Chrysanthemum Show (2 days).
10.—Tiverton Chrysanthemum Show.
10.—Calne Chrysanthemum Show.
11.—Leicester Chrysanthemum Show (2 days).
11.—Sheffield Chrysanthemum Show (2 days).
11.—Eccles and Patricroft Chrysanthemum Show (2 days).
11.—Wellingborough Chrysanthemum Show (2 days).
11.—Dundee Chrysanthemum Show.
11.—Bradford and District Chrysanthemum Show (2 days).
11.—Derby Chrysanthemum Show (2 days).
15.—Royal Horticultural Society: Committee Meetings at Drill Hall.
15.—Wimbledon Chrysanthemum Show (2 days).
15.—Manchester Chrysanthemum Show (2 days).
15.—Liverpool Chrysanthemum Show (2 days).
15.—The Hartlepools Chrysanthemum Show (2 days).
15.—Plymouth Chrysanthemum Show (2 days).
15.—Twickenham Chrysanthemum Show (2 days).
16.—Bristol Chrysanthemum Show (2 days).
16.—Hull Chrysanthemum Show (2 days).
16.—Hanley Chrysanthemum Show (2 days).
16.—Rugby Chrysanthemum Show (2 days).
17.—Edinburgh Chrysanthemum Show (3 days).
17.—Neath Chrysanthemum Show.
17.—Rotherham Chrysanthemum Show.
17.—Wantage Chrysanthemum Show.
18.—Chorley Chrysanthemum Society (2 days).
18.—Stockport Chrysanthemum Show (2 days).
22.—Dalkey Chrysanthemum Show.
24.—National Chrysanthemum Society: Meeting of Floral Committee.

DECEMBER.

7.—National Chrysanthemum Society: Meeting of Floral Committee.
13.—Royal Horticultural Society: Committee Meetings at Drill Hall.

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*** *Advertisements for the current week, and also "Stop Orders," must reach the office not later than the first post on Wednesday Morning.*

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12	Greenhouse Ferns, 6 var., including Maiden-hair	1	9
12	Maiden-hair Ferns, 12 var., most lovely kinds...	5	0
6	Maiden-hair Ferns, 4 distinct var., named	2	0
3	Adiantum Farleyense, most handsome Maiden-hair...	2	6
3	Greenhouse Asparagus plants, strong, well rooted	1	9
6	Aralia Sieboldi, handsome foliage plants, strong	2	6
3	Lydogium scandens, the pretty climbing Fern	1	9
6	Greenhouse Selaginellas or Mosses, including golden	1	6
12	Assorted Ferns for cool greenhouse without heat	2	6
3	Crotons, highly coloured, best varieties ...	2	6
3	Dracæna indivisa, about 1 ft. high	2	0
6	Large choice greenhouse Ferns, A. Farleyense tenerum, concinnum, latum, &c., 1 ft. high.	3	0
6	Fuchsias, 6 varieties, named	1	6
1	Tacsonia, 1 Hoya, 1 Solanum jasminoides	2	0
6	Primula obconica, always in flower, strong	2	0
6	Zonal Geraniums, best named varieties	2	3
6	Ivy Geraniums, 6 var.	1	6
6	Foliage Begonias (B. Rex), handsome leaves	2	0
3	Passion Flowers, 3 varieties, named	1	6
12	Tuberous Begonias, assorted colours	4	0
3	Double White Primulas	1	9
12	Gloxinias, extra fine strain	2	6
6	Cyclamen persicum, good strain	1	9
1	Stephanotis and 2 Hoyas	2	0
3	Hydrangeas Dr. Hogg	1	6
6	Heliotropes, 6 varieties	2	3

ENGLISH'S HARDY PLANTS.

6	Delphiniums, mixed colours, light and dark	1	9
4	Marguerites, white and blue, named	1	6
6	Perennial mauve Michaelmas Daisy	2	0
6	Sedums, in 6 varieties, named	2	0
6	Lavender or Southernwood, strong plants	1	6
6	Christmas Roses	2	6
12	Hollyhocks, mixed, from double flowers	2	6
6	Assorted winter-flowering Begonias	1	6
12	Sweethriars, strong plants	2	3
20	Canterbury Bells. Aquilegias, or Campanulas...	1	9
3	Large-flowering Clematis, purple, etc., named...	2	6
6	Mrs. Sinkins, new white Pink (12 for 1s. 10d.)...	1	4
12	Irish Ivies, strong plants, 2 ft. to 3 ft. high	1	9
6	Named perennial Phlox, 6 var.	1	6
6	Perennial Michaelmas Daisies, white, very large	2	0
12	Iceland Poppies, pretty perennials	2	0
12	Roses on own roots, best kinds	4	6
6	Helianthus (Perennial Sunflowers)	2	0
12	Chrysanthemums, 12 distinct varieties	2	0
12	Pansies and Violas, best named kinds	1	9
12	White Marguerites	2	6
6	Lobelia cardinalis, intense red flowers, perennial	2	0
3	Scarlet Salvias, very free flowering	1	3
6	Tritoma Uvaria (Red-hot Poker)	2	0
6	Rudbeckia Newmani, bright yellow, perennial	1	9
6	Nicotiana affinis (sweet-scented Tobacco plant)	2	0
100	assorted hardy perennial plants, named	5	0
12	Carnations, from double flowers	2	0
12	Pentstemons, assorted colours	1	6
6	Perennial Pyrethrums, assorted colours...	1	6
40	Wallflowers, blood-red, yellow, etc.	2	0
12	Wallflowers, Double German, mixed	1	6
6	Double Scarlet Geums	1	6
6	Carnations, Crimson Clove, Purity, Gloire de Nancy, etc., named	3	0
12	Perennial Gaillardias	2	
1	Tulip Tree, 1 Adiantum Tree	2	
6	Assorted flowering shrubs, 1½ to 3 ft	2	
12	Auriculas, fine plants...	1	
3	American Blackberry	1	6
6	Roses in pots, 6 varieties, named ...	8	6
3	Deutzias, 1 Passion Flower, 1 Tacsonia ...	2	0
6	Hardy Primulas, Sieboldi, cashmeriana, etc. ...	1	6

CHEAP HARDY CLIMBERS.

AMPELOPSIS VEITCHI (small-leaved V. Creeper) Hederacea sempervirens ... JASMINES, white and yellow ... HONEYSUCKLES, Dutch, Scarlet Trumpet, variegated and evergreen ... — Any 6 for 2s. 6d.
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ROSES AND VINES

In Vast Quantities, and of Excellent Quality.

INSPECTION INVITED.

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Whether for Border or Conservatory decoration "KEIR PRINCE" will certainly become a general favourite. In colour it is a rich glowing scarlet, and perfect in form.

Price, 2s. 6d. each; 24s. per doz.

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NEW CHRYSANTHEMUMS.

NORMAN DAVIS

Begs to intimate that he has among the New Chrysanthemums of the present season, several of exceptionally fine quality, including the two magnificent New Crimson Japanese

WILLIAM SEWARD AND **J. SHRIMPTON,**

The finest introductions of recent years, and which will be distributed by him during the coming Spring.

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GRAND NEW

CARNATIONS AND PICOTEES.

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Negress, dark ruby self, three F.C.C., 5/- per pair.
Goliath, largest yellow ground, grand form, 5/- per pair.
Firefly, fancy scarlet maroon, 3/6 per pair.
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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Nov. 14th.— Bulb Sale at Protheroe & Morris' Rooms (and every day in the week).
Bulb Sale at Stevens' Rooms.

TUESDAY, Nov. 15th.—Royal Horticultural Society: Committee Meetings at Drill Hall.
Wimbledon Chrysanthemum Show (2 days).
Manchester Chrysanthemum Show (2 days).
Liverpool Chrysanthemum Show (2 days).
The Hartlepools Chrysanthemum Show (2 days).
Plymouth Chrysanthemum Show (2 days).
Twickenham Chrysanthemum Show (2 days).
Sale at Barnham Nurseries, Bognor, by Protheroe & Morris (2 days).

WEDNESDAY, Nov. 16th.—Bristol Chrysanthemum Show (2 days).
Hull Chrysanthemum Show (2 days).
Hanley Chrysanthemum Show (2 days).
Rugby Chrysanthemum Show (2 days).
Bulb Sale at Stevens' Rooms.

THURSDAY, Nov. 17th.—Edinburgh Chrysanthemum Show (3 days).
Neath Chrysanthemum Show.
Rotherham Chrysanthemum Show.
Wantage Chrysanthemum Show.
Sale of Palm and other Seeds at Protheroe & Morris' Rooms.
Bulb Sale at Stevens' Rooms.

FRIDAY, Nov. 18th.—Chorley Chrysanthemum Show (2 days).
Stockport Chrysanthemum Show (2 days).
Orchid Sale at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, NOVEMBER 12th, 1892.

NEW CHRYSANTHEMUMS. — Our readers cannot have failed to note the extraordinary abundance of new varieties of Chrysanthemums brought out for exhibition this season, not a few of which have already been certificated. This much is remarked even before the great shows have been held, and it will be no wonder if the numbers already apparently so numerous be doubled or trebled before the month is out. Naturally this exceeding prolificacy in new varieties renders selection of the best a difficult process, especially for those who may not be able to see them. It will be a matter of great value if, some time after the shows are over, some one who may have been fortunate enough to have seen most of the novelties of the season, will make a special selection of say a dozen of the very best, and publish the list for the benefit of the private growers who are unable to visit the leading shows.

It will of course be folly for anyone to raise a cry against this free production of new sorts, because it would be as absurd as useless. We may find among the volume of chaff some few extra fine grains of corn, and it will be well to know which of the novelties will represent the corn. All who grow new sorts have of necessity to take a good deal upon trust. Even some of the finest and most assuredly reliable yet vary in different places. Many have to submit to severe propagation, and in such case in the hands of private growers do not reveal themselves fully under two years.

It seems almost certain if the present rate of flower or variety production goes on that we shall see our show selection, at least of Japanese varieties, changed about every five years, but a limit to size and quality must be reached some time. We seem to have touched that point long since with the incurved section, and even the wondrously varied Japanese forms will probably reach their limit some day.

Winter-blooming Pelargoniums.—We observe that the subject of autumn-blooming Zonal Pelargoniums will form the theme of a paper to be read next Tuesday at the James Street Drill Hall. The terms autumn and winter are practically identical so far as relates to these plants, for if got into bloom to produce a good show of flowers in the autumn, it is very easy, by the aid of a light, airy house, and a little artificial warmth, to have them blooming all the winter. It is a matter for surprise that whilst in many pretentious gardens houses are specially devoted to certain plants, it is rare to find one specially set apart for the culture of winter-blooming Pelargoniums.

It is not easy to have these flowering in a mixed house. Both flowers and leaves are somewhat impatient of damp. When, however, a good collection of plants is seen in bloom now or later in the winter, it is impossible to withhold from such collection a tribute of enthusiastic admiration. The change from the dull gloom and dirt, which so commonly marks gardens in the dead of winter, to a house ablaze as it were with Pelargonium flowers, in rich profusion and of the richest and most varied tints, is indeed remarkable and beautiful; and just such a show we saw recently at Downside, Leatherhead. It is so very easy to have Zonal Pelargonium plants for winter blooming that it is surprising they are not more generally found.

For the production of flowers for cutting no plants can well excel these Zonals, whether single or double. Cuttings put in early in the spring, grown on in small pots later, and shifted as needed into larger ones, the plants well exposed to light and air during the summer, kept well pinched and watered, are all easily enough produced. The pinching ceases by the end of August. Soon after the plants are put under glass for the winter, and then they bloom as freely as they may. We shall hope to see Zonal Pelargoniums in great force to illustrate Mr. Pearson's paper concerning them at the Drill Hall next Tuesday.

The Rain.—How the continuous wet days are washing out the beauty of the autumn, and rendering the conduct of needful outdoor operations practically impossible. It cannot be said that a very wet November is at all a desirable weather incident. Practically in gardening we seem always to be needing fine dry weather, and continuous rains create great inconvenience. Still, the rain must come sometime. Those who just now perhaps are finding the greatest trouble from the wet are our nurserymen and the Chrysanthemum growers. These latter are now realising that whilst a week or ten days of rain may be got over, when that period extends to three weeks, then great harm results.

Clever indeed, as well as fortunate, must be the man who can bring his fine show blooms through such a time as this in perfect safety. There are many small growers whose conveniences are so indifferent that they cannot help themselves, and have to endure the distress of seeing their best flowers damping off wholesale. Were the shows now so plentiful not of such importance to the growers, they would perhaps bear their misfortune with greater equanimity. As to the nurserymen their case is bad too, for just now, that they are flooded with orders, all requiring early execution, they find the rain a grave hindrance.

It is equally bad for planters, for on stiff soils it would be worse than madness to plant whilst ground is sodden and saturated with moisture. It is thought that this unusually wet autumn is indicative of a soft moist winter. As to that time alone will show, as with all our scientific knowledge we are yet unable to forecast the seasons. The weather seems to be as it were quite outside the range of practical science, so far as to determining its future character and conduct.

The Earlier Opening of Kew Gardens.—Now that there has been a change of First Commissioners in the Office of Works and Public Buildings, and it is known that Mr. Shaw Lefevre is not unfavourable to the opening of the Royal Gardens at Kew at an earlier period of the day than is now the case, a strong effort to keep up the old seclusion is again being put forth on the part of the botanists and the chiefs of the Kew staff, most of whom seem to be strongly endowed with the erroneous notion that Kew should be maintained for them, and not for the welfare of the nation at large.

All the assumption put forth with respect to the presumed interference of the public with the scientific work done at Kew is, to put the matter mildly, sheer nonsense. There is no work done in the open air at Kew, scientific or otherwise, that is not done in the public parks and gardens, which are open all day, and those who are familiar with Kew know that the scientific work of the establishment is carried on in places not open to the public gaze, and so far as the general public are concerned is an unknown quantity. The wail of the botanists is of the old style of the alarmist who is ever ready to cry wolf, and indeed has cried wolf so often in relation to this matter that the public are sick of it and will pay to it no further heed. The real fact is there is so much room at Kew that there is ample space for the public without disturbing the scientists; indeed, the former have not the slightest wish to interfere with the latter and could not do so if they would. All that is asked is that the gardens shall be opened to the public a couple of hours earlier than is now the case, and it can be done, if only there be the will to do it, as easily as the most trifling of favours can be granted.

To employ towards the public the term "a few nursemaids" is discreditable to say the least, but it is the superior manner of the Kew scientists to so argue. Practical common sense argument they do not comprehend. Perhaps there is nowhere to be found, on the whole, a more selfish body of persons than are those who would thus exclude the public from Kew. What holds good, if there be any force in it, in relation to the exclusion of the public for the extra two hours asked for, holds good for all day. Happily it has no force whatever. Kew Gardens are the property of the public, and the public not only have the right to them unrestrictedly but will enforce the right if stupidly opposed or refused.

The late Mr. E. G. Wrigley's Library.—A portion of the library of the late Mr. E. G. Wrigley, of Howick House, Preston, will be sold by Messrs. Sotheby, Wilkinson & Hodge on Tuesday next. It will include the *Botanical Magazine*, "Sowerby's Botany," and other important botanical works.

Floricultural Mayors.—We note with pleasure that among the gentlemen selected for municipal honours on Wednesday were Mr. Samuel Barlow, J.P., of Stakehill, Castleton, as Mayor of Middleton; and Mr. W. Herbert Fowler as Mayor of Taunton.

Sale of Masdevallias.—The celebrated collection of Masdevallias formed by the late Sir William Salt, Bart., will be sold at Messrs. Protheroe & Morris' Rooms, on Tuesday, November 29.

Dr. William Fream, F.G.S., has been appointed responsible editor of the Royal Agricultural Society's *Journal* at a salary of £500 per annum. For some years past Dr. Fream has been a valued contributor to agricultural literature of the best class, and the society is to be congratulated on securing the services of such a capable man.

Poisonous Properties of the Yew.—Mr. W. Carruthers, F.R.S., replying to a question asked by Earl Cathcart at the last meeting of the Council of the Royal Agricultural Society, as to what was known as to the poisonous properties of the Yew, and whether the trees of one sex only or of both were poisonous, said the question whether the poisonous qualities of the tree were restricted to one sex only of the plant could not be answered in the affirmative.

The N. C. S. Challenge Cups.—At the N. C. S. Show on Tuesday the Challenge Trophy, competed for by affiliated societies, was won by the St. Neot's Amateur and Cottagers' Horticultural Society, the Havant Society, last year's winners, being second. The Holmes Memorial Cups, which were on view at the exhibition and greatly admired, were won for the first time by W. H. Fowler, Esq., the new mayor of Taunton, and Messrs. W. & G. Drover, of Fareham.

Devon and Exeter Gardeners' Association.—The members of this association held a meeting on the 2nd inst., when an excellent paper was read on "How a scientific knowledge of plant life can help a gardener," by Mr. J. Stoneman, teacher of botany at the Exeter Science School. The lecture was a highly interesting one, and was rendered very intelligible by the manner in which Mr. Stoneman described the names and forms of every plant he referred to. A discussion followed.

Gardening Engagements.—Mr. William Sutherland, of Edinburgh, as superintendent of the estate belonging to C. Greene, Esq., at Eddy, New Mexico. —Mr. S. Wood, foreman at Hedsor, near Maidenhead, as gardener and bailiff to Lord Boston at the same place.—Mr. Alexander Dewar, for the last seven and a half years gardener at Falkland Palace (latterly to the Marquis of Bute), as gardener to — Thompson, Esq., Kilkearn, Maybole, Ayrshire.

Royal Horticultural Society's Meetings for 1893. —We are asked to announce that this society's meetings and exhibitions will be held as nearly as possible as follows: January 17th; February 14th; March 14th and 28th; April 11th and 25th (National Auricula Show); May 9th and 24th and 25, or two following days (Temple Show); June 13th and 20th; July 11th (Show at Chiswick), and 25th (National Carnation Show); August 8th and 22nd; September 12th and 26th (possibly a great show at the Agricultural Hall, Islington, early in this month); October 10th and 24th; November 14th and 28th; and December 12th.

The Dutch Bulb Trade in America is reported as being likely to be overdone this season. Very large quantities are being sent in from Holland, owing to the very poor season for sales in Europe. Russia, Germany, and Roumania are the countries that Holland largely depends upon as a market for her highest priced bulbs. In these countries they use mostly named Hyacinths, and of the best sorts. This year, owing to cholera, they have not taken half their usual amount, which leaves large quantities to be disposed of in other countries.

Open Spaces for London.—The Earl of Meath suggests that millionaires "who look upon wealth not so much in the light of a personal possession as a trust, and who believe that the truest happiness is to be found in using it for the benefit of their fellow creatures rather than themselves," might assist in securing for the people the following:—Alexandra

Park and Palace, 414 acres, at £275,000; the Crossbones Burial Ground, situate in Redcross and Union Streets, Southwark, S.E., and the adjoining estates, advertised for sale on the 15th inst.; the Middlesex Cricket Ground, Hampstead, N.W., 16¼ acres, at £50,000; "Buffalo Bill's" site, Earl's Court and West Brompton Stations, S.W.; and "The Copperas," Bromley-by-Bow, E., 5½ acres, at £25,000.

The Clipper Flower Cup and Tube.—Two or three sorts of cups and tubes for showing Chrysanthemums and other cut blooms came under the notice of the judges at the Crystal Palace Show last week, and one of them—The Clipper—was considered worthy of a First-class Certificate. It is certainly a neat and most effective arrangement, with the special advantage that whatever height the bloom may be fixed the stem is always in water, this important desideratum being brought about by the tube being held in position as required by a substantial clip fixed to the show board. Messrs. E. D. Shuttleworth & Co., Lim., 256, Peckham Rye, S.E., are the wholesale agents.

Woolton Gardeners' Mutual Improvement Society.—At the fortnightly meeting of this society, held on the 3rd inst., the usual routine business was varied by a lecture on "Vegetarianism," given by Mr. E. J. Baillie, of Chester. The subject was evidently a popular one judging by the large attendance and the enjoyment by the audience of the humorous thrusts made by the speaker, and by the practical illustrations given in support of his argument in favour of total abstinence from flesh eating, but none were more effective than the avoirdupois of the lecturer himself, who caused a hearty laugh when he stated that it might be something in favour of the cause if he told them his fighting weight. After the lecture questions were asked by Messrs. R. Todd, R. G. Waterman, T. Carling, Hitchman, H. Corlett, and others, to which replies were given. A hearty vote of thanks to the lecturer terminated a most instructive and pleasant meeting.

Scottish Horticultural Association.—The monthly meeting of this association was held on the 1st inst. at 5, St. Andrew Square, Edinburgh, Mr. Welsh (of Dicksons & Co.), the president, in the chair. Mr. Alexander M'Kinnon, Scone Palace Gardens, read a paper on "Conifers," in which he described the geographical distribution of the trees, and alluded to their adaptability alike for ornamental and profitable purposes. He dealt specially with Abies Douglasii as a timber-producing tree in this country, and suitable for planting on a large scale; and he also referred to various other species of Conifers which might be profitably planted in this country as forest trees. Some discussion followed the reading of the paper, and at the close Mr. M'Kinnon was awarded a cordial vote of thanks.

Manchester Horticultural Improvement Society.—The annual meeting of this society was held on the 27th ult., Mr. Bruce Findlay presiding. The secretary and treasurer's reports disclosed an augmented membership and a flourishing state of the society's finances. In spite of a handsome grant made during the year to the Gardeners' Orphan Fund, a considerable balance remained in hand. A portion of this it was resolved to apply in prizes to be awarded for the first, second, and third best essays on some subject relating to horticulture by members of the society, and Messrs. Findlay, Stansfield, and M'Keller were appointed a sub-committee to carry out the resolution. Mr. Findlay was re-elected president of the society for the coming year; Messrs. A. Stansfield, E. G. Hughes, R. Tait, and F. Robinson, vice-presidents; Mr. R. Tait, treasurer; and Mr. W. B. Upjohn, secretary, assisted by a strong committee of practical gardeners. After the transaction of business, some fifty of the members dined together in the large room of the Atlantic Restaurant. The programme for the coming session was considered a promising one. The first lecture to be delivered will be by Professor Weiss, of the Victoria University, whose subject would be duly advertised in the *Manchester City News*. Mr. Findlay will follow with a paper on Fruit Culture with reference to the Allotment System; and among other papers promised is one by Mr. E. G. Hughes, and another by Mr. R. O'Kell on the interesting subject of Shrubby Veronicas.

CHRYSANTHEMUM NOTES.

Hextable.

Chrysanthemums constitute the leading feature at present in the nurseries of Messrs. Pitcher & Manda, Hextable, Swanley, Kent, as they do at most places during November. This being the European branch nurseries of the firm, which has its head quarters at Short Hills, New Jersey, U.S.A., it is but natural to suppose that American novelties would figure largely at Hextable, as indeed they do, and some of them are grand. In the first rank we would place George W. Childs, with broad reflexed florets of an intense glowing crimson, resembling a greatly magnified Cullingfordii, and which gained the Gold Medal from Mr. J. R. Pitcher last year as the best seedling. Grown in small pots the stems vary from 2 ft. to 5 ft. high, with healthy foliage clothing the stems throughout their length. Strikingly distinct also is Robert Flowerday, an incurved "Jap.," with broad, purple-amaranth florets, tipped with green, and having silvery incurved edges. Primrose League has huge flowers of a pearly white, primrose in the centre, and quilled florets. The above, together with The Tribune and E. A. Wood, are to be sent out next year. The former was honoured with a First-class Certificate at Brighton, also at the Crystal Palace. Standing alongside Edwin Beckett, The Tribune is seen to be perfectly distinct, with broad, paler, but beautiful florets; both have the same robust habit as Avalanche. E. A. Wood on the contrary is of great size, bronzy-crimson and gold, with florets often an inch and a half in diameter when spread out. It belongs to the incurved Japanese section.

A special feature of this collection is the number and variety of the plumose section, all of the incurved Japanese type like Mrs. Alpheus Hardy. More than a dozen seedlings were raised from the latter, and no two of them are exactly alike. Miss Annie Manda comes nearest the latter, but is of better form and stronger constitution. Spartel was a cross between Mademoiselle M. Fabre and Mrs. A. Hardy, with broad, pink, plumose florets, and of good constitution. Some of the seedlings are being grown upon trial and are not yet named; some are plumose and others not, and some of them promise well. The Bronze Ostrich Plume, better known as H. Ballantine, has bronzy flowers changing to straw-yellow, and will be certain to find admirers. More decidedly handsome and elegant is the Golden Yellow Ostrich Plume (W. A. Manda), which recently received a First-class Certificate from the National Chrysanthemum Society. It resembles Ralph Brocklebank in form, but is golden yellow and decidedly plumose. Louis Boehmer is also in good form; the originally introduced plant is 3½ ft. high, and bears forty to fifty blooms. There is a sport from W. A. Manda, with perfectly smooth and flat florets resembling a yellow Lady Selborne. George Savage is a beautiful incurved and pure white Japanese sort, a seedling from Mrs. A. Hardy. In the early stages the flowers of Florence Davis are greener than the last, but it is of vigorous constitution and does well here.

Of undoubted merit is Lord Brooke, an incurved Japanese sort of fine form with bronzy gold florets tinted with red. A First-class Certificate and a special prize was awarded to Mrs. E. D. Adams by the National Chrysanthemum Society last year. It has long, tubular white florets and a full centre like a huge Meg Merrilies. Mrs. Harman Payne is another grand acquisition but varies, the crown buds being pale pink and the terminals on the same plant rich purple. Quite a curiosity in its way is an unnamed seedling bearing six flowers and exhibiting four different colours, namely, white, blush, pink, and deep purple. Very large blooms of a soft purple with a silvery reverse are produced by Robert Hamill (syn. Director Howellek). It is named after the grower, who has been very successful in growing new varieties in small pots with imperfect material and under other adverse conditions.

The finest blooms of Col. W. B. Smith we have seen were here, measuring 8 in. by 5 in. in depth, and of a golden bronze or cinnamon hue. Mrs. F. Jamieson (ref. Jap.) is one of the finest of its type among orange-bronze flowers, just as W. H. Lincoln is a favourite amongst golden-yellow sorts. Mrs. Libbie Allen is a seedling from Mrs. Alpheus Hardy, but of a beautiful clear yellow, smooth and of refined form. The old Fimbriatum, with huge pink-tinted white flowers, is still a good thing. Miss M. Colgate is a pure white incurved Japanese sort, while Mrs. A. G. Ramsey has broad crimson florets. The flowers of Eutopia are pure ivory white, and like W. Tricker and so many other sorts it belongs to the incurved Japanese section, which has been enormously augmented within the last two or three years. Avalanche and Eynsford White are also well done here, as are the incurved golden yellow Mrs. Robinson King, the beautiful large Anemone, Delaware, the single and fragrant Mary Anderson, and many others. A number of purely market varieties are also grown, including M. Hilliott, bronze, Chas. Molin, pale salmon, Ernest Bergman, lilac-pink, Mrs. Hicks Arnold, blush-pink, and L. B. Dana, orange-salmon, like a large Source d'Or.

Swanley.

Several houses are devoted to Chrysanthemums in the autumn in the nurseries of Messrs. H. Cannell & Sons, Swanley, Kent. A new house, 150 ft. long and 25 ft. wide, has recently been built expressly for the purpose of accommodating the flowering plants. Some 500 new varieties have been obtained from various sources, making the number of varieties cultivated here 1,500 in all, and about 3,000 plants are grown in pots. Considering the number of new varieties in the collection it is needless to say that all the most striking varieties are those agitating the public mind in the Chrysanthemum world.

On entering this house the first striking variety that we noticed was G. W. Childs, a brilliant variety described in the previous column. Three huge flowers of Mohawk on a plant were bronzy red on a yellow ground. Mrs. C. Harman Payne bore four huge flowers of a rosy purple on stems 3 ft. high. The number of incurved Japanese varieties that are now finding public favour on account of their size, varied colours, and fine form is something remarkable. For instance growing in close promixity to one another we noted J. Stanborough Dibbins, golden bronze, late, and 3 ft. high, with fine foliage; also Madame Ed. Rey, pink with a white centre and florets as broad as Comte de Germiny; the large Col. W. B. Smith, of a bronzy gold with its florets beautifully coiled against the direction of the sun; L'Ami Etienne, soft pink with a silvery reverse; Lilian Russell, large lilac-purple; Robert Cannell, bronze with a yellow reverse, also large; Mademoiselle Susan Biron, of the Stanstead White type with narrower and more graceful white florets, and four blooms on a plant; and Charles Bonstedt, rosy purple with white tips. Of the same type is Mrs. Philip Rider, of a bronzy hue with a yellow reverse, bearing three blooms on a plant only 2 ft. high. The flowers of Ethel Paule are pure white, of medium size and ultimately globular. Other dwarf varieties are Mrs. Jerome Jones, with large flowers, and broad florets of a pink and white hue; Vice-President Calvat, crimson with buff reverse, and any quantity of material in the centre. Coronet is bright yellow with broad florets. Amos Perry gets to a large size here and has soft yellow flowers. A singular looking flower is Abbots White, having the white florets reflexed in the early stages but incurved at the tips and ultimately becoming perfectly incurved when the centre gets fully developed.

Reflexed Japanese varieties are also very plentiful, and some of them very fine, including George W. Childs already mentioned. Here may be placed the beautiful pure white Anna Hartshorn. Large quantities of Viviand Morel are grown, and the stand of huge flowers recently exhibited by Messrs. Cannell before the public shows how it responds to good treatment, although nothing otherwise special. The orange-bronze of Mrs. F. Jamieson is certainly fine, as is the fiery-crimson of J. Blenkinsop. On the other hand Mrs. Carr Gomm is a beautiful ivory-white with curiously and irregularly twisted florets. Kentish Hero is like a soft yellow Elaine, whereas Edwin Beckett is a golden-yellow. The former is one of Messrs. Cannell's seedlings. Joseph H. White is like a broad petalled Elaine and of the same colour. The flowers of Ernest Asmils are golden-bronze and measure about 5 in. across. We have frequently seen Gloire de Rocher of a pale hue, but here the blooms are of a deep bronzy-red and very attractive.

Whether Florence Davis will ever become popular or not remains to be seen, but its constitution is certainly good, and the flowers ultimately become of a

beautiful ivory-white. Harry Balsley is a white variety shaded with pink, while Il Trovatore shows a curious mixture of pink, purple, and white. The broad-petalled and creamy-white Condor is now pretty well known. Jules Rochis is purple with a silvery reverse, and divaricate petals. The outer florets of Miss Lilian Flower are pale purple, but the rest are white. For those who like the plumy type of Chrysanthemum, H. Ballantine, with its soft yellow flowers tinted with bronze, is distinct, and has long, slender, tubular florets. The brilliant crimson of Beauté de Toulousaine is considered finer than that of E. Molyneux, while the flower is of similar form. Great size is all the rage at present, and Mademoiselle Marie Recoura should meet a want. The flowers are late, but they ultimately attain a diameter of 13 in., and some of the florets 14 in. to 16 in. The silvery rose florets of Mrs. Geo. Daniels are more or less cut or fringed at the apex. Those of Excelsior are rosy-purple with a silvery reverse.

Several other types are noticeable, particularly the incurved Madame Darier, of a soft bronzy-yellow with clear yellow tips. Another of the same type is Mrs. H. W. Goulder, of a delicate blush pink. Amongst the large Anemones of recent introduction none of them are finer than Delaware, with numerous creamy-white rays and a soft yellow disc. Decorative varieties also receive attention here, and amongst those grown we noted M. Bourgeois Aine, with divaricate bronzy florets and yellow on the reverse. Similar in form is Le Verier, with broad salmon-coloured florets. The display will be continuous for several weeks.

PLANTS RECENTLY CERTIFICATED.

The following plants were exhibited at the meeting of the Royal Horticultural Society on the 1st inst.:—

Hoya imperialis.—This noble plant was originally introduced to this country in 1847, so that while it may be considered an old subject yet comparatively few growers have succeeded in its cultivation. Within the last ten years, however, we have seen it several times but rarely on the exhibition table. The individual flowers when full grown sometimes measure about 3 in. in diameter. They are waxy, of great substance, and for the most part of a pale reddish-brown. Like most other species, the plant is of climbing habit, and should be trained to the rafters of the house. As the old umbels flower more than once they should not be cut off, after the first set of flowers drop. Being a native of Borneo, the temperature of a stove is necessary to attain success in its culture. A First-class Certificate was awarded it when shown by Mr. F. W. Moore, Curator of the Botanic Gardens, Glasnevin, Ireland.

Croton Beatrice Horsfall.—At first impression this seems a highly and finely coloured condition or state of Croton John Laing. It is certainly a handsomely coloured thing if it keeps the colour such as it had when shown on the 1st inst. by Mrs. Horsfall (gardener, Mr. Morrall), Bellamour, Rugeley, Staffs. The leaves are linear, of moderate length, and the lower or older ones are of a shining, bronzy crimson, with a red midrib. The upper and younger ones are clear yellow, sometimes tinted with crimson and olive green towards the tips. The stems are of a bright red, so that if the plant on the whole retains these characters, it will prove a very handsome, decorative subject for table work. An Award of Merit was accorded it.

New Chrysanthemums.

Vesuvius.—The heads of this Japanese variety are globular, of medium size, and golden bronze lightly mottled and streaked with chestnut. The florets, when the blooms are fully developed, point in all directions, making the bloom perfectly globular, but they are straight and therefore show very little of the yellow reverse. It seems a very distinct thing in its way, and would apparently be most suitable for decorative work unless the flowers get larger. An Award of Merit was accorded it when shown by Mr, Robert Owen, Castle Hill, Maidenhead. It is one of Mr. Owen's own raising, and flowers naturally in October.

Golden Ball.—This may be described as a small Japanese reflexed variety with perfectly globular flower heads about 3 in. in diameter. The florets are very numerous making the bloom perfectly compact and full in the centre; they are revolute at the sides and the lower ones reflexed so as to hide the upper portion of the supporting stalk. The whole head is of a uniform golden yellow freely produced on dwarf branching stems, so that the variety is evidently well suited for decorative work. It was shown by Messrs. H. Cannell & Sons, Swanley, Kent, and received an Award of Merit.

W. H. Atkinson.—For description of this new Japanese reflexed variety see p. 144. It was shown by Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, and received an Award of Merit.

Emily Doone.—In this we have a Japanese variety of large size, say 6 in. in diameter, or if the longer outer florets were spread out it would measure more. The outer florets are reflexed and pink, while the rest are white or the inner ones may be tinted with yellow; all are considerably twisted and loosely interlaced with one another.

THE VEGETABLE GARDEN.

Forced Seakale.

Those who require Seakale for Christmas must lift some roots at once, and place them in the Mushroom house, or whatever place is used for forcing it. As the plants are lifted the side roots must be taken care of for planting next spring. For forcing place the roots about three inches apart in good fresh loam if possible, as this has a great influence on the flavour, and force slowly in a moist atmosphere. If it is forced in the open ground in the old way, great care must be taken that the forcing material does not get too hot, or a great deal of damage will be done in a short time. This method of forcing has a great many drawbacks and very few advantages. Many think the Kale is better flavoured, but I think if care is taken to keep the atmosphere moist and the roots are placed in good sweet loam in a forcing shed very little difference will be found in this respect. A few dishes may be obtained quickly by filling some flower pots with roots, and plunging them in the stove or other warm place. Put another flower-pot over the first and cover with cocoa-fibre. By this method a little may be obtained in a very short time.—*G. H. S.*

Asparagus.

This vegetable is not forced in such large quantities as Seakale, because it takes up so much ground in the garden, and requires at least three years to grow plants strong enough for forcing. If plants can be spared, or have been prepared for this purpose, they must now be attended to. Asparagus may be forced in a forcing house, such as is used in the summer for Cucumbers or Melons, but I think the best way is to do it in a frame on a hot bed. Build a bed with leaves and manure that will not get too hot, but which will retain the heat for a considerable time. A thin layer of soil can be placed first in the frame, then the roots, and some soil to cover them. The thickness of soil on the roots must depend upon whether the heads are required to be blanched or green; if green keep the frame closed until the heads are just above the surface of the soil, then ventilate on every favourable opportunity; cut as soon as the heads are ready and keep them in a cool place with the ends in water until required for the kitchen.—*G. H. S.*

Tomatos.

The past season has not been very favourable for growing Tomatos in the open, but cultivators generally manage them so well under glass that outdoor cultivation does not seem to afford many advantages. The demand in the markets for these fruits is decidedly on the increase and the prejudice which existed against their use as an article of diet is gradually vanishing. The raising of good kinds has seemingly attained its zenith, and the desire to have such very large fruit is not so common as it once was. Finely formed fruit with bright colour and free from blemishes have been more successful this season in gaining prizes than larger fruit when high class quality has not been present. We noticed this very prominently at Earl's Court during the past season. For pot work we have found none to surpass Acquisition, and when the pots can be stood in boxes of soil into which they can root, labour is saved and much finer fruit is grown. We notice that occasional syringings of soapy water in which flower of sulphur is well mixed keeps the fungus pest in check.—*Stirling.*

ROYAL HORTICULTURAL SOCIETY.

Examination in Horticulture.

We have been favoured with the following information on this subject from the council of the society:—

1. The Royal Horticultural Society proposes to hold an examination in horticulture during the first week in May, 1893.

2. The examination will be held simultaneously in as many different centres in England and Wales as circumstances may demand.

3. The examination will be based on the outline syllabus of "Elementary Principles and Horticultural Operation and Practice," issued by the society, but arrangements will be made so far as possible to frame the questions so as to cover the ground of any syllabus sent up for that purpose to the society before the first day of March. It will, however, in all cases, be absolutely essential for students to exhibit a sufficient knowledge of the "Elementary Principles" named in the Syllabus.

4. Two sets of questions will be set; one of an elementary character called the "Lower Grade," and one more advanced called the "Higher Grade," and those who intend to sit for examination must decide beforehand under which grade they will be examined, in order that a sufficient number of papers in each grade may be sent.

5. In each grade 300 marks will be given as a maximum. Candidates gaining 200 marks and over will be placed in the First Class. Those gaining 150 to 200 will be placed in the Second Class. Candidates failing to obtain half-marks (150) will not be classed.

6. The Royal Horticultural Society will award a Silver-gilt Medal to the candidate gaining the highest number of marks in the First Class in the Higher Grade, and a Silver Medal to the highest in the First Class in the Lower Grade, and will, if the County Council or other body promoting the lectures wish it, deliver to their candidates certificates of the class in which they shall have passed.

7. County Councils, lecturers, etc., wishing students to sit for examination must send in to the society, not later than the first week in April, the approximate number of students they may present in each grade; the actual number at each proposed centre will be required ten days before the examination takes place.

8. Gardeners and students wishing to sit for the examination, but who have not attended any particular series of lectures, must send in their name and address to the Secretary, R. H. S., 117, Victoria Street, Westminster, not later than the 1st week in April, when they will be informed of the nearest centre at which an examination will be held.

9. A small capitation fee will be charged for every student in order to partially defray the expenses of the examination.

10. County Councils, lecturers, etc., must also send in the full name and address (with designation or occupation) of one responsible person for each proposed centre, who will undertake to supervise the examination in accordance with the society's rules.

11. The duties of the supervisor will be as follows:—

(a) To satisfy himself that the room proposed for the examination is a suitable one for the purpose, and to see that a sufficient quantity of foolscap paper, all of one size, is provided for the use of the candidates. (b) To satisfy himself that all candidates belonging to his centre have been duly acquainted with the place, day, and hour of examination. This may be done by communicating with the lecturer or with the secretary of the County Council, etc. (c) To receive the sealed parcel of papers which will be posted to him from London two clear days before the examination. N.B.—If the papers do not arrive by the first post on the day of examination he should immediately telegraph to the Secretary of the society, 117, Victoria Street, S.W. (d) To preserve the seals of the parcel, unbroken, until he opens it in the presence of the candidates at the hour fixed for the examination to commence. (e) To distribute one copy of the examination paper to each candidate, according to grade. It is better that the candidates should be seated higher and lower grade alternately, and not too closely together. (f) The supervisor will then immediately read aloud the directions printed at the head of the papers, make a note of the exact

time, and inform students distinctly of the exact hour at which all papers must be handed in. (g) To see that the following rules are strictly observed :—

1. Two-and-a-half hours are allowed for the papers. 2. Students are not allowed to bring any books, paper, notes, etc., into the examination room; nor to ask any questions whatever, save of the supervisor, who must exercise his judgment as to whether such question is one he should answer or not. 3. Students are not allowed to leave the examination room on any pretext whatsoever after the papers have been distributed. In case of unavoidable illness, the student must be content either to hand in what he has already done or wait till another examination takes place. 4. Any student leaving the room before the full time allowed has expired must first give up to the supervisor his written papers together with the printed examination paper, which must in all cases be returned with the answers. 5. The papers of any students breaking these rules or found copying should at once be destroyed.——(h.) The allotted time having expired, the supervisor will call on the students to fold up and hand in their papers, which should then be at once (before leaving the room) tied together securely with string. They should be posted to the Secretary, R.H.S., 117, Victoria Street, Westminster, S.W., by the earliest possible post. (i.) The supervisor will, of course, not himself leave the room during the time of examination. (k.) The supervisor is requested to sign the printed paper sent with examination papers and return it with them. This paper is to the effect that the rules of the society have to the best of his knowledge been strictly observed.

The following is an Outline Syllabus, showing the nature of the subjects to which it is considered desirable that the attention of students should be drawn, but it is not expected that the whole should be dealt with in one short series of lectures and demonstrations; selection should therefore be made, according to local circumstances, but a sufficient knowledge of the elementary principles will, in all cases, be required.

Elementary Principles, on which Horticultural Practice is based.—Soils, good and bad: their nature and composition: weeds and their indications. Requirements of growth: water, heat, air. Seeds, nature of, duration of vitality in, and modes of germination. Roots: nature and functions of; fibrils and root-hairs; what they do, and how they do it—what helps and what hinders them. Stems and Branches: their nature, work, and uses; helps and hindrances to their work. Leaves: what they are, what they do; helps and hindrances to their work.

Tubers and Bulbs, leaf-buds and flower-buds. Growth and development: increase in size and changes of composition and structure; formation and storage of food materials. Flowers: their component parts; what they do; artificial fertilization. Fruit: changes and development during ripening; forms and varieties, as, *e.g.*, Apple, Strawberry, Plum, etc. Seed: formation of. Variation and selection. Names and Orders of common garden-plants, trees, etc.

Horticultural Operations and Practice.—Surveying and Landscape Gardening: elements of. Choice of Site for Garden. Description and use of Implements under each head. Operations connected with the Cultivation of the Land, with explanations and illustrations of good and bad methods; digging and trenching; draining; hoeing, stirring the soil, and weeding; watering; preparation of seed bed; rolling and raking; sowing, transplanting, and thinning, potting, planting; aspects, positions, and shelter; staking; earthing and blanching, etc. Propagation—Elementary principles: cuttings; budding and grafting; stocks used; layering; division; branch pruning; root pruning; old and young trees and bushes; training. Fruit Culture: open air and under glass; small fruits; Apples and Pears; Stone fruits; gathering and storing; packing and marketing; general knowledge of fruits, and selection of varieties. Vegetable Culture: tubers and roots; green vegetables; fruits and seeds; rotation of crops, and selection of varieties. Flower Culture: outside and under glass. Manures and their application. Improvement of Plants by cross-breeding, hybridization, and selection. Arboriculture; trees and shrubs and their culture. Insect and Fungus Pests: prevention and treatment.

THE VALLEY OF ROSES.

A traveller thus describes a visit to Kezanlik, in the Balkans, once the famous Rose garden of Turkey, where they distil the rich attar which is the foundation of half the perfumes made in the great emporiums of London and Paris. He says: "I had looked eagerly forward to the novel sight of miles of ground covered with blossoming Rose trees. My imagination had revelled in a glorious confusion of colour and an intoxication of perfume, and I was cruelly undeceived by the stunted little bushes and small pink blossoms, which presented no variety of size or hue, and are as like each other as green Peas. In short, they are practical, useful, money-making Roses. Their destiny is to be boiled in an iron pot, and then in another form they travel north and south, east and west, and make themselves generally useful in different quarters of the globe. We went into the shed where the Roses were stored; they lay in masses on the floor, spread out to prevent them from being crushed, but still nearly a foot deep. What a rich, pink, sweet couch they made, all the heads lying together, not a green leaf to be seen; and the perfume of these fragrant, fresh-culled blossoms was not so strong as to be oppressive. Very different was the atmosphere of the other store-room which we visited after breakfast, where the precious attar of Roses was kept in a huge iron safe. The air was so heavy with the scent that I could hardly bear it, and when M. Papazoulu took out the bottles I retired precipitately, and contemplated them from a distance. The bottles were large and flat, the shape of an ordinary hunting flask, and sealed. He said that he sold the smaller ones at £200, £300, and £500, while he valued one large one at £1,000. When kept perfectly free of air, the essence is said to last unimpaired so long as eighty years."

MARGARET CARNATIONS

In the Gardening World of the 22nd ult., I notice a reply to your correspondent "W. C." in reference to these plants. These are destined to become a valuable class, for one of our florists in Birmingham has taken them in hand as the female parents for hybridization with a grand exhibition Scarlet Bizarre Carnation, "Robert Houlgrave," a flower which has superb form and is always a foremost one in all stands of Carnation blooms at our Carnation exhibitions. Mr. Herbert, the manager of the Sparkhill Nurseries, last year effected such a cross and got a pod of seed which was sown in February last and the plants grown on into a well shaped bushy state, growing in 48-size pots, and they commenced blooming early in September and are still blooming freely, each plant with from 12 to 15 or 16 expanded blooms and buds. The plants are of dwarfer habit than Carnations generally. In each case the progeny now in flower show far more the character of the ordinary Carnation than of the Margaret type, having broader foliage, with large well formed flowers of different colours and great breadth of petal. One is a superb scarlet self, others are flaked, and all demonstrate very clearly that with ground work to go ahead with, Mr. Herbert will give us a new race of annual Carnations, as he is still crossing and saving seed. When we can get good bushy plants grown from seed shown in February, and in full bloom in September and onwards to Christmas, a great acquisition to our autumn and winter blooming plants will be gained, and this object will be obtained when the Sparkhill race of Margaret Carnations can be brought before the public. Some may be at work in the same way probably, and others may now follow suit.—*W. D.*

THE FRUIT TROPHY IN THE LORD MAYOR'S SHOW.

The "Worshipful Company of Fruiterers of London" was more strongly represented in the Lord Mayor's Show on Wednesday than has been the case for some years past, and the Fruit Trophy, which was designed by Mr. George Bunyard, of Maidstone, and dressed entirely with British fruits, was one of the best things in the procession. It is so seldom that Pomona makes such a respectable appearance in a Lord Mayor's Show that we may be pardoned a little detail. The car was one of Messrs. Pickford's trollies, on which was constructed sloping staging about 6 ft. high from base to apex. The base was fringed on either side by cordon trees, dotted with fruit (on the French system). The central stage supported on the upper platform a noble trophy of growing Pineapples based with Melons, flanked on either either side by pairs of ornamental baskets (back to back) of choice Muscat and Black Grapes; and below this, reaching to the outside cordons, on both sides, were thirty-six market "halves" of bright-coloured Apples, Pears, Tomatos, and Cob Nuts.

The driver's place was occupied by a screen of Aspalier Apple trees, loaded with fruits large and rosy, and conspicuous also at this point was a collection of tools, and a trophy of gourds. At the back was a half circular group of pot fruit trees (Apples) representing Orchard House culture.

The decorative portion consisted of four corner standards, wreathed with berries and foliage—Pyracantha, Bramble, and wild Clematis being prominent. This was surrounded by a heavy wreath of Rowan berries (Mountain Ash), topped by a Squash; about half-way a branch led up to a central ornamental finial, forming a canopy over the whole, the supports being draped with Bramble, Asparagus, Sweetbriar heps and foliage. Below the corner finials a scroll gave the names of the four counties growing the greatest acreage of fruit—Hereford, Worcester, Devon, and Kent. In a line with the central platform, an Orchard Standard tree, with fruit (representing Farm Culture), stood out boldly and carried the support for the name of "The Company of Fruiterers," on the top of which a gilded centre made a finish to the whole of the ornamental work.

The kinds of fruit which attracted the eye most were the very large Bismarck (red) Apple, the Worcester Pearmains, Gascoyne's Scarlet; while for size, Warner's King, Stirling Castle, Peasgood's Nonsuch, Pott's Seedling were prominent. Dessert Apples included King of the Pippins and Blenheim Orange. And in Pears, the showy Pitmaston Duchess, and the russety Beurré de Capiaumont were very conspicuous. Enormous Tomatos carried the fruits half way to the domain of Vegetables, and Mammoth Gourds (for winter use) took a similar place.

The under carriage was completely hidden by drapery, the upper line bearing the motto, "God giveth the increase," and on the other side, "Britain can grow her own fruit"; the lower drapery being in white and green—the colours of the Company.

SCOTTISH NOTES.

Technical Education in Horticulture.—The Council of the Scottish Horticultural Association, having been allocated a portion of the residue grant by the Town Council of the City of Edinburgh, has arranged a course of lectures, to be delivered during the ensuing winter and spring. The scientific and practical aspects of the subjects chosen will be treated of by eminent authorities, and the lectures will be free to all interested in the advancement of horticulture.

This being the first time that such a course of lectures has been given in Scotland, and looking to the importance of the subject from a commercial point of view, it is to be trusted it will be well taken advantage of by the general public.

Bursaries will be given to successful competitors, who must have attended three-fourths of the lectures, and must be under-gardeners or nurserymen, and approved of by the council. Intending competitors should intimate their intention in writing to the hon. secretary, Mr. Robert Laird, 17, Frederick Street, Edinburgh, at the beginning of the session, and not later than 1st December.

Syllabus.—In Surgeons' Hall, Nicholson Street, on November 23rd and 30th, and December 7th and 14th, "The Chemistry of Plants and Soils," by Mr. W. Ivison Macadam, F.R.S.E., etc. In Dowell's Rooms, 18, George Street, December 19th and 28th, and January 4th and 12th, "The Structure and Physiology of Cultivated Plants," by Mr. A. N. Macalpine, consulting botanist to the Highland and Agricultural Society. January 18th and 25th, and February 1st and 8th, "The Hybridisation, Selection, and Improvement of Plants," by Mr. John H. Wilson, D.Sc., etc. February 15th, Hardy Fruits, Introductory Lecture by Mr. A. F. Barron, Chiswick; February 22, Apples, by Mr. M. Dunn, Dalkeith; March 1st, Apricots and Cherries, by Mr. M. Temple, Carron House, Falkirk; March 8th, Peaches and Nectarines, by Mr. Fairgrieve, Dunkeld; March 15th, Plums, by Mr. M. Dunn; March 22nd, Strawberries, by Mr. M. Temple; March 29th, Pears, by Mr. M'Kinnon, Scone Palace. The lectures will commence at 7.30 each evening.

FLORICULTURE.

The Auricula.

THERE are some remarks in "R. D.'s" article in your issue of the 29th October with which I do not wholly agree, and with your permission I should like to reply to them.

Dealing first with the exclusion of seedlings from open competition. My answer is that of the Rev. F. D. Horner that a more retrogressive policy could not possibly be conceived; injurious alike both to the plant and the exhibition which is got up to foster their well-being. Why do we have these shows? Partly, I think, to compare the improvement (if any) between the new and the old. This could not be if "R. D.'s" suggestions were allowed full play; and, then again, where would the interest be to the lover of the flower if old varieties only were pitted against each other in their several classes to the total exclusion of seedlings?

Methinks "R. D." is rushing to the very point he is so anxious to avoid when he advocates a separate class for seedling Auriculas "not in commerce," for who would be the competitors in that class? Well, I take it that in a late season, and so far as the southern exhibition is concerned, there would only be Mr. Douglas who could put up such a dozen or half-dozen Auriculas; and, further, would the Rev. F. D. Horner care to bring down those magnificent examples of Auricula culture if he were limited to showing varieties "only in commerce." I trow not; and who would be the loser by his absence? Not the Rev. F. D. Horner, but those who, like myself, make our annual pilgrimage to London to see the giants fight.

No, no, "R. D.," it won't do, and I think you would be the first to admit it if your suggestion was adopted at the next show and you saw the fruit thereof.

I think "R. D." lays too much stress on the disadvantages the small grower is supposed to labour under; for my part I cannot see what he has to complain of. He has the classes for "four" and "two" provided for his especial benefit, and what more can "R. D." suggest. I admit that the exhibitor who is unable to show "high quality seedlings," whether they be his own or other people's raising, is placed at a great disadvantage compared to those who can do so, but not to the extent "R. D." would have us believe. Take, for instance, Mr. T. E. Henwood at the show held in April, 1890. There he ran the Rev. F. D. Horner very close for first place in the dozens with one variety only that was "not in commerce;" in the sixes he was first with *all* varieties "in commerce." In April, 1891, he was first in the dozens with only Abbe Liszt out of the twelve that was "not in commerce," the remaining eleven being within the reach of every one who cared to buy them; and in the sixes he was first with a similar lot of varieties. This in itself refutes "R. D.'s" argument that exhibitors of old varieties are placed at such a disadvantage as he makes out.

It is not the plants that win the prizes, although of course they are the medium, it is the man who grows them. Give a good grower (and by a good grower I mean one who, like Mr. Henwood, studies their inmost needs) inferior varieties, and he will, five times out of every six, beat the man who has superior sorts, but who does not give the time and attention to bring them to perfection.

I do not follow "R. D." in his fourth paragraph, where he says, "when the seedlings were judged at different times by two or three different sets of judges with varying results." Perhaps "R. D." would explain more fully—such an indictment needs a fuller explanation.

It is a good thing, I think, that all the varieties that receive Certificates year after year are *not* "let out," for the varieties that I should care to invest in that have been Certificated during the last few years could be counted on the fingers of one hand. I have not seen many yet that are real improvements on the older sorts.

I can condole with "R. D." in his lament over the non-seeding qualities of the Auricula. I have crossed and seeded (or tried to) for the last two years, and I have only a few unbloomed seedlings to reward my efforts. I do not think the "vile atmosphere of London" has much to do with it, for our air here is not "vile," and yet the seed is scarce; but "R. D." asks for too much when he begs that growers should "distribute a few grains of the seed they save." He quotes Mr. Martin R. Smith's distribution of Carnation seed, but the two cases are not analogous, for Carnation seed is far more plentiful than Auricula.—*J. T. Keen, Bevois Town, Southa*

The Show Tulip.

I VENTURE once more to invite lovers of florists' flowers, and especially amateurs who may be slightly wavering as to the variety of flower they shall bestow their study and impart their love upon, to pause before trading, and to give consideration to "The Show Tulip," which is not a new species of flower recently introduced, but one of the oldest on record. Yes! one that our fathers, grandfathers, and great grandfathers cultivated with the truest love and purest of pride! And in confirmation of this we need only refer to some of the oldest floral works published a century or more ago, and to the more recent writings of the late Doctor Horner, Doctor Hardy, George Glenny, etc.; and whilst we can embrace such names among the present cultivators as Samuel Barlow, the Rev. F. D. Horner, and other known florists too numerous to mention, surely there must be something enchanting in the show Tulip to have so endeared it in the hearts and eyes of such noted and talented florists of the past and present. But not only men of learning and position has the Tulip nestled in their hearts, but by the brawny-handed blacksmith and the Lancashire weaver it has been equally cherished and loved! And to-day such men can be found who will unhesitatingly pronounce the show Tulip as the gayest, the most refined, and most fascinating flower of the period.

Why, then, is such a flower so apparently slighted and neglected by those of the "south" who have taste and time for study, and possess special facilities for the cultivation of flowers? I know it cannot be cultivated, in a commercial point of view, profitably, and that is the reason why the great trade florists discard it. The persons I invite to give the show Tulip a trial are those who are blessed with a natural taste and power of love for florists' flowers. Tulips are easy of cultivation, and the leading show varieties can now be obtained at very moderate prices.

I have cultivated Tulips and other florists' flowers for close upon half a century, and it would be impossible for me to explain the immense delight and many hours of true happiness which my Tulips have afforded me, year after year, during their blooming seasons, but they have also produced me pleasures of friendship, which my memory will ever retain, by associating me in the warmest and truest affection with some of the most noted florists, including the late Doctor Hardy, the late Michael Potter, our esteemed friends, Samuel Barlow, the Rev. F. D. Horner, old Ben Simonite, and many, many other Tulip growers, who glory in their fame.—*James Thurstan, Richmond Road, Cardiff.*

ROOTWORK.

IF a number of first-class gardeners, amateur and professional, were asked their opinion of rootwork the majority would say, Have nothing to do with it, it harbours fungus and plant vermin, and will give great trouble. Perhaps you would allow me to give our experience. More than fifteen years ago we had a fence in sight of the drawing room which it was desirable to hide by a pretty object. I had heard of a rootwork near here, and on going to see it was told of a gardener in the neighbourhood who had much experience and good taste in rootwork. I then consulted many friends, amateur and professional; most advised against—one lady told me her rootwork had to be pulled down on account of a noisome fungus; but two quite first-class authorities, one professional, the other Mr. Berkeley, told me that they had seen quite successful rootwork, so I engaged the gardener, and finding that he answered to description gave him a free hand.

A number of good sized Spanish Chestnut and Oak trees had been cut down near us some years ago, we had the roots of these grubbed up and found that the softer parts had perished, leaving the hard cores. With these the rootwork was built, and it was, with bank about 104 ft. long, 23 ft. broad in its widest part, 9 ft. in its narrowest, and 6 ft. high at its highest. The noisome fungus did trouble, but we dug it out carefully, and after a time saw no more of it. Slugs and snails were rather troublesome, but that they sometimes are where there is no rootwork. A good many Laurels had been planted to grow up and hide the fence, and also Euonymus, Box, and small trees. Fat Tommy, a fine cat known in the neighbourhood and figured in one of your contemporaries, lived for thirteen years in a tub running up and down with a ring on a wire to scare the birds from rare plants.

Owing to other more pressing gardening work, the rootwork was neglected and many Ferns took possession to the injury of the other plants, some of the earlier imported Azalea mollis, Abelia Rupestris, Berberis stenophylla, Azalea amœna, and other small shrubs made the rootwork pretty in spite of its being overgrown. Taking the hint from the success of the shrubs we next made a small rootwork at our cottage garden near, planting Osmanthus of all sorts, Skimmias, the more tender Spiræas, Clematis, climbing Roses, etc.; this has a pretty effect and the shrubs have thriven wonderfully.

Our old rootwork here was next taken in hand, and having a gardener who does not mind the trouble of snail and slug hunting, we grubbed up the Laurels, all but a few of the ornamental trees and all the Ferns, put in fresh soil among the roots, made a large bed of good soil on the level at the top, and planted all manner of Alpine and herbaceous plants and small shrubs, one object being to show what a great number of plants can be grown in a small space, an answer to friends who say that their gardens are too small to do much in.

So far the remodelled rootwork is a complete success, and much prettier (looking like a wild bank) than any rockwork of the same size that I have seen, the black old roots, most of them still quite sound, setting off the plants. At the bottom of the rootwork there is a bed of good loam full of fine Primroses, and on the bottom bays such plants as Ramondia pyrenaica, Shortia galacifolia, Cyclamens, Colchicum speciosum, Hellebores, Meconopsis Wallichii, Galax aphylla, Pulsatilla, Palms, etc. At one end of the rootwork is a bed in which slabs of stone are sunk, with plants against and amongst them, and at the east end a quantity of burr work so as to try the different shelters close to each other.—*George F. Wilson, Heatherbank, Weybridge Heath.*

HARDY TREES AND SHRUBS.

ABELIA RUPESTRIS.—This is a neat, twiggy shrub from 2ft. to 3ft. high, with slender shoots, and very pleasing, shining green, serrated leaves. The tubular, sweet-scented flowers are produced in clusters at the end of each shoot, even the smallest, and are of a very delicate shade of pink—indeed almost white. It makes an excellent wall plant, but by no means refuses to grow and flower freely without either shelter or protection, provided a fairly rich and well-drained soil is supplied. From August to October is the flowering period of this handsome deciduous Chinese shrub. This is the only really hardy species, though the handsome rosy-purple flowered A. floribunda, from Mexico, has stood for several years uninjured in southern England, but it is not to be relied upon. Both species are readily propagated from cuttings.

ÆSCULUS HIPPOCASTANUM.—A fine, hardy, free-flowering tree, supposed to have been introduced from Asia, of which there is a double-flowered, a variegated, and several lobed and cut-leaved forms. The tree needs no description, the spikes of pinky-white flowers, which are produced in great abundance, and ample foliage rendering it one of, if not the handsomest trees of our acquaintance. It gives a pleasing shade, and forms an imposing and picturesque object in the landscape, especially where the conditions of soil—a rich, free loam—are provided.

Æ. RUBICUNDA (the red Horse-Chestnut), if only for its neat and moderate growth and attractive spikes of brightly coloured flowers, must be considered as one of the handsomest and most valuable of our small-growing trees. Being of moderate size (for we rarely meet with specimens of greater height than 30 ft.) and of very compact habit, it is rendered peculiarly suitable for planting in confined spots and

where larger growing and more straggling subjects would be out of place. It withstands soot and smoke well, and is therefore much valued for suburban planting. The long spikes of pinky-red flowers are usually produced in great abundance, and as they stand well above the dark green foliage, and are of firm, lasting substance, they have a most pleasing and attractive appearance. That there are numerous forms of the red Horse-Chestnut, differing much in the depth of flower-colouring, it may be well to warn planters, for some of these have but a faint tinge of pink over a dirty yellowish-green groundwork, while the finest and most desirable tree has the flowers of a decided pinky-red. There is a double-flowered variety of the red Horse-Chestnut, a distinct and pretty low-growing tree when seen in good form, which is, however, rarely the case.—*A. D. W.*

THE LONDON PARKS, AND THEIR MANAGEMENT.

The Parks and Open Spaces Committee of the London Connty Council, having failed in its two attempts to find the right man for the proposed new office of Superintendent of the Parks, etc., the Council on Tuesday decided not to proceed further with the resolution to appoint a Superintendent at £700 per annum, but to rearrange the duties of certain of the present principal officials with a view to securing a uniform system of administration. Under the new arrangement Mr. J. J. Sexby, of the Architect's Department, who has practically had official charge of the parks since they were taken over by the defunct Metropolitan Board of Works, becomes Chief Officer, at a salary of £500 a year, and responsible to the Parks Committee for the execution of its orders and the management of the whole staff of the Parks Sub-department. Mr. Nairn, who has been clerk to the Committee under the Secretary to the Council, and has hitherto had control of the constables on open spaces and the organization of games, etc., becomes Chief Clerk of the department under Mr. Sexby, at a salary of £400 per annum. It was also resolved to appoint a new officer, having a special knowledge of horticulture, at £300 a year, to assist Mr. Sexby, and to be called assistant superintendent of works in the parks department. His duties will be to assist in the inspection of the parks, in the laying out of new grounds, and to relieve the forester by superintending the general labour on the open spaces. For this office the committee may find the right man among the present park superintendents.

The new Chief Officer is an architect by profession, and though we regret that we cannot say he is a gardener, he has a good deal of sympathy in common with gardeners and gardening, and has for several years been a member of the Committee of the Gardeners' Royal Benevolent Institution. Mr. Sexby enjoys the respect and esteem of every horticulturist who has had business relations with him, as well as of the council's employees in the various parks, etc., from the superintendents downwards, and commences the arduous and onerous duties of his new office with the hearty good wishes of all who know him.

Mr. J. J. Sexby.

GUELDER ROSES.

The largest of the Viburnums, which grow in New England, and one of the handsomest of the whole genus, is Viburnum Lentago. This sometimes attains the size of a small tree, but it is more often only a shrub. If it is planted by itself in good soil as a specimen on the lawn it will grow into a large round bush perhaps fifteen feet high and ten or fifteen feet through the branches, which will rest on the grass. The leaves are large and beautifully shining and lustrous, and the large flat clusters of small creamy white flowers are produced during the first days of June in the greatest profusion, and in autumn are followed by bunches of handsome blue-black oblong edible fruit. A well-grown and symmetrical specimen of this plant is an object of great beauty; there is hardly another shrub which can be grown into a more perfect specimen; and if the Sheep-berry came from Tibet or Yun-nan, or from the summit of an equatorial African mountain, and cost fifty pounds an inch, rich Americans would soon exhaust the supply. Now the sight of it only fills most people with surprise and a profound disbelief that such a handsome plant can grow by the roadsides and in the coppices of every New England village, for it is this species which is the chief ornament of our roadsides in early summer. Viburnum Lentago has been largely planted in the arboretum, and has proved valuable in all the situations where it has been tried. It flourishes in the shade and in the full sunlight, and requires strong, rich soil and abundant space if it is to be allowed to spread to its full dimensions.

The nearest species botanically to Viburnum Lentago is Viburnum prunifolium. This plant does not grow in New England, although it is hardy here. It is very common in the middle and southern states, and abounds in Central Park, in New York, where there are many fine specimens in the wilder wooded parts, which are made beautiful by them in early May, when the plants are in flower. This species grows to be a larger tree than Viburnum Lentago, and the flowers, which are more nearly white than those of that species, are decidedly handsomer; the fruit, too, is more showy. The leaves, however, are narrower and less lustrous, and on the whole, except when it is in flower, the southern plant is less beautiful than its northern relative.

Viburnum dentatum is as beautiful almost as either. It is a shrub ten or fifteen feet high, which grows in rather moist soil near streams and swamps all over the northern states, and has broad lustrous leaves with large sharp teeth and very prominent veins, and produces large flat clusters of nearly white flowers. The fruit, which ripens in the early autumn, is bright blue and very ornamental. This is an excellent shrub in cultivation; planted in deep well-manured soil it grows with a vigour unknown to the wild plant, and produces larger and richer coloured leaves, and larger and more abundant clusters of flowers. Few plants better repay good cultivation, and there are very few shrubs of any country which are more ornamental in cultivation or better worth a conspicuous place in the shrubbery.

Viburnum pubescens is a smaller plant than Viburnum dentatum. The leaves are smaller, narrower, and more sharply pointed, and the flower-clusters are much smaller. It rarely grows more than three or four feet high by as much broad. The flowers, which appear rather earlier than those of Viburnum dentatum, or during the first days of June, are produced in the greatest profusion, and quite cover the plants when they are grown in good soil and allowed an abundance of light and air. This is one of the best shrubs to plant on the outer margin of a large shrubbery, and it is particularly beautiful in the autumn, when the leaves turn a rich dark purple colour like that of some old Spanish leather, a most unusual colour among our plants. This adds greatly to the value of Viburnum pubescens as an ornamental plant, and makes its cultivation particularly desirable.

Delightful, too, is Viburnum acerifolium. This is a small plant with slender stems, which rarely rise to a greater height than three or four feet, and maple-shaped leaves, which in the autumn turn a most beautiful scarlet colour. The flower-clusters are not broad, but they stand up well on the ends of the branches, and the individual flowers when they expand are bright pink, and later become creamy white. The showy black fruit remains on the branches through the winter. This is naturally a shade-loving plant, and thrives when planted under shrubs and other trees; it bears the sun, however, and apparently grows as well when fully exposed to it as it does in its native glades.

Our two native Viburnums, with nearly entire bright green leaves, with obscure veins and long-stalked flower-clusters, are plants for the garden. These are Viburnum cassinoides and Viburnum nudum. No one seeing these plants cultivated for the first time can be made to believe they are common native plants. In their swamps they grow up tall and spindling, but, transplanted to good soil, and given sufficient space to spread, they form broad, round masses of large, handsome foliage, larger, and almost as beautiful as that of the Camellia, and in June cover themselves with great broad clusters of creamy-white flowers. Naturally they inhabit swamps, but they seem to grow better in good, well-drained soil. Viburnum cassinoides is a more northern plant and flowers rather earlier than Viburnum nudum, a native of the region from New Jersey to Florida. Both are equally hardy here, and there is little to choose between them as garden ornaments, although the leaves of the southern species are thicker and rather more lustrous than those of its northern relative. No one will make a mistake in planting either of them or in giving them a conspicuous place in any garden, however carefully selected its contents may be.—*Garden and Forest.*

NATIONAL CHRYSANTHEMUM SOCIETY.

NOTWITHSTANDING all that we have heard and experienced of the lateness of the Chrysanthemum bloom, the annual exhibition of the National Society which was opened at the Royal Aquarium, on Tuesday, by Lady Saunders, brought together a really wonderful display. Certainly there is no abatement of the Chrysanthemum fever, or any falling off in the popularity of the society if we may judge of the throng which crowded the Aquarium on the opening day. As before remarked the show was opened by Lady Saunders, who delivered a neat little speech appropriate to the occasion, and who was supported by the President of the Society, Sir Edwin Saunders, Sir Guyer and Lady Hunter, Mr. R. Ballantine, and other officials.

The leading prizes offered brought out some immense blooms crowding the show boards. The quality of the groups also showed a distinct improvement upon that of former years—indeed the blooms in many cases were almost if not equally as fine as those upon the show boards. The trained plants in some cases were well flowered, but exhibited nothing in advance of those of former years.

The leading honour (the Challenge Trophy and £10) in the National Competition of Chrysanthemum and Horticultural Societies for 48 blooms was again carried off by the St. Neot's Amateur and Cottage Horticultural Society. The finer of the 24 Japanese varieties were Viviand Morel, E. Molyneux, Stanstead White, Etoile de Lyon, Violet Rose, Madame Hoste, Louis Bœhmer, M. A. E. Carriere, Avalanche, G. C. Schwabe, W. Lane, Beauty of Castle Hill, Excelsior, and Sunflower. The best of the incurved varieties in this exhibit were John Lambert, Miss Wilson, Golden Empress of India, Queen of England, John Salter, Violet Tomlin, Miss M. A. Haggas, Princess of Wales, Lord Alcester, M. R. Bahuant, Amie Hoste, Princess Beatrice, Princess Teck, and A. Lyne. The second award was taken by the Havant Chrysanthemum Society, Havant, Hants, in whose stands were some grand blooms of Etoile de Lyon, Viviand Morel, Gloire de Rocher, M. Baco, Florence Davis, M. C. Audiguier, E. Molyneux, Sarah Owen, and Mrs. J. S. Fogg. The incurved blooms were generally smaller than in the first prize lot, but very neat. There were only two entries.

The first award for 36 incurved blooms (the Holmes Memorial Challenge Cup) was taken by Messrs. W. & G. Drover, Fareham, Hants, with some fine blooms of M. R. Bahuant, Golden Empress of India, Alfred Salter, Lord Alcester, John Doughty, John Lambert, Princess of Wales, Jeanne d'Arc, Lady Dorothy, Novelty, and others. The second prize was taken by Mr. W. G. Rey, Teynham, Kent, who had good blooms of Empress of India, Emily Dale, Miss M. A. Haggas, Golden Empress of India, etc. Mr. Chas. Gibson, gardener to J. Wormald, Esq., Morden Park, Mitcham, Surrey, was third with small but neat blooms. The other Holmes Memorial Challenge Cup for 48 Japanese blooms was awarded to Mr. W. Herbert Fowler, Claremont, Taunton. His finer blooms were Viviand Morel, Avalanche, Lord Brooke, Puritan, Mrs. J. Clarke, Stanstead White, Etoile de Lyon, E. Molyneux, Florence Davis, and Mrs. Alpheus Hardy. On the whole the exhibit was creditable and the labelling excellent. The second prize was taken by Mr. J. Myers, gardener to the Earl of Sandwich, Hinchingbrooke, Huntingdon, who also had many magnificent blooms. Messrs. W. & G. Drover were third with an exhibit that would have done credit to any show. They had a large bloom of Mrs. Alpheus Hardy. Mr. Chas. Gibson was fourth with many fine blooms. This class excited much interest.

The first prize for 24 incurved varieties was awarded to Mr. H. Shoesmith, gardener to M. Hodgson, Esq., Shirley, Croydon. He had fine blooms of Empress of India, Princess of Wales, John Lambert, Jeanne d'Arc, Lord Alcester, Madame Darrier, etc. The second prize winner was Mr. C. Ritchings, gardener to Dr. Frankland, F.R.S., The Yews, Reigate Hill. His best blooms were Golden Empress of India, Lord Alcester, and Queen of England. Mr. James Myers was third, but had also some good blooms. The first prize for 12 incurved blooms was awarded to Mr. Arthur Ocock, gardener to Mrs. McIntosh, Havering Park, Romford, who had large and neat blooms of Empress of India, Princess of Wales, Lord Alcester, Miss M. A. Haggas, Golden Queen of England, and others. Mr. W. Collins, gardener to J. W. Carlile, Esq., Ponsbourne Park, Hertford, who had fine blooms of Queen of England and Lord Alcester, was 2nd. Mr. J. Agate, Havant, Hants, was third. Mr. James Myers took the first prize for 6 blooms of one variety, with grand blooms of Empress of India Mr. John Hewett, gardener to H. B. Mackeson, Esq., Hillside House, Hythe, was second with Princess of Wales. Mr. John McKenzie, gardener to F. L. W. Cornwallis, Esq., Linton Park, Maidstone, was third with Jeanne d'Arc.

The first prize for 24 Japanese blooms was taken by Mr. W. Herbert Fowler. He had fine samples of Viviand Morel, Etoile de Lyon, Florence Davis, Stanstead White, Miss Anna Hartzhorn, and Avalanche. The second place was taken by Mr. Chas. Ritchings with many fine blooms, including W. H. Lincoln, Madame Hoste, Stanstead White, Sunflower, Boule d'Or, etc. Mr. C. Ling, gardener to E. P. Oakshott, Esq., Orchard Dene, Ealing, W., was third with a good exhibit. Mr. Robert Petfield, gardener to A. J. Thornhill, Esq., was fourth with smaller blooms. There were six entries in this class, and most of them were good. The competition in the class for 12 blooms was also keen. The first prize was taken by Mr. Arthur Ocock, whose blooms were all good, including Florence Davis, Viviand Morel, W. H. Lincoln, Louis Bœhmer, M. A. Carriere, Mrs. F. Jameson, Excelsior, and Avalanche. Mr. Trinder, gardener to Sir H. Mildmay, Bart., Dogmersfield Park, was second with magnificent blooms of Florence Davis, Viviand Morel, Boule d'Or, W. H. Lincoln, Mrs. H. Wheeler, and Avalanche; in fact, there were only one or two weak blooms in his stand. Mr. M. Standing, gardener to Mrs. Joad, Patching, Worthing, was third; and Mr. Geo. Carpenter, gardener to Major Collis Broune, Broad Oaks, Byfleet, Surrey, came in fourth. There were thirteen entries in this class. The first prize for 6 Japanese blooms of one variety was taken by Mr. John Hewett with fine samples of Stanstead White. Mr. Chas. Cox, gardener to John Trotter, Esq., Brickenden Grange, Hertford, was second with Avalanche. The third place was taken by Mr. M. Standing with Avalanche. The first prize for 6 incurved Japanese blooms was taken by Mr. Robert Petfield with fine blooms of Japonais, W. H. Lincoln, Umpire, and E. Molyneux. The first prize for 12 large reflexed blooms was taken by Mr. Geo. Carpenter, who had well-finished blooms of Cullingfordi, Dr. Sharpe, King of Crimsons, Pink Christine, and Chevalier Domage. Mr. Jas. Myers took the second place, but had some very fine blooms. The third place was taken by Mr. Chas. Brown, gardener to R. Henty, Esq., Langley House, Abbotts Langley.

In the class for 12 large Anemone blooms, the first award was taken by Mr. A. Ives, gardener to E. C. Jukes, Esq., Hadley Lodge, Barnet, Herts, who had fine blooms of Delaware, Mrs. Judge Benedict, Empress, and Marie Laglaize. Mr. R. C. Notcutt, Broughton Road Nursery, Ipswich, was second with fine blooms of Mrs. Judge Benedict, Miss Margaret, etc. Mr. Chas. White, 6, Garden Terrace, Southsea, was third. The first award for 12 Japanese Anemone blooms was taken by Mr. A. Ives with fine blooms of Jeanne Marty, Mademoiselle Cabrol, etc. Mr. R. C. Notcutt was second. The first prize for 24 large-flowered Anemone blooms was awarded to Mr. A. Ives, who had fine specimens of Madame Robert Owen, Jeanne Marty, Empress, Delaware, and others. Mr. James Myers was second with some good blooms; and Mr. R. C. Notcutt was third. Mr. James Myers was the only exhibitor of 12 Anemone Pompons, which were good. The first award for 12 Pompons went to Mr. Charles Brown, whose flowers were neatly arranged on stems with their foliage. Mr. James Myers had many larger blooms, but less neatly arranged. The third place was taken by Mr. J. Agate.

A number of classes were set apart for those who do not employ paid assistance in the cultivation of Chrysanthemums, and the 1st prize for 24 Japanese blooms was taken by Mr. H. G. Featherby, Bleak House, Gillingham, Kent. Some of his finer blooms were Viviand Morel, Sunflower, Lilian S. Bird, Miss Anna Hartshorn, Mrs. J. Laing, Mrs. F. Jameson, Glowworm, and others, which were good for an amateur. The 2nd prize was taken by Mr. Thos. Lansley, Pinner Road, Watford, who had some much larger but not so well coloured blooms. The 3rd prize winner was Mr. Charles White, 6, Garden Terrace, St. Vincent Road, Southsea. There were four entries, and all were creditable. Mr. John Horril, West Street, Havant, Hants, had the best 12 incurved blooms in fine samples of Golden Empress, Miss M. A. Haggas, Princess of Wales, Mrs. Heale, and others. Mr. Chas. White was 2nd, with some larger blooms but not so neat. The 3rd place was taken by Mr. Thomas Lansley. Mr. John Horril was again 1st for 6 incurved blooms which were in most cases in good form. Dr. G. Walker, Lingfield Road, Wimbledon, was 2nd, followed by Mr. F. Durrant, 4, New Road, Ware, Herts. The 1st prize for twelve blooms was taken by Mr. Thos. Lansley, with splendid blooms of Viviand Morel, Florence Davis, Louis Bœhmer, Mrs. F. Jameson and others crowding the boards; Mr. F. Hicks, Elstree, Herts, was a good second, but his blooms were not very highly coloured; Mr. Charles White was third. Mr. F. Durrant had the best 6 Japanese blooms, and was followed by Mr. John Horril and Mr. F. Hicks respectively. In the classes for amateurs and single-handed gardeners the first prize for 12 incurved blooms, was taken by Mr. James Heath, gardener to M. Gurry, Esq., Abington Place, Newmarket: his blooms of John Lambert, Lord Alcester, Mrs. G. Coleman, and Violet Tomlin were of large size; Mr. Charles White and Mr. Jas. Hudd, gardener to L. Loeffler, Esq., Campden Hill Road, Kensington, were second and third respectively. Mr. J. Little, Hylands, Romford, had the best 6 incurved blooms, and was followed by Mr. Jas. Heath and Percy Waterer, Esq., The Briars, Lingfield, Kent, in the order named. The first prize for 12 Japanese varieties was taken by Mr. Jas. Heath, who had fine blooms of Viviand Morel, Avalanche, Maiden's Blush, Sarah Owen and others. The second prize was taken by T. Wickham Jones, Esq., Trocester Lodge, South Norwood, S.E., who had also a fine lot. Percy Waterer, Esq., was third. The first award for 6 Japanese blooms was taken by Mr. James Heath, who was followed by Edward Mawley, Esq., Rosebank, Berkhamstead; and Mr. W. Jones, gardener to W. Hooper, Esq., Glena Mount, Sutton, Surrey, in the order named. The 1st prize for 12 incurved blooms in the Metropolitan classes was taken by W. Frank Bingham, Esq., 6, Bethune Road, Stoke Newington, N. He was followed by Mr. F. E. Wraight, gardener to G. Troup, Esq., Essex Lodge, Upper Clapton. Frank Bingham, Esq., had the best 6 incurved blooms; and Mr. W. Davey, gardener to C. C. Paine, Esq., Cedar House, Stamford Hill, N., was 2nd. The 1st award for 12 Japanese blooms was taken by Mr. W. Davey, who had some good samples for a Metropolitan suburb. Frank Bingham, Esq., was 2nd; and Mr. F. E. Wright was 3rd. For 6 Japanese blooms the same order was maintained. In the open class for 12 single varieties in trusses of three, the 1st prize was taken by Mr. J. Agate; Mr. W. Wells, Earlswood, Surrey, was 2nd.

In the special prize classes for cut blooms, the 1st prize offered by Mr. H. J. Jones for 6 blooms of new varieties was awarded to Mr. W. Herbert Fowler. The 1st prize for 3 blooms of the best new incurved offered by Mrs. Myers was taken by Mr. R. Owen, Castle Hill, Maidenhead, with a beautiful variety named Robert Petfield. Mr. W. Seward, The Firs, Hanwell, took the 1st prize offered by Mrs. Myers for three blooms of a variety not in commerce. Messrs. Pitcher & Manda offered large prizes for 3 of the best varieties of Chrysanthemums raised from their seed, and the 1st award was made to Mr. W. G. Gilbert, gardener to B. Le Neve Foster, Esq., J.P., Sennowe Hall, Guist, Norfolk. The flowers of all three were good and promising.

Pot plants were pretty numerous and all the classes were open. The first prize for a group occupying 100 square feet of space, was taken by Mr. Norman Davis, Lilford Road, Camberwell, his group was noticeable for the great size and quality of the blooms, particularly those of Viviand Morel, Etoile de Lyon, Avalanche, W. Tricker and others that were very effective. Messrs. Reid & Borneman, Sydenham, were second with a group that graduated from a high semi-conical point almost to the very ground. The same varieties predominated here, but the darker ones were in front. Mr. G. Stevens, St. John's Nursery, Putney, was third with a good group. The first award for four trained specimens was taken by Mr. R. Clark, gardener to W. Griffiths, Esq., 44, Palace Road, Streatham, who had well-

flowered specimens of Margot, Madame B. Randatler, &c. Mr. F. Gilks, gardener to W. E. Freir, Esq., Elm House, Walthamstow, was second; and Mr. W. Davey was third. The first prize for four standards (all well bloomed) was also taken by the latter. Mr. F. Gilks was second; and Mr. W. Wesker, gardener to A. Heaver, Esq., Upper Tooting, was third. Mr. F. Gilks took the first prize for a single pyramidal specimen; and Mr. W. Davey was second. Mr. F. Gilks was again successful in the class for six trained specimens of Pompons, taking the first prize. The first prize for six trained specimens of large flowering sorts was taken by Mr. D. Donald, gardener to J. G. Barclay, Esq., Leyton, who had the best flowered plants of this class in the show. Mr. J. Brooke, gardener to W. Reynolds, Esq., J.P., The Grove, Highgate, was a good second; and Mr. W. Wesker was third. The first prize for six trained standard specimens was taken by Mr. D. Donald, whose plants were generally well flowered. In the classes for table decorations, etc., the first prize for three vases or epergnes was awarded to Mr. F. W. Seale, Sevenoaks; the second prize went to Mrs. Walter Mole, High Street, Hemel Hempstead. Mr. R. Potter, gardener to Sir M. W. Collet, Bart., St. Clere, Sevenoaks, took the first place for three bouquets of Chrysanthemums; Mr. E. Chadwick, 8, Dorset Gardens, Brighton, was second. Mr. J. R. Chard, Stoke Newington, took the first award for a table of bouquets, wreaths, sprays, etc., and which were tasteful. Messrs. Perkins & Sons, Coventry, were a good second, showing some novel designs. Mr. H. C. Garford, Stoke Newington Station, was third.

Prizes were also offered for fruit and vegetables, bringing out a good show in themselves. The first prize for six dishes of dessert Apples was taken by Mr. Thos. Turton, gardener to John Hargreaves, Esq., Maiden Erleigh, Reading. Mr. Thos. Bettesworth, gardener to R. Ewing, Esq., Burton Grange, Cheshunt, Herts, was second; and Mr. Geo. Goldsmith, gardener to Sir E. Loder, Bart., Horsham, was third, as well as in the class for culinary Apples. Here Mr. Thos. Turton was again first; and Mr. John McKenzie, gardener to F. S. W. Cornwallis, Esq., Linton Park, Maidstone, was second. The competition was keen throughout, and the exhibits excellent. The first prize for six dishes of dessert Pears was awarded to Mr. Geo. Goldsmith; and Mr. Wm. Allan, gardener to Lord Suffield, Gunton Park, Norwich, was second, both showing well. Mr. J. H. Ridgewell, Histon Road, Cambridge, had the best 12 dishes of Potatos. He was followed by Mr. Wm. Pope, gardener to the Earl of Carnavon, Highclerc Castle, Newbury, Berks. Mr. R. Lye, gardener to W. H. Kingsmill, Esq., Sydmonton Court, Newbury, was third. The first prize for Gros Colmar Grapes was awarded to Mr. J. Edmonds, gardener to His Grace the Duke of St. Albans, Bestwood Lodge, Arnold, Notts. Mr. Geo. Elliott, gardener to P. N. Graham, Esq., Hurst Side, West Moulsey, Surrey, was second; and E. Tautz, Esq., 1, Queen's Walk, Ealing, was third. The first prize for three bunches of black Grapes was taken by Mr. Wm. Allan, with fine samples of Alicante. Mr. Arthur Ocock was second; and Mr. W. Howes, gardener to Henry Tate, Esq., Park Hill, Streatham Common, was third. Mr. W. Harman, gardener to the Earl of Denbigh, Newnham Paddox, had the best white Grapes; Mr. E. Griffin, gardener to Alex. Christy, Esq., Coombe Bank, Kingston-on-Thames, being second; and Mr. J. Bury, gardener to C. Bajer, Esq., Tewkesbury Lodge, Forest Hill, was third. Prizes were offered in three classes of vegetables by Messrs. Sutton & Sons, Reading. Here the first prize for 9 dishes of Potatos was taken by Mr. J. H. Ridgewell; Mr. Wm. Pope was second; and Mr. S. J. Cook, gardener to J. B. Yule, Esq., Holme Wood, Hendon, was third. The first prize for 4 dishes of Potatos was taken by Mr. S. Haines, gardener to the Hon. D. P. Bouverie, Coleshill House, Highworth; Mr. F. J. Hazell, Histon Road, Cambridge, was second; and Mr. Thos. Mills, Baxtergate, Loughborough, was third. The prizes for a collection of vegetables brought out some fine and attractive lots. The first prize was carried off by Mr. James Gibson, The Gardens, The Oaks, Carshalton, Surrey, who had tastefully arranged lots of Cauliflower, Tomatos, Potatos, Onions, Celery, etc., on a groundwork of Parsley. The second award was taken by Mr. R. Lye, whose samples were very neat. Mr. C. J. Waite, gardener to the Hon. W. P. Talbot, Glenhurst, Esher, was third. The fourth place was taken by Mr. Chas. Brown. There were altogether eleven entries. Messrs. Webb & Sons, Wordsley, Stourbridge, also offered prizes for a collection of vegetables. In this class the first prize was taken by Mr. C. J. Waite with some good samples; Mr. Wm. Pope was second, and Mr. R. Lye took the third place.

In the miscellaneous class a large exhibit of Pelargoniums and Chrysanthemums was staged by Messrs. H. Cannell & Sons, Swanley. The Pelargoniums were set up in bunches, and were notable for the size of the blooms, varied and rich colours. They also staged a group of Cyclamens. Amongst their Chrysanthemums were Col. W. B. Smith, Viviand Morel, Florence Davis, and others of large size. A table of Chrysanthemums was set up by Mr. H. J. Jones, who cut the flowers with leaves and set them up with ferns in pots. Very fine were Mademoiselle Marie Hoste, Viviand Morel, Mr. W. H. Atkinson, and others. A collection of Chrysanthemums was also exhibited by Messrs. Pitcher & Manda, Hextable, Swanley, including fine blooms of the Tribune, yellow; Mrs. A. G. Ramsay, crimson; Primrose League and Florence Boyd, pink. A collection of stove and greenhouse plants was exhibited by Messrs. Ed. Shuttleworth & Co., Albert Nursery, Peckham Rye, including Crotons, Dracænas, Ferns, Heaths, etc. Some well-flowered zonal Pelargoniums in pots scattered through the buildiug were shown by Mr. G. Burnett, gardener to Mrs. Fenton, The Grange, Hillingdon. A group of Chrysanthemums in pots was shown by Messrs. Pitcher & Manda, including a fine lot of the yellow Ostrich Plume, W. A. Manda. Mr. W. J. Godfrey, Exmouth, Devon, had a stand of Chrysanthemum Beauty of Exmouth, and another of Duchess of Devonshire and Florence Davis. A small collection of Apples including fine samples of indoor culture was shown by Messrs. T. Rivers & Son, Sawbridgeworth. A small collection of Chrysanthemums was shown by Mr. W. Beech, gardener to L. Seligman, Esq., Hereford House, South Kensington. Some stands of Chrysanthemums were shown by Messrs. Reid & Bornemann. A showy group of Orchids, particularly Cattleyas, backed up by Crotons and Palms was exhibited by Messrs. B. S. Williams & Son, Upper Holloway. A collection of nicely-coloured Apples was shown by Messrs. Wm. Cutbush & Son, Highgate, as well as a fine table of Heaths. Some Chrysanthemums were shown by Messrs. J. Carter & Co., High Holborn; and also by Mr. J. Dibbens, Brockley. Finely-coloured Grapes were shown by Mr. Wm. Allen, gardener to Lord Suffield, Gunton Park, Norwich. Some pot plants of single varieties of Chrysanthemums were shown by Mr. J. Wright, Middle Temple Gardens. Mr. J. F. McLeod, gardener to J. P. Morgan, Esq., Dover House, Roehampton, occupied a table with well-grown and flowered Bouvardias. Another table was occupied with Capsicums and Crotons by Mr. A. Newell, gardener to Sir Edwin Saunders, Fairlawn, Wimbledon Common. A large exhibit of cider and cider Apples was shown by Messrs. Wm. Gaymer & Son, Banham, Attleborough, Norfolk. A large collection of Apples was shown by Messrs. J. Laing & Sons, Forest Hill, including all the leading varieties. Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, occupied a similar space with Apples and Pears, the latter grown under glass. A collection of 65 dishes of Potatos was shown by Mr. J. H. Ridgewell.

GARDENING MISCELLANY.

FORMS OF APPLE TREES.

I THINK for general garden purposes Apples grown on stems a few feet high and their heads stiff and round have the advantage in retaining their fruit much better during windy weather, than trees which are allowed to spread and grow loosely. Orchard trees may be differently manipulated, but when they have expanded their growth and become stiff and sturdy the crop is less likely to be blown off and damaged. I have grown Apples on every form of tree which I have seen, read of, or heard about, and I am decidedly in touch with Mr. Pragnell's system of growing them in gardens as described by "*A. D.*" at p. 97. I prefer to get them into their stiff habit by root manipulation, so that top pruning ultimately becomes merely nominal One can then top dress the roots, get large, healthy foliage with natural spurs, and fine crops of large fruit always follow.—*Stirling.*

THE COCO DE MER.

THE plant which we figured on p. 117 has outgrown the pan in which it was originally allowed to root and has been transferred to a number one-size pot. The roots were found to be in splendid condition and to have made quite a mass of fibres, so that there seems little fear of its becoming firmly established. Each succeeding leaf gets larger, and so stiff and woody are they all that they have quite a metallic ring when tapped. The temperature of the Victoria house during the winter, when the water is let out of the tank, is considered to be too low for it, and consequently after the ceremony of repotting it was moved into the stove. Owing to the size and weight of the whole plant, together with the encumbrance caused by the large seed and the cotyledon attaching it to the plant, a considerable number of hands had to be called in to aid in the potting and removal of the monster baby Palm.

COTONEASTER CONGESTA.

AT all times of the year this Cotoneaster maintains a neat and compact habit. The tiny leaves with which the plants are clothed, are of a dull, light green, and of quiet or unassuming appearance in the summer months, but towards autumn the whole bush assumes quite a lively appearance, owing to the numerous old leaves which are preparing to drop and change to a lively red or crimson and yellow. These are mixed pretty regularly with the green ones all over the plant, and at a short distance might be readily mistaken for fruit. Cuttings of the half-ripened wood strike readily during the latter part of summer, if inserted in sandy soil and kept close by means of a handlight. It grows slowly, and when planted at the upper end of projecting boulders of stone on the rockery, it gradually creeps down over them, forming almost a close, investing carpet. C. microphylla may be used in the same way, but it never forms so closely fitting and compact a mass.

GLADIOLUS OPPOSITIFLORUS.

THE flowering stems of this species attain a height of 6 ft. or more, and the species may therefore be considered a giant amongst its kind. Dean Herbert, who spoke of it many years ago, believed that it was one of the parents of G. gandavensis, of which there are so many varieties in cultivation, but that idea has recently been disputed by Mr. Baker, of Kew. Some grand plants of it may be seen in the Cape house at Kew, where two or three distinct varieties may be noted. The tallest have spikes of flowers 2 ft. long with the large white flowers arranged in two distinct ranks. They are blush white with a purple stripe along the centre of the three lower segments, and measure about 2½ in. across. The great sword-shaped leaves are stiffish, glaucous green, and 2 ft. to 3 ft. long. Surely with material like this in hand an effort will be made to secure a new race of Gladioli, of strong and sturdy constitution, with stately stems and leaves and large flowers. Of course size could be obtained by crossing with the large flowered types so common in cultivation. Only a few corms were sent home by Professor Mac Owan, and a few years must elapse before the plant becomes common. One of the varieties has dwarfer stems and narrower, more wavy, white or blush coloured segments having a purple line along the midribs. It is pretty, although not so striking as the tall one.

ACHILLEA TOMENTOSA.

WHEN planted out in ordinary good garden soil, the quantity of flowers this composite will produce, as well as their continuity from midsummer till well into November, go a long way to recommend the plant to the general cultivators. It is well adapted for rockwork on account of its dwarf habit, but when planted in situations, where the moisture is generally limited, it produces but a very moderate amount of bloom. The leaves closely resemble those of the common Milfoil, but they are narrower, more compact, and hoary. The stems closely hug the ground. We noted a large bed of it, consisting of some hundreds of plants, in the nursery of Messrs. Pitcher & Manda, Hextable, Swanley, where the red variety of the common Milfoil is still in perfection.

BERBERIS WALLICHI IN FRUIT.

WALLICH'S Barberry never makes anything but a low growing dense bush; but the evergreen leaves have a hard and leathery appearance. It proves perfectly hardy in the south and would probably be so in the north. The berries are produced in axillary clusters, drooping and black, heavily suffused with a glaucous bloom like a well finished black Grape. They are oblong or ovate and the latter are somewhat constricted above the base like those of the seedless Black Monukka Grape, only much smaller. They lend additional beauty and interest to the plant during the dull autumn months. The dwarf habit of the plant makes it suitable for planting on rockwork to relieve the monotony of flatness, but more especially in winter where the flowering herbaceous subjects have to a great extent died down.

CHRYSANTHEMUM SHOWS.

CRYSTAL PALACE.

THE Palace Show, held on the 4th and 5th inst, suffered materially from the prevailing dearth of open blooms, owing to the lateness of the season, and small, but neat was the general verdict. The blooms of "Japs." that were staged were generally of a high order, but the incurves as a rule were not so fine as usual. The premier class for 48 blooms, 24 each of incurved and Japanese brought out six competitors, amongst them being Messrs. W. & G. Drover, of Fareham, who were in fine form and easily secured the first prize, the extra weight in their stands being found among the incurved blooms, of which we noted grand flowers of John Lambert, R. Bahuant, Queen of England, Lord Alcester, Lord Wolseley, Prince Alfred, Princess of Wales, M. Darier, etc. Their finest "Japs." were Mrs. C. Wheeler, Viviand Morel, Florence Davis, a well bleached bloom, Etoile de Lyon, Edwin Molyneux, Sarah Owen, etc. Mr. C. J. Salter, gardener, Woodhatch Lodge, Reigate, came in second, showing a specially strong lot of "Japs;" and Mr. Whittle, gardener, Ballards, Croydon, was third; and Messrs. H. Ray & Co., Teynham, Kent, fourth.

Mr. James Douglas, Great Gearies, beat the Messrs. Drover for first honours with 18 incurved varieties, included in his fine stand being specially good examples of Golden Empress of India, J. Doughty, Emily Dale, Queen of England, Empress of India, Alfred Salter, R. Bahuant, Prince Alfred, and Lord Alcester. Mr. C. Cox, Brickenden Grange, Hertford, came in third, and Mr. H. Shoesmith, Shirley, fourth. Mr. W. Howe, gardener, Park Hill, Streatham, had the best dozen incurved blooms; and Mr. G. Carpenter, gardener, Broadoaks, Byfleet, the best six of any variety—the most perfect half dozen blooms of Refulgens that we have ever seen, and quite the lions of the show. Mr. C. Cox took a more forward position with 18 "Japs.," and was closely followed by Mr. James Douglas; and for 12 blooms the highest honours went to Mr. A. Felgate, gardener, Bushill, Walton-on-Thames. Mr. W. Howe had the best half dozen of any variety—a very beautiful lot of Sunflower. Mr. C. J. Salter contributed the best stand of reflexed and Japanese reflexed; and Mr. Glen, Worth Park, the best examples of Anemones and Japanese Anemones.

Messrs. Reid & Borneman, Sydenham, were first for a group of "Japs," with a very fine display, most conspicuous in which were the front row plants, many of which were only from 9 in. to 15 in. high, yet carried show blooms of fine quality. Messrs. James Carter & Co., Forest Hill, were second with a smaller group, but still of admirable quality. The principal award for a smaller group went to Mr. T. W. Wilk, gardener, Cranbrook Villa, Fox Lane, Upper Norwood. The trained plants called for no special comment, with the exception of half a dozen Pompons consisting of golden, white and lilac Cedo Nulli, Aurora Borealis, St. Michael and St. Justine, exhibited by Mr. John Hughes, gardener, Eastlands, Dulwich Village, which were superbly done and worthy of all praise.

The miscellaneous contributions were not numerous, but included a large collection of Apples and Pears, &c., from Messrs J. Cheal & Sons, Crawley; and collections of new Chrysanthemums from Messrs. Pitcher & Manda, Hextable, Swanley, and the Earlswood Nurseries, Limited. The former received First-class Certificates for three new varieties. G. W. Childs, Col. W. B. Smith, and Mdlle. Marie Hoste, and others we understand would have been similarly distinguished had more than one bloom been staged.

BRIGHTON.

THE annual show held by the Brighton and Sussex (new) Horticultural Society, on the 1st and 2nd inst., was, considering the lateness of the season, a most gratifying success. It was in every way a grand show, and was well attended. Cyclamens and Primulas were well represented, but were scarcely so good as last season. The groups of Chrysanthemums and specimen plants were particularly good, and the premier prize for a group went to Mr. House, gardener to F. Mowatt, Esq., Patcham; Mr. Miles, Bristol Nursery, Kemp Town, being a good second. Mr. J. Thorpe, West Hill Road, Brighton, was first for a smaller group. The cut blooms were very good, and the principal winners in this section were Mr. Glen, Worth Park, Crawley, and Mr. Penfold, gardener to Sir F. FitzWigram, Havant. Grapes were also well shown, and Mr. Glen secured the first prize with a white variety, and Mr. Fairs, gardener to R. Clowes, Esq., for black; Mr. Phillips, gardener to — Baber, Esq., Hove, being second with the former, and Mr. Kemp, gardener to C. R. Scrase Dickens, Esq., Horsham, second with the latter. The prizes were good all round, and the entries very heavy in some classes, the total numbers being 136 for cut blooms, 63 for plants, 140 for vegetables, 180 for fruit, 82 for the special prizes, and 35 in the Amateurs' division. The society is fortunate in having such a genial and thoroughly practical secretary as Mr. Longhurst, and in gaining the active support of so many exhibitors.

IPSWICH.

THIS annual exhibition was held on the 1st and 2nd inst., and as usual received a gratifying measure of local support, notwithstanding diminished entries in many classes owing to the backwardness of the blooms. From the same cause a silver cup offered by the Mayor for 36 blooms, 18 incurved and the same number of Japanese, could not be awarded. For 24 Japanese, Mr. A. Bishop, gardener, Westley Hall, Bury St. Edmund's, took the first prize, and the same grower was also first for 12 blooms in the gardeners' competitions. In the corresponding class for amateurs the principal award went to Mr. M. Gurry, the trainer of Newmarket, who also had the best twelve incurved blooms, and secured the N.C.S. Silver Medal for the best Japanese bloom, with a beautiful flower of Puritan. The best group of plants was contributed by Mr. Southgate, gardener to Dr. R. K. Casley, the Rev. H. A. Berners, Harkstead Rectory, being a good second. Mr. Berners also took several other prizes.

The fruit and vegetable classes were better contested than usual, and made up for the deficiency of Chrysanthemum blooms. For a collection of six dishes of fruit Mr. Sheppard, Woolverstone Park, came in first, beating Mr. Rogers, gardener to Lord Rendlesham, and Mr. A. Andrews, gardener, Campsey Ashe. Mr. A. Soman, gardener, The Grange, Woodbridge, staged the best collection of vegetables. The arrangements made by the honorary secretary, the Rev. H. A. Berners, were all that could be desired.—*J.*

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

EPIDENDRUMS.—How very few, considering the great number of species there are of this genus, are really worth growing. Yet there are a few which rank among the best Orchids grown. Take for instance the beautiful E. vitellinum majus; it has all the qualities which go to make Orchids popular amongst amateurs, *i.e.*, it is dwarf-growing, requires cool treatment, is free-flowering, and lasts a long time in full beauty. The colour too is so attractive and uncommon amongst this class of plants. We have grown this successfully for a number of years with the Odontoglossums; some are grown in shallow pans, others in baskets, and I must say that those in baskets do much the best. One plant in particular, after failing to grow satisfactorily in the pan, has made fine progress since being transferred to a basket and hung up near the glass. Very little compost about the roots is required, but it should be of the best quality, and plenty of moisture in the atmosphere and at the roots suits them.

EPIDENDRUM WALLISII is a most beautiful species requiring more heat than the Vitellinums, and should be grown with the Lælias. More head room too is required, as it makes strong growths several feet high, which produce drooping spikes of flowers during November and the following three months if allowed to do so. Pot culture seems to suit this best, a compost of peat, sphagnum moss, silver sand, and a few potsherds broken up fine, being used. It is much helped during summer with weak doses of manure water.

PILUMNAS.—Considering the amount of bloom to be had from a few plants of this easily grown genus and the small space they occupy, the wonder is that they are not more generally grown. P. fragans, as its name implies, is beautifully scented, a few plants filling the house with its sweetness. They bloom too during the winter months, which should be another recommendation. They adapt themselves to either pot or basket culture, and may be grown during summer with the Odontoglossums, but after this date they should be transferred to the intermediate, or, failing such a house, to the Cattleya house. We grow a few of P. fragans, but the majority of our plants are P. nobilis, which has larger flowers and is altogether a better species. Ours are grown in peat and moss (equal parts), and are potted annually.

TRICHOPILIAS require similar treatment to the Pilumnas, which they very much resemble in their habit of growth. These do best when kept in the intermediate house all the year round. They should enjoy a good position near the glass. We find they are rather impatient of too much water, and are on that account given plenty of drainage. T. suavis, T. crispa, and its variety, marginata, and T. tortilis should find a place in collections

LÆLIA PERRINII.—This is just now flowering freely with us, and as it is a very fine dark variety is much appreciated. It holds its own against some of the finest of the autumn flowering Cattleya labiata, and, treated the same as the Cattleyas, it never fails to bloom freely annually. We pot it in peat alone, which suits it better than when potted in Peat and Moss.

CATTLEYA GIGAS.—It is not very often that we see Cattleya gigas in flower at this time of year. Indeed, it does not flower too freely in some places even at its proper season, but we have a plant carrying a spike of two flowers, which will come in useful for hybridising purposes. C. gigas and L. Perrinii ought to produce something distinct.

TEMPERATURES.—There will be no alteration required while the weather keeps mild.—*C.*

THE undermentioned Orchids were accorded awards in proportion to their merit at the last meeting of the Royal Horticultural Society, on the 1st inst.:—

Cymbidium hybridum Winnianum.

THIS is a hybrid between C. giganteum and C. eburneum, having a raceme of flowers like that of C. giganteum, but shorter and not so decidedly arching or drooping as in that case, with lighter coloured flowers recalling those of C. eburneum. The leaves are linear, striated with veins, and about 18 in. long. The shortly-arched flower scapes are somewhat shorter, and there were five of them, each bearing about six or eight flowers, on a fine plant exhibited by Messrs. F. Sander & Co., St. Albans. The sepals and petals are oblong, and of a pale creamy-yellow. The lip is of the same general hue, but the middle lobe is finely marked with crimson spots, while the lower portion is more closely marked with smaller spots of the same hue. As a whole the plant was very effective and pleasing on account of the clearer colours of the flowers that are devoid of the brown hue characteristic of C. giganteum. A First-class Certificate was awarded it.

Cattleya leucoglossa.

THE seed parent of this hybrid was Cattleya Loddigesii crossed with pollen of C. fausta, itself a bigeneric hybrid between C. Loddigesii and Lælia exoniensis. The pseudo-bulbs are 3 in. to 8 in. long, slender, slightly compressed, and surmounted by one or two oblong, rigid, and shining green leaves of moderate size. The sepals are lanceolate-oblong, and of a soft lilac, while the petals are similar in hue but twice or three times as broad and elliptic. The tube of the lip externally is pinkish-lilac; the middle and side lobes are creamy-white, undulated, crisped and toothed, with a very small purple blotch at the apex. There is also a large triangular, pale yellow blotch

at the base of the middle lobe, while the interior of the tube is lilac-purple netted with white lines. The large column is pink, curved, and lies flat on the lip. The name leucoglossa refers to the creamy-white upper portion of the lip. The flowers are of pleasing light shades of colour, and a First-class Certificate was awarded the hybrid when shown by Messrs. J. Veitch & Sons, Chelsea.

Spathoglottis Vieillardii rubra.

The typical form of this fine species has pale lilac flowers arranged in a short and compact cluster like a raceme. The variety under notice is characterised by flowers which are darker in all their parts. The sepals are elliptic and pale purple, while the petals are twice as large and deeper purple. The lip is deeply three-lobed, the middle lobe being obcordate, wedge-shaped with a long slender claw and of an intense purple; the side lobes are shorter, oblong and brownish crimson, with a yellow crest on the middle. It will be a great acquisition to collections of Orchids, as it is an improvement upon one of the finest if not the finest Spathoglottis in cultivation. A First-class Certificate was awarded it when exhibited by Sir Trevor Lawrence, Bart. (grower Mr. White), Burford Lodge, Dorking.

Cattleya labiata Sanderæ.

As the hundreds of plants of C. labiata come into bloom, it may be expected that a considerable number of fine varieties will turn up. Hitherto one of the palest we have seen is that here noted, and we believe a pure white one has not yet made its appearance. The flowers are moderate in size with delicate blush pink sepals and petals. The lip is white with a triangular purple blotch on the middle of the terminal lobe, and the throat of the tube is pale yellow, The column is small and white. On the whole it is a pleasing variety of pale hue, and was accorded an Award of Merit when exhibited by Messrs F. Sander & Co., St. Albans.

Lælia Perrinii nivea.

The sepals of this distinct variety are linear-oblong and pure white, while the petals are oblong elliptic and similar in hue. The tube of the lip is white externally and internally, but the middle lobe is of a peculiar and pale slaty-lilac, and finely crisped. Some would describe it as of a pale rosy-purple with a pale yellow disc. The variety appeared many years ago in the collection of Consul Schiller, at Hamburg, but it very seldom appears on the exhibition table at the present day, and we should think it is therefore far from being common. An Award of Merit was accorded it when shown by Messrs. B. S. Williams & Son, Upper Holloway.

Lælia elegans excellens.

The varietal name has been given to a richly coloured variety shown by Thomas Statter, Esq. (gardener, Mr. Robert Johnson), Stand Hall, Manchester. The oblong sepals are purple, and the obovate-spathulate and broader petals of a darker shade of the same colour. The tube of the lip is pure white externally, and tinted with pale yellow internally. thus contrasting with the rich crimson hue of the middle lobe, which continues its colour in the form of a narrow band to the base of the tube. The side lobes, on the contrary, are a shade paler and crimson purple. An Award of Merit was granted it. The flowering period of Lælia elegans and its varieties extends from May to November at least, the bulk of the flowers, however, appearing during the summer months.

Cypripedium Arthurianum pulchellum.

The leaves of this beautiful variety are oblong or ligulate, 3 in. to 5 in. long, light green, and faintly tessellated. The upper sepal is the most conspicuous organ of the flower, and is pale yellow, closely blotched with bright brown, except in the upper fourth of its length, which is white with purple spots in lines in the area just above the yellow ground. The upper edge of the petals is undulate and ciliate; the upper longitudinal half is of a bright shining brown with darker veins, and yellow on the lower longitudinal half spotted with brown markings along the veins. The lip is also of a shining brown with deeper veins, showing yellow around the orifice as well as towards the lower end of the pouch. The staminode is yellow with green spots in the centre. The seed parent of the typical C. Arthurianum was C. insigne crossed with C. Fairieanum. The former chiefly influences the form of the flower, the latter the colour. The colours of the variety C. A. pulchellum are clearer and brighter. An Award of Merit was accorded the variety when shown by Messrs. J. Veitch & Sons, Chelsea.

Cypripedium Constableanum.

This new hybrid was obtained by crossing Cypripedium Dayanum with the pollen of C. Fairieanum. Leaves short, very light green, with a faint tesselation, stem 5 in. to 6 in. high, thin and hairy. Flower small, well shaped, dorsal sepal pointed, incurved, whitish with apple-green veins, lower sepal small, greenish. Petals with the ends turned upwards reflexing backwards, white shaded light green lined and spotted with purple lines and dots, and lined with conspicuous hair on both edges. Lip pointed, turning upwards, green, shaded and lined with brown. This hybrid approaches Fairieanum more than any other hybrid raised from that species. It was named in honour of F. A. Constable, of New York City.—*Jos. Manda, Jr., in "American Florist."*

WHAT TO DO IN THE GARDEN.

Gardenias.—In the case of plants just being pushed into growth by heat, the application of weak liquid manure will greatly assist in swelling the buds, especially when the plants are old or the roots pot-bound.

Poinsettias.—These are also greatly benefited by frequent applications of weak liquid manure kept up till the bracts have nearly attained full size. Keep the plants as near the glass as possible so as to maintain the foliage in a healthy condition. Nothing detracts so much from the appearance of Poinsettias as the absence of foliage when the bracts are developed.

Salvias.—The intermediate house is best for such species as S. splendens and its several varieties, S. rutilans, with Apple-scented foliage, S. involucrata Betheli, S. boliviensis, and others of that type. They may be kept very well in a house with a minimum night temperature of 50°, but if S. splendens and its varieties are suddenly transferred from stove heat into such a place or a colder one, the chances are that the bulk of the flowers will drop. To guard against this it should enjoy a judicious amount of ventilation during the time the flowers are advancing. The others are hardier, and a number could be added to them, which are more or less cultivated in private collections.

Tacsonias.—Now that the plants are at rest, advantage should be taken of this circumstance to shorten back and thin out the shoots, more especially the weak ones and those affected with scale. The rest should receive a good dressing of nicotine soap either by means of the syringe or with an old half-worn painter's brush As the plants flower from the young wood, there need be no scruples about thinning out the shoots that have done flowering and all other weak and useless ones.

Camellias.—Those with well-advanced buds may be urged a little faster into bloom by a judicious use of fire heat, always making sure that the roots are well supplied with moisture and the atmosphere kept moist by damping down and occasionally syringing the plants. A lack of attention to these matters often result in the dropping of the flower buds.

Epacris and Winter-flowering Heaths.—Plants of this class coming into flower will require close attention in the matter of watering, otherwise the display of bloom will be materially lessened or rendered inferior by many of the blooms refusing to open. A considerable amount of water, especially in the case of Epacris, is necessary to enable the numerous flowers to attain perfection. Their utility for cut flowers makes them worthy of all due attention.

Chrysanthemums in the Conservatory.—Continue the use of liquid manure till the buds commence to open. Keep the atmosphere of the house as dry and cool as possible; on wet, dull, and foggy days it may be necessary to warm the pipes just a little to dispel superfluous moisture, but plenty of ventilation must be given at all times to maintain the health of the foliage and the condition of the plants generally. By this means the display of bloom will not only be finer but more durable.

Cucumbers.—Plantations made for late work will now require a little assistance in the shape of fresh material over the roots if the latter are showing themselves through the mounds. A covering of well decayed cow manure placed over the roots will help to preserve the moisture, and also benefit the plants by the substance of it being washed down to the roots in watering. On mild nights a temperature of 65° will be ample, but on frosty nights it may be allowed to sink to 60°.

Roses.—Those who like Roses on their own roots may put in cuttings now. Spread a good layer of sand and leaf soil over the ground to be occupied with the cuttings, which may be inserted in trenches as the digging goes on. Take off cuttings 6 in. to 9 in. long with a heel of the old wood; moderate sized and well-matured shoots should be selected, and made very firm by treading the soil about them They will fare best if the cuttings are put into the ground for a depth of 4 in. or 5 in., as they will thus be safer from the action of frost, and may throw up shoots from beneath the soil even if the tops get cut down by frost.

Carnations and Picotees.—All pot plants, whether intended for flowering under glass or to be planted out, should now be under cover. Those advancing into bloom will have been taken care of before this time; but those to be protected in cold frames to be planted out in March should no longer be left at the mercy of the elements. They have, however, up to this time been making excellent progress and developing plenty of roots. In favourable localities and those where the soil is light, the open air planting should no longer be delayed if it has not been accomplished before this time. Such plantations should at least be made in October.

Bush Fruits.—The present is a suitable time to make fresh plantations of these useful fruits. Previous to lifting the bushes, if grown in the reserve garden, or before ordering them, the soil should be well prepared by trenching it 18 in. or 2 ft. deep, heavily manuring it at the same time. Old plantations can also be ameliorated by transplanting them to fresh ground. Get out the holes, and place therein a barrow-load or two of good fresh material before lifting the plants, so that there may be no delay in getting the roots covered up again. After the holes have been filled up and well trodden, mulch the soil with farmyard manure or that taken from old spent hot-beds. This process will aid the plants in making good growth next year, and go far to renew their bearing capabilities.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "The Editor" or "The Publisher," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa, London."*

Chrysanthemum Sport.—*H. A.*: It is certainly distinct from the usual form as seen on exhibition stands during November, but this distinctness might be due to the method of treatment, that is to differences of soil or manure, or whether it has been taken from the crown bud or not. Some varieties are very much given to sporting in this way, so that when treated differently another year they simply show that they belong to the usual type. You may take cuttings from the stem nevertheless and grow a few plants to see how it will behave another year. It might then show that it was worthy of taking a place in the collection for the sake of variety.

Eggs of Insect.—*J. Wilson*: The ring or girdle of eggs is that of the Lackey Moth (Bombyx Neustria). The eggs are always laid in that characteristic fashion upon the food plant of the insect. The caterpillars are large, hairy, and do a considerable amount of mischief to fruit trees, especially Apples, in districts where they are plentiful. If all those eggs were to pass the winter safely and hatch into caterpillars the latter would soon strip the tree of leaves if left undisturbed. Examine the rest of the trees and destroy all the eggs you can find. Should they occur on shoots which you do not wish to cut away, scrape off the eggs, or rub them hard between the fingers so as to break and destroy them.

Names of Plants.—*Miss Walsh*: 1, Aster cordifolius elegans; 2, Aster ericoides; 3, Aster Novi-Belgii lævigatus; 4, Aster diffusus horizontalis; 5, Aster Novi-Belgii Harpur Crewe; 6, Saxifraga Hostii; 7, Saxifraga cuneifolia; 8, Heuchera hispida sometimes called H. Richardsoni: 9, Scrophularia aquatica variegata; 10, Lamium maculatum.—*J. W. G. Parnell*: 1, Aster patens; 2, Sericocarpus conyzoides.—*Omega*: The scarlet-fruited Thorn (Cratægus coccinea).—*A. G.*: 1, Euonymus europæus; 2, Aster cordifolius; 3, Aster turbinellus; 4, Jasminum nudiflorum; 5, Quercus rubra.—*A. Daniels*: 1, Cupressus nutkænsis; 2, Thuya orientalis; 3, Pinus austriaca; 4, Picea Morinda.—*Perthshire*: 1, Hymenocallis ovata, generally called Pancratium fragrans, probably, but flowers of this class of plants are scarcely sufficient to make certain of what they are; 2, Hedychium coronarium; 3, Rondeletia odorata, generally called

R. speciosa major in gardens; 4, Platytoma rotundifolia.

NAMES OF FRUITS.—*J. T. C.*: 1, King of the Pippins; 2, Scarlet Nonpareil; 3, Golden Reinette; 4, Sturmer Pippin; 5, Fearn's Pippin; 6, Dutch Mignonne.—*G. C.*: Pear Beurré de Capiaumont.—*H. R.*: 1, Louise Bonne of Jersey; 2, Knight's Monarch; 3, Beurrè Bosc.

HARDY CYPRIPEDIUMS.—*M. M., Aberdeen*: For Cypripedium macranthum in pots use a compost consisting chiefly of fibrous peat with a little fibrous loam to give it consistency. Drain the pots well and press the compost down firmly when potting. Keep the pots in a cool greenhouse, and in winter give just sufficient moisture to prevent the soil getting dry. When growth commences keep the plants in a well lighted place near the glass, but cool and shaded from direct sunshine. An abundance of water at the roots will be necessary while growing, and the plants should frequently be syringed until they are coming into bloom. This could be done in an unheated frame facing the north during the summer months and kept perfectly cool. When planted in the open air, a cool position facing the north or west should be chosen for C. spectabile. Make up a bed of peat, drain it well, and plant the rhizomes in it. In your part of the country a southern aspect would probably suit it better than any other as the climate is cooler. An occasional good watering should also be given while growth is proceeding. In the more sunny south we have seen it successfully cultivated in a bog bed where the roots are always saturated with moisture. As soon as the flowers wither, cut off the flowers to prevent seeds being produced, as they exhaust the fleshy rhizomes.

COMMUNICATIONS RECEIVED.—R. O.—R. L.—J. W.—G. J. I.—G. W.—G. B.—O.—S. M. H.—J. T.

TRADE CATALOGUE RECEIVED.

GEORGE ARMITAGE, Churwell, near Leeds.—Carnations and Picotees.

LONDON SEED TRADE.

November 8th, 1892.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a further considerable advance in price of Red Clover, sales having been made at 7/- per cwt. more than was paid last week. White Clover is scarce and dearer. Alsike steady; and Ryegrasses unchanged.

COVENT GARDEN MARKET.

November 9th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Grapes..... per lb.	0 6	2 0	Pine apples.		
Kent Cobs...100 lb.	100 0	105 0	—St. Michael's, each	2 6	6 0
Peaches ... per dozen			Apples...per ½ sieve	1 0	3 6
Melons ... . each			Plums...per ½ sieve		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, French, per lb.	1 0		Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	1 0		Radisbes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	5 0	Seakale .....per bkt	3 6	
Celery.....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers .....each	0 3	0 6	Spinach ... per strike	1 6	
Endive. French, doz.	2 6	3 0	Tomatos..... per lb.	0 9	1 0
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

No alteration from last week.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	4 0	6 0	Pelargoniums		
Asters.....doz. bun.	6 0	8 0	—scarlet.....12 bcbs.	4 n	6 0
Bouvardias, per bun.	0 6	1 0	Primula, double, bun.	0 6	0 9
Carnations, 12 blooms	1 0	3 0	Pyrethrum doz bncbs	2 0	4 0
Chrysanthemum, dz bn.	4 0	9 0	Orchid Bloom in var.		
— .....doz. blooms	2 0	9 0	per bloom, from	0 3	1 0
Eucharis ...per doz.	3 0	6 0	Roses, yellow, dozen	2 0	4 0
Gardenias 12 blooms	1 6	3 0	— French, per bnch	3 0	6 0
Heliotropes, 12 sprays	0 6	0 9	— French, 100 blms	6 0	12 0
Lilac, White, French,			— Red..... doz. blms.	1 0	2 0
per bunch...	5 0	6 6	— Saffrano...per doz.	1 0	2 0
Lilium Harrisii,			— Tea ..... per dozen	1 0	3 0
doz. blooms	4 0	9 0	Stephanotis, dz. sps.	4 0	6 0
Liliums var., dz. blms.	2 0	4 0	Tuberoses, per doz	0 3	0 6
Maidenhair Fern, 12 bs.	4 0	6 0	Violets, Parme, French		
Marguerites, 12 bun.	1 0	3 0	per bunch ..	3 0	4 6
Mignonette... 12 bun.	3 0	6 0	—Czar, French, bun.	2 6	3 0
Pelargoniums, 12 sps.	0 9	1 0	—Small „ doz. bun.	2 6	3 0

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FLOWER SHOWS, &c., 1892.

[*The Editor will be greatly obliged if Secretaries of societies will communicate to him the dates of their exhibitions as soon as fixed.*]

NOVEMBER.

15.—Royal Horticultural Society: Committee Meetings at Drill Hall.
15.—Wimbledon Chrysanthemum Show (2 days).
15.—Manchester Chrysanthemum Show (2 days).
15.—Liverpool Chrysanthemum Show (2 days).
15.—The Hartlepools Chrysanthemum Show (2 days).
15.—Plymouth Chrysanthemum Show (2 days).
15.—Twickenham Chrysanthemum Show (2 days).
16.—Bristol Chrysanthemum Show (2 days).
16.—Hull Chrysanthemum Show (2 days).
16.—Hanley Chrysanthemum Show (2 days).
16.—Rugby Chrysanthemum Show (2 days).
17.—Edinburgh Chrysanthemum Show (3 days).
17.—Neath Chrysanthemum Show.
17.—Rotherham Chrysanthemum Show.
17.—Wantage Chrysanthemum Show.
18.—Chorley Chrysanthemum Society (2 days).
18.—Stockport Chrysanthemum Show (2 days).
22.—Dalkey Chrysanthemum Show.
24.—National Chrysanthemum Society: Meeting of Floral Committee.

DECEMBER.

7.—National Chrysanthemum Society: Meeting of Floral Committee.
13.—Royal Horticultural Society: Committee Meetings at Drill Hall.

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12	Maiden-hair Ferns, 12 var., most lovely kinds...	5	0
6	Maiden-hair Ferns, 4 distinct var., named	2	0
3	Adiantum Farleyense, most handsome Maiden-hair...	2	6
3	Greenhouse Asparagus plants, strong, well rooted	1	9
6	Aralia Sieboldi, handsome foliage plants, strong	2	6
3	Lydogium scandens, the pretty climbing Fern	1	9
6	Greenhouse Selaginellas or Mosses, including golden	1	6
12	Assorted Ferns for cool greenhouse without heat	2	6
3	Crotons, highly coloured, best varieties	2	6
3	Dracæna indivisa, about 1 ft. high	2	0
6	Large choice greenhouse Ferns, A. Farleyense tenerum, Amabile, &c., 1 ft. high.	3	0
6	Fuchsias, 6 varieties, named	1	6
1	Tacsonia, 1 Hoya, 1 Solanum jasminoides	2	0
6	Primula obconica, always in flower, strong	2	0
6	Zonal Geraniums, best named varieties	2	3
6	Ivy Geraniums, 6 var.	1	6
6	Foliage Begonias (B. Rex), handsome leaves	2	0
3	Passion Flowers, 3 varieties, named	1	6
12	Tuberous Begonias, assorted colours	4	0
3	Double White Primulas	1	9
12	Gloxinias, extra fine strain	2	6
6	Cyclamen persicum, good strain	1	9
1	Stephanotis and 2 Hoyas	2	0
3	Hydrangeas Dr. Hogg	1	6
6	Heliotropes, 6 varieties	2	3

ENGLISH'S HARDY PLANTS.

6	Delphiniums, mixed colours, light and dark	1	6
4	Marguerites, white and blue, named	1	6
6	Perennial mauve Michaelmas Daisy	2	0
6	Sedums, in 6 varieties, named	2	0
6	Lavender or Southernwood, strong plants	1	6
6	Christmas Roses	2	6
12	Hollyhocks, mixed, from double flowers	2	6
6	Assorted winter-flowering Begonias	1	6
12	Sweetbriars, strong plants	2	3
20	Canterbury Bells, Aquilegias, or Campanulas	1	9
3	Large-flowering Clematis, purple, etc., named...	2	6
6	Mrs. Sinkins, new white Pink (12 for 1s. 10d.)...	1	4
12	Irish Ivies, strong plants, 2 ft. to 3 ft. high	1	9
6	Named perennial Phlox, 6 var.	1	6
6	Perennial Michaelmas Daisies, white, very large	2	0
12	Iceland Poppies, pretty perennials	2	0
12	Roses on own roots, best kinds	4	6
6	Helianthus (Perennial Sunflowers)	2	0
12	Chrysanthemums, 12 distinct varieties	2	0
12	Pansies and Violas, best named kinds	1	9
12	White Marguerites	2	6
6	Lobelia cardinalis, intense red flowers, perennial	2	0
3	Scarlet Salvias, very free flowering	1	3
6	Tritoma Uvaria (Red-hot Poker)	2	0
6	Rudbeckia Newmani, bright yellow, perennial	1	9
6	Nicotiana affinis (sweet-scented Tobacco plant)	2	0
100	assorted hardy perennial plants, named	5	0
12	Carnations, from double flowers	2	0
12	Pentstemons, assorted colours	1	6
6	Perennial Pyrethrums, assorted colours...	1	6
40	Wallflowers, blood-red, yellow, etc.	2	0
12	Wallflowers, Double German, mixed	1	6
6	Double Scarlet Geums	1	6
6	Carnations, Crimson Clove, Purity, Gloire de Nancy, etc., named	3	0
12	Perennial Gaillardias	2	0
1	Tulip Tree, 1 Adiantum Tree	2	0
6	Assorted flowering shrubs, 1½ to 3 ft	2	9
12	Auriculas, fine plants...	1	6
3	American Blackberry	1	6
6	Roses in pots, 6 varieties, named	8	6
3	Deutzias, 1 Passion Flower, 1 Tacsonia	2	0
6	Hardy Primulas, Sieboldi, cashmeriana, etc.	1	6
6	Tiger Lilies (12 for 3s.)	1	9
12	White Gladioli, The Bride	2	0

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Nov. 21st.—Bulb Sale at Protheroe & Morris' Rooms (and every day in the week).
Bulb Sale at Stevens' Rooms.
TUESDAY, Nov. 22nd.—Trade Sale of Orchids at Protheroe & Morris' Rooms.
Dalkey Chrysanthemum Show.
WEDNESDAY, Nov. 23rd.—Bulb Sale at Stevens' Rooms.
THURSDAY, Nov. 24th.—National Chrysanthemum Society: Meeting of Floral Committee.
Plant Sale at Protheroe & Morris' Rooms.
Bulb Sale at Stevens' Rooms.
FRIDAY, Nov. 25th.—Orchid Sale at Protheroe & Morris Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, NOVEMBER 19th, 1892.

EXHIBITING VEGETABLES.—Whilst we desire to do the fullest justice to the splendid samples of vegetables which a comparatively young and able grower, Mr. Gibson, of Carshalton, had in one of the classes for six varieties at the recent show of the National Chrysanthemum Society at the Royal Aquarium, it is necessary in the interests of competitors generally that a protest should be made against the practice evidenced especially in his case, and one that may be growing, of putting up such very large quantities of products, so that other exhibitors, who show the ordinary quantities only, get to feel that quantity has overcome them.

In this case Mr. Gibson certainly had splendid produce. For the time of year it would have been very difficult indeed to have beaten him anywhere, hence in criticising his exhibits we do their quality the fullest justice. Nor must it be understood that we consider he exceeded his strictly legal rights according to the terms of the schedule. What we do object to is the departure from established custom. His six dishes were made up of ten fine Cauliflowers, six large sticks of Celery, seventy Tomatos, all really good, twenty-one large Onions, thirty-two Potatos, and a peck of Brussels Sprouts. Now, if another year other exhibitors should be led to exceed these large quantities, why we shall see laid out collections of vegetables vying in bulk with the contents of a greengrocer's shop.

To check this undesirable expansion it becomes really needful to specify what in all forms of competition for vegetables, as in single dishes, shall be the number admissible of each variety or kind. Thus there should not be more than six Cauliflowers, twelve Potatos, twelve Onions, six Carrots, six Parsnips, six Turnips, twelve Tomatos, etc., and in that way competitors would be put on a footing of equality. Because many exhibitors come long dis-

tances, it is but fair to them that there should be some limitation put on the quantities to be staged, or otherwise the weight of stuff they may have to bring will become an intolerable burthen even if it does not prevent many from showing at all.

It is but fair to Mr. Gibson to remark that his large quantities were most artistically placed, and his exhibit was perhaps one of the best ever seen at the Royal Aquarium. Nowhere in the world are there to be seen such superb vegetables as are found in Great Britain; and could we have some autumn a really great National Show, bringing together all the best growers, such a display would be made as would not readily be forgotten.

THE CHRYSANTHEMUM SHOWS.—The present week practically winds up the Chrysanthemum exhibition campaign in the south, and another week will see it concluded all over the kingdom. It is a short season and a busy one. Happily it does not last longer, as to such an unwonted extent are we flooded with shows that satiety would soon ensue were the show season to be too long drawn out. So far it may be conceded that the flowers generally have been exceptionally fine, especially in the ever developing Japanese section. Blooms have been little less than marvellous, although many unduly large and coarse might very well have been dispensed with.

However, that is a small matter compared with the undoubted advance that has been evidenced, and in new ones especially the increase in sorts has been beyond all precedent. Already old sorts are rarely seen, and in but another year we shall see even more of the old favourites displaced. Whilst Japanese blooms have been so fine in most instances, the incurved blooms have been less refined and finished than usual. It is assumed that the sharp frost in the middle of September is to some extent responsible for this defect, and it is equally probable that the cold wet autumn has much to answer for. Still we have seen within the past few days, and this week especially, many fine incurved flowers that seemed to be as fine as they well could be.

We should like to see some of the smaller shows about London amalgamating with some of their neighbours, and thus becoming at once stronger and more attractive. A weak show does little good for the Chrysanthemum, while a strong one is very helpful in stimulating growers and gratifying the public. Not a few of these little shows are the product of local jealousies. Unhappily, Chrysanthemum growers are not all very high-souled persons, and are apt to place their little disaffections above higher considerations. Then the small shows, if not vigorously managed, last but for a few years, then become financially encumbered, and later die out, whilst one strong show might have long endured.

THE SIZE OF SHOW-BOARDS FOR JAPANESE CHRYSANTHEMUMS.—It was a most remarkable and striking comment on the recent discussion respecting the enlargement of Japanese Chrysanthemum show-boards that at the National Chrysanthemum Society's show at the Royal Aquarium, a gentleman who took such a prominent part in the discussion, Mr. W. Herbert Fowler, of Taunton, should have been first with both forty-eight and twenty-four Japanese blooms.

In the paper read before the N.C.S. at the meeting held last month, Mr. Fowler said: "I think that for forty-eight, or even thirty-six, distinct Japs., the present boards would perhaps carry the blooms without doing them any great injustice." How far he was right his wins at the Aquarium show have told us, and it was a remarkable fact that in both the classes referred to hardly one bloom could be said to touch another, even on these old boards, and yet the flowers were of the most perfect and beautiful description. Clearly there are judges who after all think that mere size is not everything, and that comparative perfection in Japanese blooms may be found in flowers of even and moderate dimensions.

Nothing can detract so much from the merits of a stand as showing some blooms of exceeding dimensions and some of moderate size. Evenness of size should always be regarded as an important feature, as it is with most other exhibits. Mr. Fowler's suggestion in his paper that enlarged boxes may be needful for smaller classes is doubtless right, because it is based on the assumption that those who have big blooms will be sure to use them, and whilst they may put up a dozen such they cannot manage twenty-four or thirty-six blooms that are distinct and equally big. In any case Mr. Fowler's success on the old boards seems to put a new face on the discussion.

THE FOG SEASON.—We have recently had to witness very ample evidence of the existence of the fog season. It has set in somewhat early this year, but happily the fog has not been cold, and it has so far not been of the intensely nauseous and injurious kind which we had to endure just prior to last Christmas. As will be seen from a statement in another column the Scientific Committee of the Royal Horticultural Society has been discussing the fog problem recently, and so far to no great purpose. It is easier to discuss and denounce fog than to get rid of it. Even did we universally forego the use of open fires or furnaces of any kind, and employ only smokeless fuel, we should still have fogs, as is so evident even at sea and on the coast where there are no smoke creators.

If we could stop the development of low atmospheric pressures fog would not trouble us. It is only when the upper strata of air becomes so cold and vapours cannot ascend that they gather on the immediate surface of the earth. Let a brisk air arise, however, and they vanish like ghosts before the dawn of day. Fogs in and about populous places are in relation to plant life injurious in three diverse phases. They exclude light, a potent factor in health for everything more or less; they are necessarily productive of exceeding dampness, which is as harmful to plants as to the human beings who have to inhale the fogs; and perhaps worst of all they are burthened with pestiferous vapours or ingredients which are poisonous to vegetation and to humanity.

We can only hope to get rid of this latter feature by the stopping of all ordinary coal combustion, and that is far too large an order at present. As to filtering the fog, that is more readily recommended than practised. The best thing of all would be to blow it away. That, too, is at present, we greatly fear, quite impracticable.

History of English Gardening.—Mr. Quaritch will publish, early next year, an elaborately illustrated work dealing with the early history of gardening in, this country. The authors are the Hon. Alicia M. T. Amherst and Mr. Percy E. Newberry.

Seedlings.—The Right Hon. Sir John Lubbock, Bart., M.P., has just published, through Messrs. Kegan Paul, Trench, Trübner & Co., Limited, the first of two volumes of a valuable work to scientists, entitled "A Contribution to our Knowledge of Seedlings."

The Annual Dinner of the National Chrysanthemum Society will take place on Wednesday, the 30th inst. at Anderton's Hotel, Fleet Street, Sir Edwin Saunders, president of the society, in the chair.

The Birmingham Chrysanthemum Show for 1893 is announced to take place on November 15th and 16th.

West Wickham Common, having been secured as an open space, was declared open for public use and enjoyment on Saturday last, by the Lord Mayor. The common is beautifully situated near to Bromley, in Kent, consists of twenty-five acres, commands extensive views, and possesses many features of rural interest, including a number of ancient and picturesque Oaks, some of which are believed to be 1,000 years old, and are known to have figured in historic pictures by well-known artists.

Mr. Peter Blair is, we understand, going to continue as gardener to the Duke of Sutherland, at Trentham, instead of leaving to become proprietor of the Trentham Hotel, as announced in these columns some time ago. We are very glad to hear this, because Mr. Blair has for some years most ably managed the garden department of this princely establishment, under somewhat trying circumstances; and as it is known that the new Duke and Duchess take a great interest in Horticulture we may not unreasonably hope that the glories of Trentham may ere long be revived. It would be a great loss to British Horticulture if such a grand place as Trentham were to become a thing of the past.

The latest information from the Scilly Islands is that the flower traffic has already commenced in earnest, and that extensive consignments of Marguerites and Chrysanthemums are being despatched. As we have previously stated the numerous crops of Narcissi are looking remarkably healthy, and there is but little doubt there will be blooms in the market by, if not before, Christmas.

Sutton's Cyclamen at Gloucester and Cheltenham Shows.—Messrs. Sutton & Sons, of Reading, were awarded six First-class Certificates for various sorts of their choice strains of Cyclamen at the Gloucester Show, whilst at the Cheltenham Show they received nine First-class Certificates. These flowers are just now coming into perfection, and there is now at their Florists' Flower Seed Nurseries one of the finest shows of these popular flowers to be seen anywhere.

Laportea moroides.—The Nettle Trees are not very popular in gardens, notwithstanding the bold character of the foliage and the peculiar and striking appearance of the fruit. The leaves are more or less covered with coarse hairs, that sting more severely than the common stinging Nettle, while the pain lasts longer. Gardeners have therefore to exercise great care when repotting, or moving the plants about, to avoid being stung. The leaves of Laportea moroides are heart-shaped and of large size. The peculiar fruits are more abundantly produced from plants several years old than from young ones. They are produced in heavy pendent clusters, from near the top of the stems and below the crown of leaves. The fruits closely resemble those of a Mulberry, as implied by the specific name, and vary from a pale to a deep vinous purple according to their stage of ripening. Besides their general likeness to the fruits of the Mulberry, they are in fact closely allied, as both belong to the same family. The plant requires a stove temperature.

Asparagus plumosus gracillima.—The ordinary form of Asparagus plumosus and its variety, A. p. nanus, are now extensively grown for decorative purposes, and as the stock is generally raised from seed, particularly of the last-named form, there are always more or less distinct varieties turning up amongst the seedlings. One of these is so characterised by the slender appearance of its branches that it has been named A. p. gracillima, The ultimate and slender shoots, popularly but erroneously termed leaves, are very much shorter than those of A. p. nanus, making the clusters, or fascicles appear less plumose, and not so crowded. The plant, as a whole, is therefore very light and graceful. We noted the variety in the nursery of Messrs. Pitcher & Manda, Hextable, Swanley

OUR FLORICULTURAL MAYORS.

FLORISTS, if keenly alive to the necessity for paying close attention to their favourite plants, and so devote much time to them, are yet willing to take their share of public duties, and it is with more than ordinary pleasure that we refer to the fact of there being now two gentlemen of good social standing who are ardent florists, and who have been called upon to occupy the highest municipal offices in the towns in or near which they reside. One is MR. SAMUEL BARLOW, Stakehill House, Castleton, Manchester, who has just entered upon the office of Mayor of Middleton; the other is Mr. W. Herbert Fowler, who on the 9th inst. was elected Mayor of Taunton, a younger man than Mr. Barlow, but also an ardent and highly successful florist.

So much has been said in past numbers of the GARDENING WORLD concerning Mr. Samuel Barlow, that there is danger of repetition. A lifetime florist, commencing with a bed of Pansies and a few annuals when quite a lad, Flora claimed him for her own, and faithfully and patiently, through failure and success, he has served his floral mistress with unswerving fidelity, and made a name with the Tulip—for does he not possess the choicest collection in the world!—the Gooseberry, Polyanthus, Auricula, early Chrysanthemums, and in later years he has become a devotee of Pomona, growing fruit with much success at his new home near Llandudno, with some of which he took high honours at the now famous Guildhall Show in 1890.

We have said he has the choicest collection of Tulips in the world; so he has also of gold-laced Polyanthus. Pinks are a leading feature at Stakehill, and so are Carnations; and though grown under considerable difficulties, having regard to the atmospheric and climatal conditions that prevail about the district in which he resides, yet with a very commendable amount of success.

In winter and early spring there are Christmas Roses, Primroses, Polyanthus, Pansies, Violas, Hepaticas, and some other floral harbingers of the flowery season; then there are within doors Auriculas, Azaleas Chinese Primroses, large bushes of autumn-sown Schizanthus, etc. Then follows, in the open, Rhododendrons, Roses, Pinks, Tulips, and numerous choice hardy plants; anon Early Chrysanthemums, Carnations, Picotees, etc., followed by Gladioli, Delphiniums, Chrysanthemums; and so, within and without, the floral succession is maintained. As a raiser of new Auriculas—the green edges—C. M. Royds, Greenfinch, and Mrs. Henwood; Mrs. Potts, Mrs. Barlow, and Mrs. Bently among selfs, testify to his industry. A few years ago he had some fine seedling Alpine Auriculas. Who has not heard of S.B. Carnation Robert Houlgrave, our premier flower in its class? and a very fine scarlet flake has also rewarded Mr. Barlow's labours as a raiser of the fragrant Gillyflower. Stakehill is full of floral treasures, if one could only be there at all seasons to note them.

Our good friend is a vice-president of the Manchester Botanical and Horticultural Society, president of the Auricula, Tulip, Carnation, and Pink societies; and he has recently added to his floral honours, that of becoming a vice-president of the National Chrysanthemum Society.

In public affairs he is a magistrate of Lancashire, a member of the town council of Middleton, was formerly a member of the County Council; and in Manchester also has public relationships. A generous patron of the fine arts, he has assisted struggling young men of ability to win their way to fame.

Privately he is a man of estimable character, as everyone who enjoys his hospitality knows. Hundreds visit his Stakehill garden annually, all who are interested in flowers are free to walk round it, and the privilege is rarely, if ever, abused. In Mrs. Barlow florists who enjoy the privilege of admission to the domestic circle find a hostess whom to know is to esteem, reverence and honour, and when his year of civic office comes to a close, we believe the universal verdict of his fellow-townsmen will be Well done, Sammy! using a familiar name by which he is known among his neighbours and workmen at Stakehill. Our best wishes go with Mr. Barlow throughout the year of his mayoralty of Middleton.

MR. SAMUEL BARLOW, J.P.

MR. W. HERBERT FOWLER is somewhat younger in years than Mr. Samuel Barlow. Mr. Fowler, the newly-elected Mayor of Taunton, is well known in that busy town as a man of high public spirit and ability. His elevation to the mayoralty is the best proof of the estimation in which he is held by his fellow townsmen. A banker, of good social standing, foremost in any enterprise having as its object the good of the town, it is not to be wondered at that he is placed at the head of its municipality.

As a successful florist Mr. Fowler has made a great and deservedly high reputation. Residing at Claremont, which is in one of the best suburbs of Taunton, his garden is replete with evidence of the tastes and skill of the florist; and among the flowers he loves so well, and cultivates so successfully, he must find many pleasant hours of grateful recreation. To our mind Mr. Fowler seems the beau ideal amateur, working hard and unceasingly among his flowers, always with them when his presence is possible, and satisfied with nothing short of the very highest development. With the Rose, the Tea Rose especially; the Tuberous-rooted Begonia, which he grows superbly; the Gladiolus and Chrysanthemum he has repeatedly triumphed, and that gloriously. It may be interesting to know his favourite form of the Tea Rose is as low standards on the seedling briar, and so the dwarf bush is disappearing from his garden. There is great force in Mr. Fowler's opinion that he not only gets finer blooms but that the flowers are raised so far above the ground level that they are kept clean and pure, and saved from disfigurement from splashings by rain. As an exhibitor of Roses in the West, Mr. Fowler has achieved great success. So he has with the Gladiolus, as was seen at the September show of the National Chrysanthemum Society at the Royal Aquarium.

We had complete evidence of Mr. Fowler's prowess with the Chrysanthemum and especially with the Japanese type at the recent great show at the Royal Aquarium on November 8th. He was the winner of the Holmes Memorial Challenge Cup with 48 blooms, that in their evenness, freshness and fine development appeared to be faultless, and the winner also of the first prize with 24 varieties. It is an honour to be the first holder of one of these valuable memorial cups.

As a cultivator of the Carnation and Picotee Mr. Fowler is making his mark. He has made considerable advance since last year, and will, we have no doubt, achieve considerable success presently.

As a member of the Committee and a Fellow of the National Chrysanthemum Society, Mr. Fowler is thoroughly in earnest in the promotion of its best interest. He is not so well known in London floricultural circles as he deserves to be, but time is on his side. We earnestly wish him all the success, as mayor of Taunton, he can desire, and that his year of office will be satisfactory to his fellow townsmen we can have no doubt.

TREE PANSIES.

IN reference to a note on this subject, p. 151, a correspondent, Mr. Chas. Kay, Mill Farm, Gargunnock, N.B., says that most of the fancy Pansies which he grows and some of the show varieties are much stronger growers than the bedding Viola Columbine. In proof of this he sends some specimens of a fancy Pansy named Mrs W. S. Young with a stem exactly a yard long. All parts of the plant including the flowers were of gigantic proportions. The leaves were about 5 in. long and the stipules 3¼ in. The stems were proportionately stout, but not strong enough to support themselves without staking, and under other conditions must only trail along the ground, thus losing all the individuality which staking would secure for them. The staking of Pansies would be a new departure, but there would certainly be some novelty about it. We are doubtful whether this variety or any other fancy Pansy would attain such dimensions in the more sunny south, with its drier atmosphere during the summer months. The climate of Scotland is more favourable to Pansies and Violas in general, making their cultivation a comparatively easy matter. All the races are grown to some extent in the south of England, but we have never seen them so vigorous as the specimens sent us and for which we thank our correspondent. The flowers measured 2½ in. in diameter, which is saying much for them at this period of the year, more especially when taken from the top of such tall stems.

The Carnation: its History, Properties, and Management, with a descriptive list of the best varieties in cultivation. By E. S. Dodwell. Third edition, with supplementary chapter on the yellow ground. London: GARDENING WORLD Office, 1, Clement's Inn, Strand W.C. 1s. 6d; post free, 1s. 7d.—[ADVT.

PLANTS RECENTLY CERTIFICATED.

THE Chrysanthemums mentioned below were exhibited at the great autumn competition and fete, held by the National Chrysanthemum Society at the Royal Aquarium, Westminster, on the 8th, 9th, and 10th inst. A First-class Certificate was awarded in each case.

ROBERT PETFIELD.—The blooms of this new incurved variety are of a soft silvery rose, with very little in fact of the last colour about them, but just sufficient to give them a characteristic tone or hue different from that of any other. The florets are very broad and blunt at the tips, as they should be in an incurved variety. The blooms are of medium size, globular, well up in the centre, and measure about 4½ in. in diameter and 3 in. in depth. Possibly the size could be increased in another year. It was exhibited by Mr. Robert Owen, Castle Hill, Maidenhead, and in addition to the certificate it was awarded the first prize offered by Mrs. Myers, Dunningwell, Millom, Carnforth, as the best new incurved variety not yet in commerce. It was a seedling of Mr. Owen's raising.

LUCY KENDAL.—Although this was raised from seeds it bears a striking resemblance to Violet Tomlin in colour and general contour. In size it may also be compared to the latter, but the florets are broader and blunter, and of a rich rosy or violet purple. The blooms measure 4 in. wide by 2½ in. deep or a little over. The blooms shown were not quite fully developed. The variety was raised and shown by Mr. Robert Owen, Castle Hill, Maidenhead.

MR. CHARLES BLICK.—The outer florets of this variety are long and drooping, but the greater portion of them are incurved, fluted in the upper portion and tubular in the lower half, more or less twisted, and considerably interlaced with one another. They are also of a clear but bright and glossy or shining yellow. The variety therefore belongs to the incurved Japanese section. It was exhibited by Mr. H. J. Jones, for Mr. Blick, gardener to Martin R. Smith, Esq., and constitutes a useful acquisition to this class. The glossy lustre of the florets adds much to its quality and general appearance.

ROSY MORN.—Seldom are Chrysanthemums in the reflexed Japanese class characterised by such neatness as attaches itself to that under notice. It is true that the blooms as shown were not of large size, but their neat and compact build together with the soft rose or pink colour will weigh heavily with those who like beautiful flowers for conservatory decoration. A year or two moreover is necessary to make certain as to the size to which it will develop when grown under favourable conditions. The blooms are of good depth, well filled in the centre, and compactly imbricated with concave tips to the florets. They measured 4½ in. to 5½ in. in diameter. The variety was shown by Messrs. J. Carter & Co., High Holborn, London.

PRINCESS VICTORIA.—Here again we have a reflexed Japanese variety of medium size, say 5½ in. to 6 in. in diameter and 3 in. to 4 in. deep. The florets are broad, compactly imbricated, and white or of a delicate blush hue. The quality is certainly good and the variety distinct from others already in cultivation. The leaves are large, leathery, and not very deeply cut. The exhibitor was Wm. Seward, Esq. (gardener, Mr. John Schrimpton), The Firs, Hanwell, W.

C. SCHRIMPTON.—The florets of this Japanese variety are loosely arranged, broad, and crimson with a pale yellow reverse. The blooms are of large size, measuring about 7 in. across and 4½ in. to 5 in. deep. The latter fact is no doubt due to the loose arrangement of the florets, many of which are nearly erect. Like the last it was also shown by Wm. Seward, Esq., who has been very successful lately in raising varieties worthy of Certificates.

DOROTHEA SHEA.—The blooms of this Japanese variety are of large size and perfectly full. The long, drooping florets are of a rich red or dark terra-cotta hue, and silvery on the reverse. These characters the variety owes to its parents, which were E. Molyneux and Sunset. Altogether the flowers are bold and striking. They were exhibited by Mr. C. E. Shea, The Elms, Foot's Cray, Kent.

EDWIN LONSDALE.—The florets of this variety are crimson with a silvery reverse. It belongs to the Japanese section, has a fine appearance, and when grown under more favourable conditions by specialists, will no doubt attain a larger size. It was exhibited by Messrs. J. R. Pearson & Sons, Chilwell, Notts.

LA DEUIL.—Seldom do we find new additions made to the Anemone and Japanese Anemone section, a fact which would argue that less attention is being given to these classes than the others. The flowers under notice belong to the latter class, and are of a dark reddish-purple, and well up in the centre or disc. The variety was shown by Mr. Ives, gardener to E. C. Jukes, Esq., Hadley Lodge, Barnet.

BROOKLEIGH GEM.—In this we have a sport from Jeanne d'Arc, the old and well-known incurved variety, that when well grown is characterised by its subconical form. Brookleigh Gem derives its distinctive character from the purple hue we see more or less displayed by some of the florets of the typical Jeanne d'Arc, having extended to the whole bloom. It was exhibited by Mr. R. Caute, Esher.

INJURIES TO PLANTS BY FOG.

AT the meeting of the Scientific Committee of the Royal Horticultural Society on the 3rd inst., Dr. W. J. Russell, F.R.S., observed that with reference to carrying out any experiments, the subject must be regarded from two points of view. Firstly, the object would be to make an exhaustive investigation into the action of fogs upon plants. This, to a considerable extent, the Scientific Committee has already done, as shown in Prof. Oliver's published report, and in a second upon which he is now engaged. Secondly, taking a wider aspect of the subject, the points which would have to be considered would be the composition of fogs in general, their origin and extent, their comparative densities, the amount of sulphurous acid, the consequent diminution of light, etc. Such investigations would lead to the more universally important consideration as to the increasing unhealthiness of London in winter. To carry out this extensive programme would necessitate the selecting several stations, involving continuous observations, both during fogs and in clear weather. The whole would require a staff of paid analysts. Dr. Russell then gave some interesting statistics of observations carried out at Manchester by Dr. Bailey, which will in due time be published. One point to which he alluded may be here mentioned—namely, the amount of chlorides contained in "fog collections" washed out of the air. He himself had found a dense precipitate of chlorides even on Dartmoor, whenever sea breezes blew in that direction. *Apropos* of this Prof. Church remarked that he had on one occasion detected 7 grs. of salt per gallon at Cirencester, which was about thirty-five miles from the sea. It is evident, then, that the presence of chlorides do not necessarily always indicate the presence of sewage.

Professor F. Oliver observed that, regarding the injuries from a horticultural point of view, the question as to the best means of preventing the action of fogs was most important. He described three methods. The first, with which he was very favourably impressed as to its efficiency, although it would probably prove to be the most difficult and expensive, was as follows:—The primary condition for success is that the plant house must be air-tight. As glass houses, however, are usually and purposely constructed with air spaces beneath the overlapping glasses, these would have to be stopped up. In a house properly constructed, like that erected by Mr. Toope, the external air entered below, and was passed through boxes containing charcoal. A draught is created by the heated air of the house, which escapes at the top by means of exhaust caps, which allow of the passage of air *from* but not *into* the house. No sulphurous acid whatever then succeeded in passing through the carbon into the house, the filtration appearing to be perfect. A second method suggested was by means of sprays of various kinds, and by sprinkling the floors, etc. This method has its disadvantages, and Prof. Oliver did not express a favourable opinion of it. The third plan is simply to spread canvas over the house during the period of the fog to prevent its passing into the cracks and into the house. Of course the stoppage of light might be, in some circumstances, a serious objection, but not greater than that occasioned by the fog itself. The really injurious element of fogs is undoubtedly the sulphurous acid gas, and this has to be especially combated.

A discussion followed as to what steps should be taken by the society in the matter. It was generally felt that, as far as the Scientific Committee were concerned, they could not do more than undertake the first object mentioned by Dr. Russell; and this has, in fact, been done. The second and wider object, however, is more or less directly concerned with the former, though it may have a much wider scope. It was proposed, therefore, to make a statement as to what the Royal Horticultural Society has already done in the matter, and to invite the co-operation and assistance of other societies, such as the Meteorogical; finally, to appeal to the County Council to take steps towards carrying out a more extensive investigation than the society alone could possibly accomplish.

CHRYSANTHEMUM NOTES.

MESSRS. J. VEITCH & SONS' NURSERY, CHELSEA. THE heart of London is a very unfavourable place in which to grow Chrysanthemums, but the measure of success with which it can be done demonstrates their robust and vigorous nature, even under unfavourable conditions. In spite of the unfavourable nature of the season the display in the nursery of Messrs. J. Veitch & Sons, Chelsea, is finer than ever we have seen it before. The long corridor leading from the Fulham Road entrance is lined with tall branching specimens grown on the free system, literally forming an avenue of Chrysanthemums. The large flowering sorts are, however, collected together in a low span-roofed house which they fully occupy. The dwarf ones are placed near the door and the tall ones behind, forming a gradually sloping bank of considerable length and very effective in the mass. The individual blooms are, however, worthy of inspection, for many of them are of great size and fine quality.

JAPANESE VARIETIES.

In the ultimate stage the blossoms of Mrs. F. Jameson are semi-globular and bold in appearance. Mademoiselle Marie Hoste, with its broad, ivory-looking florets, has also done well, some plants bearing four to six blooms. For size and colour Viviand Morel still holds its own as one of the best varieties in cultivation. Geo. Atkinson is a full and deep white flower, but takes a considerable time to expand. The bronze Ostrich Plume (H. Ballantine) may be seen here in various stages, and looks remarkably like Gloriosum when expanding, but the plumy condition becomes more evident a little later on. The colour of the Golden Ostrich Plume (W. A. Manda) is much more decided. The pure white Bouquet de Dames is still in fine condition, although some of the plants have been flowering from the 1st of October. Sokota is a clear bright yellow with broad florets. The plants of Louis Bœhmer are generally dwarf and bear sometimes as many as four blooms on a plant. Etoile de Lyon is still one of the largest, and sometimes rich in colour. The white and broad leathery-petalled Condor has done unusually well, and also stands the damp better than many of the white varieties. The flowers of Florence Davis vary considerably in tint but large and good. In one case a plant carries a pure white sport from it while the rest are normal. Wm. Tricker, otherwise known as Charity, is dwarf, each plant bearing from three to seven blooms. New varieties soon get incorporated in this collection, Violet Rose representing last, and Col. W. B. Smith this year, and each good in their way.

The blooms of W. W. Cole are moderate in size, but the florets are crimson with a yellow reverse, and much interlaced with one another, giving the whole a very curious appearance. The pink florets of Mrs. Irvine Clarke are also very much interlaced. Those of E. Molyneux are more incurved than usual. When W. K. Woodcock first expands, the florets are crimson and orange, but ultimately change to a bronzy yellow. They are also short, broad, and flat in the style of Bouquet de Dames. Gloire de Rocher is unusually highly coloured, being of a rich crimson-red. The reflexed Japanese variety A. H. Neve has larger blooms than we have seen of it this year, while some of the plants bear six flowers. Quite of another type is Stanstead White, which will no doubt hold its own for many a day. The blooms of Mr. C. E. Shea, or the Yellow Lacroix, have also attained an appreciable size; as a rule those which have been exhibited this year were small. The interlacing yellow petals of Mr. H. Cannell are very choice in their way. The large blooms of R. C. Kingston are of a rich amaranth

and very distinct, but they take a long time to expand. Of good constitution is George Daniels; the large flowers are white with an outer fringe of pink. Dwarf-habited and useful subjects are W. H. Lincoln and Mons. Freeman. Cesare Costa has broad crimson drooping florets, like those of a magnified Cullingfordi, also grown here, and very dwarf. The buff-yellow Criterion has also done well, and is likely to find admirers for some years to come. The beautiful ivory-white and broad-petalled Miss Anna Hartzhorn has taken the public fancy very much this year, and is likely to appear more abundantly than ever on exhibition boards next year.

INCURVED VARIETIES.

There is less change in this section than in any other of the types of Chrysanthemum. It is satisfactory to note, however, that all the best of the old types have been retained, while the sports appearing from time to time are also incorporated in the collection. One of the most recent additions is Mrs. Robinson King, an improved Golden Empress of India, resembling Jardin des Plantes for colour, but very much larger. Richard Parker does not appear to be so decided an acquisition. It is a sport from Miss M. A. Haggis, and is said to be darker in colour. The blooms of Alfred Salter, John Lambert, Golden Empress of India, Queen of England, Bronze Queen of England, Lord Alcester, and Prince of Wales are all in good form. The rich orange and the neat form of Barbara has never been surpassed, except in size. The blooms of John Salter are respectable, although the plants are grown in 48-size pots. The variety is a good one for training into specimen plants. Mrs. W. Shipman, bronzy yellow, and White Globe are not so common as they used to be; the latter is of beautiful shape, with broad white petals. Mrs. Heale is another sort of fine form, and as the blooms get old the outer florets change to a rosy purple, setting off the white crown to great advantage. Amongst the medium-sized kinds Princess of Wales and Mrs. Norman Davis are choice and distinct. Even the small-flowered Mrs. Geo. Rundle is not neglected, but is allowed to form a branching bush so as to get a good quantity of bloom. One branch has sported, bearing blooms identical with those of Mrs. George Glenny. Altogether the collection is well worthy of inspection. There were a thousand plants in the house on the occasion of our visit the other week, and the most of them were in their meridian of beauty.

ST. JOHN'S NURSERY, PUTNEY.

IN spite of the general lateness of the season for Chrysanthemums, a large proportion of them are over for another year and have been cut down in the St. John's Nursery, Putney, belonging to Mr. George Stevens. He grows for exhibition but chiefly for cut flower purposes, and his object is therefore to secure an early and a late supply, in which he succeeds admirably. For instance he has been cutting from E. Molyneux and others since the 4th of October, and will continue up to Christmas, finishing with such late varieties as Ethel, Golden Ethel, Golden Gem and Princess Blanche, the latter a creamy white Japanese variety or slightly tinted with salmon. A large proportion of those grown for exhibition purposes are now cut down, those remaining being chiefly incurved varieties. At the recent exhibition of the National Chrysanthemum Society, Mr. Stevens was the only one who showed incurved varieties in his group. Some idea of the weight of bloom on this group may be imagined from the fact that the plants composing it bore about 400 blooms, completely hiding the foliage except around the sides.

Amongst those sorts still in bloom, Etoile de Lyon is dwarf and variable, but the late blooms are rich in colour. Lady Lawrence was fine but only half expanded on the occasion of our visit a week ago, Another late variety is Pelican. The value of W. H. Lincoln for late bloom is well illustrated here, for large quantities of it are dwarf, branched and floriferous, with foliage of a rich dark green. The blooms are of various sizes according to their position on the stems, as are those of Elaine now producing its late blooms in great quantity from the side shoots. It is needless to describe Source d'Or, now so abundant everywhere in the florists' shops; here it is most floriferous and about 3½ ft. high. The same may be said of Mrs. G. Stevens, a golden bronze variety of similar habit. Madame Baco proves useful for cut flower work when grown only to moderate size; the flowers are rosy lilac. Those of Coquette de Castille are of a lively pink with broad florets. Other fine Japanese varieties still in bloom are E. Molyneux, Puritan, Sunflower, Stanstead White, John Laing and Edwin Beckett John Laing is a crimson Japanese variety with interlacing florets. It is now pretty well known that Edwin Beckett is a golden reflexed Japanese sort with the habit of Avalanche. Mrs. Edwin Beckett is a white variety, but flowering late. Lady Margaret is still one of the best large flowering Anemone kinds.

Incurved varieties are naturally later than the Japanese ones, and are still well represented here by such fine things as Queen of England, Golden Queen of England, Empress of India, Golden Empress of India and Lord Alcester. The fine sport from the latter and known as John Lambert originated with Mr. Stevens and was grown for six years before he sent it out. It has broader florets than Lord Alcester, and is closely allied to Queen of England, of which it is considered the best stock. Concurrently with the culture of Chrysanthemums, and in one of the same houses, is a fine batch of Lilium Harrisi, with stems 3 in. to 6 in. high; and being brought on slowly the plants will come into bloom during February. If subjected to forcing they would flower by Christmas.

THE ROSE GARDEN.

EXHIBITION ROSES.

Now is the time for purchasing Rose plants, and as a slight guide to anyone who may be contemplating growing a few for the purpose of exhibition, I name and briefly describe twelve good hybrid perpetuals and twelve good Tea-scented varieties. All of these are our most constant and reliable Roses for the exhibition box. They are also all grand garden Roses. It is often said that exhibition Roses are not the most suited for general garden cultivation. This is true enough as regards some sorts, but in choosing twelve out of each of the principal classes, we have no need to include any such varieties. Those I name are all splendid growers, free bloomers, and produce a large majority of really grand flowers. Quality, in the way of size, shape, and freshness of colour, cannot fail to be appreciated, even if not grown for the purpose of competition. Therefore I can confidently recommend the following twenty-four Roses in preference to many of the so-called best garden varieties. What object can there be in growing such old kinds as Baronne Prevost, Jules Margottin, Anna Alexieff, Madame Boll, and others when we can have much the same shades of colour, infinitely better quality, and a larger quantity of blooms from the same number of plants?

HYBRID PERPETUALS.

*A. K. WILLIAMS (*J. Schwartz*).—This is the finest example of an imbricated Rose that we have; it is of most perfect shape, good size, and borne in a bold and erect manner. Colour bright carmine-red. One of our best autumnal Roses, and also a grand early flower.

CAMILLE BERNARDIN (*Gautreau*) is another Rose of imbricated form, and also has good shape. Light crimson in colour, paler on the edges of the petals. This is not so boldly carried as A. K. Williams, but is nevertheless a very certain and exquisitely scented Rose.

*CHARLES LEFEBVRE (*Lacharme*) has two synonyms, viz., Marguerite Brassac and Paul Jamain. It is one of the very best Roses grown, and almost always seen in winning exhibition stands. Colour purplish-crimson, with deeper shadings. A good grower.

*DUPUY JAMAIN (*Jamain*) is one of the most reliable Roses we have in this class. It is a deep, globular flower of bright cerise colour. A good grower, and a splendid autumn Rose.

GENERAL JACQUEMINOT (*Rousselet*) was sent out as long ago as 1853, and is still one of, if not the very best hybrid perpetual for general cultivation. Though rather thin for the present standard of show-blooms, it is always good shaped, of brilliant red colour, and almost always needed in a fair-sized collection. It is one of the most perpetual of its class, and is highly fragrant.

*MADAME GABRIEL LUIZET (*Liabaud*) has frequently won the medal as being the best bloom in the show. It is an exquisitely shaped Rose of light silvery-pink colour. Very distinct, and sweet-scented.

*MARIE BAUMANN (*Baumann*) is only a moderate grower compared to the former varieties, but it is more often good than nine-tenths of the Roses grown. Colour soft carmine-red; of globular form, with the outside petals slightly reflexed.

EARL OF DUFFERIN (*A. Dickson & Sons*) is a very dark crimson-maroon. The petals are reflexed in a peculiar manner, and the reflexed edges have a brilliant crimson tint. A remarkably full flower, with a grandly built-up centre. A vigorous grower, and thoroughly distinct.

*MRS. JOHN LAING (*Bennett*) is almost an ideal Rose It is of deep globular form, a beautifully clear and soft pink colour, a splendid grower, and one of the very finest Roses grown.

VICTOR HUGO (*Schwartz*) has been shown remarkably well this season, and is a good reliable Rose. It is one of the best dark Roses, being a dazzling crimson shaded with maroon. Its shape is perfect.

VISCOUNTESS FOLKESTONE (*Bennett*) is more of a hybrid tea than a hybrid perpetual, but as the National Rose Society has decided it shall be shown with the latter class I include it here. It is very distinct, very reliable, and one of our best autumn or garden Roses. Colour creamy-white, flushed with pale pink. A charming Rose, and of good shape and size.

*ALFRED COLOMB (*Lacharme*) is rather a late flower, but it is always good, while both the shape and size are first-class. It is bright carmine-red, with slightly reflexed petals, and very fragrant.

TEA-SCENTED ROSES.

*CATHERINE MERMET (*J. B. Guillot, fils.*) is a grand show tea; it is always good, whatever stage the flower may be in. Of most perfect form, good size, and very sweetly scented. Colour light but clear rosy-flesh.

ANNA OLIVIER (*Ducher*) is also very certain and very distinct. It varies in colour from pure yellow to pale rosy-flesh, apricot, and buff, being often a combination of these colours. The shape is grand, and the flower has remarkably long lasting qualities. It is a vigorous grower, and very free flowering, the blooms being carried erect and well above the foliage.

*COMTESSE DE NADAILLAC (*J. B. Guillot, fils*) is the grandest of all show teas, being closely approached by the following variety. Although not so good a grower as one would wish for a garden Rose, they bloom freely upon all growth made, and are of such wonderful lasting powers that all collections should include these two varieties. Shape perfect in every way. Colour bright rosy-flesh and yellow, with a deep coppery centre.

*SOUVENIR D'ELISE VARDON (*Marest*) is also one of the best show Teas. The description to the preceding variety will answer for this, with the exception of colour. This is a creamy-white with a pale flesh shading.

*INNOCENTE PIROLA (*Madame Ducher*) is one of our most constant Roses. Unfortunately it is much subject to mildew. Of bold, erect habit, perfect form and size; colour white, slightly shaded with cream.

*MARECHAL NIEL (*Pradel*) is too well known to need any description here.

MARIE VAN HOUTTE (*Ducher*) is undoubtedly one of the best garden and show Teas we have. It is a pure yellow, with rosy shadings on the edges of the petals; this being much deeper in the autumn. It is very distinct, of good shape, and a grand grower and bloomer.

SOUVENIR D'UN AMI (*Belot-Defougere*) is of globular-cupped form, large, very free, sweet-scented, and pale rosy-pink colour.

*SOUVENIR DE S. A. PRINCE (*Prince*), *syn.* The Queen, is a pure white form of the preceding variety. It is one of our grandest white Roses.

HON. EDITH GIFFORD (*Guillot*) is not a large flower, but it possesses grand shape, and retains it as long as any variety. It is white, with a creamy-flesh centre; very free flowering and of good habit.

THE BRIDE (*May*).—This is a white sport from Catherine Mermet, and in other respects is identical with that grand Rose. It is one of the best Roses grown, and always comes good.

MADAME HOSTE (*Guillot*) is of somewhat similar type to Anna Ollivier, but is quite distinct, being a constant, and pale lemon colour; a good Rose.

I have now named twenty-four Roses, all of which are really first-class, and certain to give satisfaction under suitable treatment for the queen of flowers. Those starred (*) have gained the medal as being the best Rose in the show at one or more of the National Rose Society's exhibitions; most of them have gained it many times—a fact which speaks for itself.—*Experience.*

WINTER BLOOMING PELARGONIUMS.

Except seeing winter Zonal Pelargoniums in brilliant bloom in the houses at Swanley, nothing could possibly convey a finer conception of the superb colouring and beauty found in these flowers than did the truly wonderful collection of bunches of cut flowers which Messrs. Cannell & Son put up at the Royal Aquarium last week. Probably a more beautiful display of the kind has never been seen at any show. How great a stimulus should such a display give to the wider cultivation of Pelargoniums during the winter. Perhaps in many cases the growth of Chrysanthemums exhausts the capacities of the gardener. If so then it is a misfortune.

The chief need for the Pelargonium in winter is found in a low span-roof house, in which there is found plenty of light, air, and some moderate warmth. I saw a house of this nature recently at Downside, Letherhead, containing some 250 plants, in 6-in. pots, in glorious bloom, showing how well they can be done in private gardens, as well as in nurseries. To have with them for variety some winter blooming Carnations, and moderate sized Bouvardias, seems to give a wealth of bloom that is of the greatest value in the dull season of the year.

It is not at all difficult to have any of these plants if stock be prepared in due course. The Pelargoniums from spring struck cuttings, the Carnations from spring layers, and the Bouvardias from cuttings of the previous autumn. Then all grown on specially for winter blooming they flower from the middle of October to the middle of April, a period of six months if so needed. What a wealth of beauty, as well as of floral value, will a few scores or better still hundreds of such plants give. A great advantage is found in having a 2-in. pipe run along just beneath the roof of the house in which plants of this description are wintered, as the air is then kept so much dryer, a very important consideration in connection with the production of flowers.—*A. D.*

Universally as these are cultivated, there is evidently no falling off of their admirers. For in door culture they are no doubt most appreciated in winter or during the dull autumn months, on account of the rich and varied display of colours peculiar to themselves. Several houses are usually set apart for winter-flowering Pelargoniums in the nursery of Messrs. H. Cannell & Son, Swanley, Kent, and at the present time there are four houses, one of which is mostly devoted to double varieties. Great improvement has been effected in the size of the flowers within the last few years, and the colours have in no way deteriorated, while some fresh ones have been added. The low, span-roofed houses at Swanley, and the dry and genial atmosphere maintained inside, suits this class of plants admirably.

Of the numerous varieties grown here we noted only a few of those put into commerce this year, and some that are to be sent out next year. The size of the trusses is great, but that of individual flowers is even more wonderful, as some which we measured varied from 2 in. to 2¼ in. across or more. Amphion is one of those sent out this year, and has large trusses and flowers of a bright pink with a blotch at the base of each of the two upper petals. The variety is of the same type as the old Master Christine, but much larger and more handsome. The trusses and flowers of White Lady are large and pure white with orange anthers, that soon drop leaving the flowers of spotless purity. A distinct and striking flower is Madame Bondeville, white suffused with scarlet, and having bright scarlet edges in the style of a Picotee. The trusses are also of great size, so that altogether this is a variety of great merit.

Improvements continue to be effected, and the undermentioned varieties are those selected and grown on to be sent out next year. The huge flowers of Mascagni are very striking, being white shaded with salmon and having a scarlet centre. Madame Melba is white with a delicate pink centre, and quite distinct from others having the same arrangement of colours. The largest and best shaped salmon ever yet put into commerce will be A. F. Wootton when it makes its appearance before the public. The flowers are of great size and good form, as are all those above described. They are salmon fading towards the margin, while there is a small white centre. W. P. Wright is of the style of the old favourite, Jean Sisley, but the brilliant scarlet flowers with a small white eye are paler though very much larger than those of the old and at one time largely grown variety.—*F.*

THE VEGETABLE GARDEN.

General Work.

Work in the kitchen garden will now have to be regulated by the weather. On frosty mornings manure can be wheeled on to all pieces of vacant ground, so that in favourable weather digging may be proceeded with. Weeds must be cleared off when the weather is favourable; they have grown very fast during the last month in the south, many parts of the garden that were quite clean a month ago being now covered with weeds, and with the continual rains and foggy weather it is impossible to kill them unless they are cleared away.

The tops of Asparagus can now be cleared away and burnt, and Jerusalem Artichokes may be lifted and stored. All the Potato pits should be carefully examined, and if many of the tubers are going bad they must be sorted and repitted. In some pits I had examined last week I was astonished to find half the Potatos rotten, though they were apparently quite sound when lifted. The old wood should be cut from the Raspberries, and the young shoots thinned and retied to the stakes or wires. Forward plantations of Cabbage will be benefited by some soil being drawn up to the lower leaves with a hoe; this will be found a great protection if we get a long and severe frost.—*G. H. S.*

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

The fifty-third anniversary festival of this Institution took place at the Hotel Metropole on Tuesday evening, when about 150 friends and supporters of the charity sat down to dinner under the presidency of The Right Hon. Lord Brassey, K.C.B., among the gentlemen present being Lord Addington, Sir Trevor Lawrence, Bart., Mr. G. F. Wilson, F.R.S., Mr. John Lee, Mr. H. J. Veitch, Mr. N. N. Sherwood, Mr. P. Crowley, Rev. W. Wilks, Mr. H. E. Milner, Mr. A. G. W. Weeks, Mr. W. J. Nutting, Mr. W. Y. Baker, Mr. J. Laing, Mr. H. Turner, Mr. Cathie, Mr. Barron, Mr. Barr, Dr. Gorton, Mr. Webber, Mr. Monro, Mr. T. A. Dickson, Mr. G. Dickson, Chester, Mr. W. Paul, Mr. Lynch White, Mr. J. Wills, Mr. Cutbush, Mr. Iceton, Mr. Bunyard, Mr. Corry, Mr. A. Mosse, Mr. Osman, Mr. Kay, Mr. Sweet, Mr. Head, Mr. H. M. Hill, and Mr. W. J. Brewer.

The usual loyal toasts having been duly honoured, Lord Brassey gave the toast of the evening, viz.—"Continued Success and Prosperity to the Gardeners' Royal Benevolent Institution." His Lordship said that in pleading on behalf of a charity that ministers to the relief of gardeners in distress, whether from age, sickness, or any other cause, he had a case which it should be easy to commend to those who have it in their power to be charitable. Many delightful associations were gathered around the occupation of gardeners, and they had been described by Shakespeare in some of his choicest lines:—

"I know a bank whereon the wild Thyme grows,
Where Oxlips and the nodding Violet blow,
Quite over-canopied with lush Woodbine,
With sweet Musk Roses, and with Eglantine.
There sleeps Titania, some time of the night,
Lull'd in these flowers with dances and delight."

The Institution commenced its work in 1839 with the modest capital of £126. Its laudable object was to provide pensions for those who followed the occupation of the gardener, and had no opportunity of making provision for themselves. But while granting help to such as needed it, the society spared no pains to inculcate the virtues of providence and economy. In the year of the Great Exhibition the Queen and the Prince Consort became patrons of the Institution, and in 1865 the Prince of Wales also conferred upon it his patronage. They had at the present time 156 pensioners, for whom a sum of £2,700 was required. He regretted, however, to say that that sum was not sufficient to enable them to deal with the number of cases which came before them. In urging the claims of the Institution he would appeal to their grateful recollections of the happy hours they had passed in their gardens. Dear old England bore through all its length and breadth the marks of care and skill in its parks and gardens innumerable, large and small. Great indeed was their debt to those by whose labours so many scenes of enchantment had been created; and he hoped that debt would be in some degree repaid by their offerings that night. The name of Mr. H. J. Veitch, the treasurer, was associated with the toast.

Mr. Veitch, who was most cordially received on rising to respond to the toast, heartily thanked Lord Brassey on behalf of the committee of the Institution for the kindly way in which he had advocated the claims of the Institution; and after alluding to the regretable death of Lady Goldsmid, which was the cause of the annual dinner being held so late in the year, and paying a graceful and well-merited compliment to the secretary, Mr. Ingram, whose valuable services were acknowledged on all sides, said the committee had for some months past had the rules of the Institution under revision, and they would shortly be submitted to, and, he hoped, approved by all the subscribers. The value of the work done by the Institution in relieving the necessities of indigent gardeners and their widows was attested by the fact of so many claims being made upon the funds, which they were unfortunately unable to meet. At the last election there were nineteen unsuccessful candidates, and so great was the number of applicants that as they could only put on eight pensioners at the next election, the number of unsuccessful candidates would be raised to thirty-two—a fact of very serious import to those who were unsuccessful. In conclusion, Mr. Veitch made an earnest appeal to gardeners for greater support in the form of annual subscriptions.

The secretary, Mr. G. J. Ingram, then announced the result of the chairman's appeal, which included the following amounts:—Lord Brassey, £52 10s.; the Messrs. Rothschild, £105; Baron Schroder, £31; Mr. George Monro, £82 11s.; Mr. Watkins, £26 6s.; Howard Morley, Esq., £25; Hon. W. W. J. Astor, £10 10s.; Lord Burton, £10 10s.; Lord Addington, £10 10s.; Sir Trevor Lawrence, Bart., £10 10s.; Lord Derby, £10; H. Jones, Esq., £40; Sir Julian Goldsmid, Bart., £21; Messrs. Hurst & Son, £10; Mr. N. N. Sherwood, £10 10s.; H. Tate, Esq., £10 10s.; Sydney Loder, Esq., £10 10s.; Worshipful Company of Skinners, £10 10s.; C. T. Lucas, Esq., £10 10s.; W. D. Fane, Esq., £10 10s.; Mrs. Charrington, £10 10s.; Rev. W. Wilks (Harvest Festival offering), £30; T. W. Brodrick, Esq., £10 10s.; Holbrook Gaskell, Esq., £10 10s.; Mr. Thomas Manning, £10 10s.; Mr. A. W. G. Weeks, £10 10s.; Mr. John Wills, £10 10s.; and smaller amounts which, with the £500 lately given by Mr. and Mrs. H. J. Veitch, made up a total of a little over £2,000.

The other toasts were "The Royal Horticultural and Botanic Societies of London and the United Kingdom," proposed by Lord Addington and acknowledged by Sir Trevor Lawrence, Bart; "The Stewards and Donors," proposed by the Rev. W. Wilks and responded to by Mr. H. E. Milner, who announced that the share accruing to the institution from the profits of the International Horticultural Exhibition at Earl's Court, would be £250; and "Our Chairman," proposed by Mr. Sherwood.

FRUIT NOTES.

Doyenne de Comice Pear.

This very fine variety was seen in grand condition in collections at the Birmingham show, but my object in alluding to it here is to point out that it is a first-class variety for town gardens. Prizes were offered for two dishes of Pears, grown within three miles of the Birmingham post office, and Mr. Mole, who resides in the Edgbaston district, again carried off the first prize for a fine dish of this Pear and six very fine fruits of the Pitmaston Duchess d'Angoulême. These are grown on a wall, but he is an expert at Pear and Apple culture and simply does what common-sense requires, close summer pruning, plenty of water in dry weather, and a thinning out of the blooming spurs and of the fruit also. Year after year he secures good crops of fine fruit, instead of more in quantity of smaller inferior fruits. His samples grown in the immediate neighbourhood were as large as many of those from most favoured districts, if not so well coloured.—*W. D.*

CHRYSANTHEMUM SHOWS.

BIRMINGHAM.

THIS annual exhibition took place in the Town Hall, on November 8, 9, and 10, three days having been decided upon this year in order to raise as large a sum as possible for the benefit of the General Hospital, as the profits are to be given to the building fund. Fortunately the weather was very mild and fine all the time. Specimen Chrysanthemums were as usual good, as Birmingham has long been noted for excellent cultivation, but some of the blooms wanted more time. Mr. Waldron, gardener to G. Cadbury, Esq., was first for nine and six plants; and Mr. Dyer, gardener to Mrs. Marigold, a good second, other exhibitors also showing well. Six groups of Chrysanthemums in the centre of the hall, each in a space of 80 square feet, were a great feature, and as good if not finer than any lot yet seen here. Mr. Dyer was first; Mr. F. Jenkins, Olton, second; Mr. J. Cryor, gardener to J. A. Kenrick, Esq., third; then all running close together in merit, fourth, fifth and an extra prize was awarded.

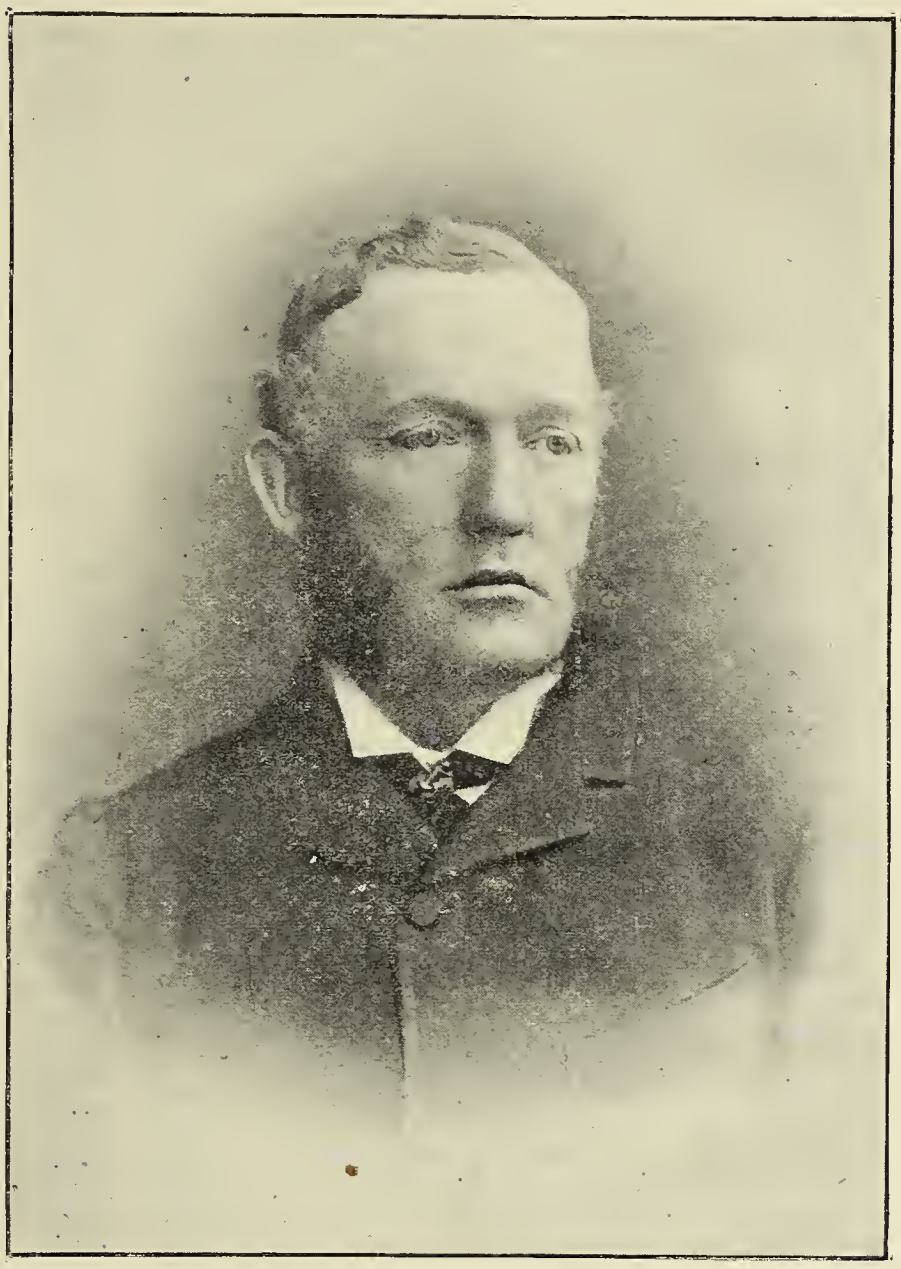
In another class (7), very pretty groups were staged on one side of the hall, and were worth looking at. Big ornamental plants were staged, but the room is sadly wanted for Chrysanthemums, many of which staged under the galleries were "almost lost to sight though to memory dear." As to Chinese Primulas, where else can such a lot be seen? There was a grand display again. There always is, for is not Birmingham the home of the Primula and gave birth to a Princess Louise, a Marquis of Lorne, The Queen, and The Emperor, and here are the four finest varieties known. Two more new Birmingham varieties, shown for the first time, also received Certificates. They were raised at the Sparkhill Nurseries, where the four I have named were raised a long number of years since. The new ones are Princess May, white with a lovely pale lavender centre; Duke of York, a soft peach colour, but both so large and fine.

Cut Chrysanthemums are always fine here, but up to this year £20 to £25 has been given as the blue riband prize for forty-eight blooms, half incurved, half Japanese. But this year the committee determined to divide this prize into two classes of twenty-four each with a first prize of £10 to each, and other liberal prizes to follow. For both, Mr. R. Parker, Impney, was first with well finished blooms of excellent quality, not overdone in size or coarseness, and he had some strong competitors against him in Mr. Coombs of Himley; Mr. Bramwell, gardener to H. H. France Hayhurst, Esq.; Mr. Goodacre, and others. For eighteen blooms, Mr. Parker was also first. Various other classes were well filled and the display of cut blooms was satisfactory generally, although some wanted a longer rain for development.

Amongst the incurved, John Lambert was very fair generally. M. H. Bahuant, Violet Tomlin, John Doughty, Lord Alcester, Mrs. Colman, Mrs. N. Davis, were well to the front, and on Mr. Parker's stand was a fine bloom of Mrs. Robinson King, a grand deep yellow of the finest form and size.

Amongst the more recently introduced Japanese Viviand Morel was striking everywhere, as was Etoile de Lyon, W. W. Coles, Gloire de Rocher, Stanstead White, Sunlight, Puritan, Edwin Molyneux, Albini Lunden, Florence Davis, Avalanche, W. H. Lincoln, plentiful and fine; William Tricker, Marie Hoste, Mohawk, Mr. A. H. Neve, and in one stand a superb bloom of E. W. Clarke, with rosy purple petals with an underneath shading of greyish white, a fine variety.

Fruit again is invariably a great feature of the November show. We have seen more here, but not of better quality so far as the grapes were concerned. For six bunches, Mr. Goodacre was well first; Mr. Hollingsworth, gardener to J. F. Campbell, Esq., Uttoxeter, second, and Mr. Slade, Clumber Gardens, third. The other classes also were well filled. Mr. Slade also staged four very fine Pines, to which a Silver Medal was awarded. A large number of vegetables were staged for the good special prizes offered by Mr. R. Sydenham, Messrs. Sutton & Sons, Messrs. Thompson & Co., and Messrs. Webb & Sons, and keen competition was shown in all these classes. Mr. Smeetham, of Shrewsbury, succeeded in carrying off the first prize in each class, and he was a very strong opponent.



THE RIGHT HON. LORD BRASSEY, K.C.B.

Mr. Robert Owen, Maidenhead, did not make his appearance until the second day, so was "a day after the fair" for obtaining certificates. Some of his new flowers otherwise would have had such rewards. Amongst his new sorts sent out were Mrs. Robinson King, incurved, a superb acquisition; and Japanese Wm. Woodcock, Mr. G. Herring, Mr. Nisbett, Excelsior, and G. J. Schwabe, all of his own raising. Of seedlings fit to be introduced, he showed blooms of Robert Petford, incurved, mauve shaded with silvery white, very fine; Thomas Hewitt, a grand incurved Japanese; Baron Hirsch, another fine incurved, bronzy crimson; Lucy Kendall, The Bride, two more incurved; and John Fulford, reddish-crimson and a very full flower. Some of these have received awards in London. Mr. Godfrey of Exmouth, sent blooms of Beauty of Exmouth, which received a certificate. The local trade contributed valuable honorary exhibits also, and Mr. Watkins of Hereford, a fine collection of Apples, and a nice collection of Orchids, from Highbury, amongst them the new white Sobralia.

EXETER.

THE Devon and Exeter Horticultural Society held its annual Chrysanthemum and Fruit Show on the 11th inst., under the usual conditions—wet weather As it was, however, the Victoria Hall, in which the show was held, was well filled throughout the day, and if the weather had been more favourable, the attendance would have beaten the record for an autumn meeting of the society. Taken as a whole, the entries were fewer than last year, cut blooms finer and more even in quality, groups not up to former shows in quality of bloom, although, perhaps, better in point of foliage. In fruit, Apples were very good indeed, while Pears, as was to be expected, showed a falling off in nearly every respect.

The prize for the best bloom of Japanese Chrysanthemum in the show went to Mr. W. H. Fowler, of Taunton, for a faultless flower of Stanstead White. It was, indeed, a grand flower, and had every point to perfection. It was run pretty hard by a bloom in the same stand, the other one being Viviand Morel at its very best. In the class for six blooms of that variety, Mr. Fowler was first with a superb lot; Mr. J. R. C. Talbot, of Lyme Regis, being first for six blooms of Florence Davis. In this lot the green in the eye of the bloom, peculiar to this variety, had entirely disappeared, leaving the flower a fine white. An extra prize was awarded to Sir W. Walrond, Bart., M.P., of Bradfield (gardener, Mr. Heath), for a splendid stand of Edwin Molyneux.

The Silver Cup for thirty-six Japanese, distinct varieties, went to Mr. W. H. Fowler, of Taunton. His blooms were magnificent and were the feature of the show. The following list shows that the varieties were well chosen:—Lord Brooke, J. Stanborough Dibbins, Potter Palmer, E. Beckett, G. Bryceson, Mrs. E. D. Adams, Mrs. J. S. Fogg, Violet Rose, Viviand Morel, Mr. D. B. Crane, Miss Anna Hartzhorn, Coronet, Mons. Bernard, Gloriosum, Louise Bœhmer, R. Brocklebank, Stanstead White, Sunflower, W. W. Coles, Avalanche, W. H. Lincoln, Beauty of Castlewood, Mrs. Alpheus Hardy, Mrs. J. Clarke, Mad. Baco, Puritan, Mrs. John Laing, Lady T. Lawrence, E. Molyneux, Gloire du Rocher, Lilian B. Bird, Etoile de Lyon, Mr. A. H. Neve, Mons. Freeman, Florence Davis, and Japonaise. The first prize for eighteen Japanese went to Mr. J. R. C. Talbot, of Lyme Regis (gardener, Mr. Connelly), to whom was also awarded the Certificate of the National Chrysanthemum Society. His stand consisted of Florence Davis, Gloire du Rocher, Sunflower, L. Bertrex, E. Molyneux, Avalanche, Etoile de Lyon, Stanstead White, Sarah Owen, Thunberg, Mad. Baco, Volunteer, Mrs. E. W. Clarke, Condor, Japonaise, Mons Bernard, Mrs Falconer Jameson, and Mrs. John Laing. All the blooms were well finished and in the pink of condition. Premier honours for twelve incurved went to Rev. F. C. Drake, of Taunton, for a first-rate stand made up of the following:—Lord Alcester, Bronze Queen, Jeanne d'Arc, Violet Tomlin, Mrs. S. Colman, Princess Alice, Golden Empress, Annie Haste,

Queen of England, Empress of India, Cherub, and Miss M. A. Haggis.

In the fruit section Mr. W. C. Sim, of Knowle (gardener, Mr. Williams), was first with a very fine collection of Apples in 24 varieties of which the following is the list:—Mere de Menage, Lady Henniker, Hollandbury, Beauty of Wilts, Stirling Castle, Annie Elizabeth, Saltmarsh's Queen, King of the Pippins, Golden Noble, Alfreston, Lady Walrond (a local Apple), Red-ribbed Greening, Cox's Orange Pippin, Blenheim Orange, Dumelow's Seedling, Cornish Gilliflower, Warner's King, Alexander, Cox's Pomona, Court-Pendu Plât, Gloria Mundi, Northern Dumpling (?), Hoary Morning, and Fearn's Pippin.

The first honours for nine dishes of Pears went to Sir John Shelley, Bart., of Shobrooke Park (gardener, Mr. Mairs), and a remarkably fine and even lot they were — exceptionally good for the year. The varieties were:—Uvedale's St. Germain, Beurré Bachelier, Beurré Diel, Forelle, Catillac, Black Pear of Worcester, Doyenné du Comice, Van Mons. Léon Leclerc, and Pitmaston Duchess.

The miscellaneous contributions, which were numerous, included a fine group of stove and greenhouse plants mostly in flower, and a collection of over 120 dishes of Apples, including all the leading varieties, from Messrs. Robert Veitch & Sons; a fine collection of Apples from Mr. Watkins, Hereford; and Onions and Apples from Messrs. Jarman & Co., Chard.

Birkenhead and Wirral.

The sixth annual exhibition of Chrysanthemums was held at Birkenhead on the 10th inst., and proved the most successful show yet held in the district, the entries being more numerous than before in each section, whilst the quality was first-rate. For twenty-four Japanese, distinct varieties, Mr. G. Cockburn, Claughton (gardener, Mr. G. Burden), was first with a good stand, the best being E. Molyneux, Viviand Morel, Puritan, Avalanche, Gloire de Rocher, etc. For twelve varieties, Mr. A. S. Mather, Woolton (gardener, Mr. H. Howard), was well ahead with fine blooms of Viviand Morel, Etoile de Lyon, Gloire de Rocher, W. H. Lincoln, etc.; second, Mr. C. J. Procter, Noctorum (gardener, Mr. J. Williams). For twenty-four incurved varieties, Mr. G. Cockburn again came in first, with large fresh blooms, but somewhat wanting in depth, a failing generally noticeable throughout the show. Mr. A. S. Mather was first for twelve varieties, his finest blooms being Mons. R. Bahuant, Queen of England, and Empress of India. Mr. G. Cockburn also took the lead with eighteen Japanese in the local competition; and Mr. C. Gatehouse, Noctorum, was first in the twelve class, and Mr. C. J. Procter for six. Mr. G. Cockburn had also the best eighteen incurved blooms, while Mr. G. Broadey took similar honours for twelve. The classes allotted to amateurs who do not employ a gardener were well filled, and Mr. S. H. Swan, in particular, staged flowers of considerable merit.

Specimen plants were shown to great advantage, and Primulas were a special feature, being very fine both in quantity and quality. Mr. G. Webster, Birkenhead (gardener, Mr. A. Brown), was first in this competition with six Cyclamens, Mr. F. Jevons, Claughton (gardener, Mr. A. Price), was well to the fore; and with four stove and greenhouse plants, Mr. G. Webster again took the lead, showing among others a Dipladenia with nearly 100 flowers, and a Statice profusa 3 ft. in diameter.

Fruit was well represented, and Mr. J. W. Barker, Rock Ferry (gardener, Mr. J. Barker), had the best six dishes, which included Muscat of Alexandria and Black Alicante Grapes, King of the Pippins and Ribston Pippin Apples, and Beurré Diel and Marie Louise Pears; second, Mr. R. C. Naylor, Hooton. For eight dishes of culinary Apples Mr. R. C. Naylor took the lead with large fruit, and was similarly placed in the single dish class. The best six dishes of dessert Apples came from Mr. J. Davis, Leominster, and for the single dish of Pears Mr. Ralph Brocklebank, Childwall (gardener, Mr. T. Winkworth), had the best out of seventeen lots. The Liverpool Horticultural Company staged a magnificent display of wreaths, &c. Messrs. Dicksons, Limited, Chester, contributed a fine collection of Apples, and Messrs. W. Clibran & Son, Altrincham, a choice collection of Japanese Chrysanthemums. The arrangements under the able supervision of Mr. S. W. Swan, secretary, were all that could be desired.

Grassendale.

The second show of the Grassendale Horticultural Society was held on the 12th inst., but hardly equalled last year's show in extent, although the quality was fully up to its predecessor. In the premier class for cut blooms of Chrysanthemums, the first prize, in which was a Silver Challenge Cup presented by Mr. A. L. Jones, the president, Mr. D. Forbes, gardener to Mr. A. Holt, won easily with very fine flowers. For six varieties of incurved, and the same number of Japanese, Mr. J. Grant, gardener to Mr. W. S. Gladstone, took the lead. With trained plants, Mr. J. Harrison, gardener to Mr. Bateson, took the first prizes for large flowering and pompon. For a single Orchid, the prizes being given by the Liverpool Horticultural Company, Mr. A. L. Jones took the first with Oncidium crispum. The first prizes in the fruit classes were taken by Messrs. A. L. Jones, W. J. Davis, S. S. Parker, and R. Singlehurst.

Sevenoaks and West Kent.

The eighth annual exhibition at Sevenoaks was held on the 8th and 9th inst., and was a great success. The show was not quite so good as last year on account of the lateness of the season, and especially was this noticeable in regard to the incurved blooms which required more time. The Japanese were quite equal to previous years, although some of the blooms bore traces of having been subjected to strong heat to get them out. The groups were not so numerous as usual at this show, many growers failing to get their plants out. There was but little to choose between the first and second groups, the first prize lot being well arranged by Mr. E. Hughes, gardener to J. Dixon, Esq., Edenhurst; second, Mr. S. Cooke, gardener to De Barri Crawshay, Esq., Rosefield; third, Mr. J. Smith, The Mount. There was a good competition with miscellaneous groups arranged for effect, the first prize going to Mr. S. Cooke with a group composed almost entirely of Ferns and Orchids, Oncidium tigrinum, Odontoglossum crispum, O. Andersonianum, and a dark form of Lælia Perrini being prominent; second, Mr. H. Heath, gardener to Mrs. Petley, Riverhead, who showed well, but a rather heavy background detracted from the general effect it otherwise possessed; third, Mr. A. Hoadley, gardener to F. L. Bevan, Esq., who had good quality stuff but somewhat huddled together.

Cut blooms were well shown by Mr. A. Gibson, gardener to T. F. Burnaby-Atkins, Esq., who was placed first for twenty-four, twelve incurved and twelve Japs (open), showing in good form Jeanne D'Arc, Alfred Salter, Queen of England, incurved, and Mr. E. W. Clarke, Etoile de Lyon, and Edwin Molyneux as his best Japs; second, Mr. W. A. Searing, gardener to R. Monckton, Esq.; third, Mr. S. Cooke. In the classes for twelve varieties Messrs. Searing & Hughes took chief honours. Fruit was well shown by Mr. R. Potter, gardener to Sir Mark Collett, who had the best three dishes of Pears, showing in fine condition Beurré Diel and Doyenne du Comice. The same exhibitor also had the best Kitchen Apples, four dishes followed by Mr. J. Buckland, gardener to Miss Unwin, Walthamstow Hall. The best four dishes of dessert Apples were shown by Mr. J. Kingswood, gardener to A. Wilson, Esq., Oak Hill, who had good samples of Cox's Orange Pippin, Ribston Pippin, and King of the Pippins. There was a keen competition in the class for two bunches of black Grapes. Mr. G. Latter, gardener to F. Tooth, Esq., Park Farm, was first with fine well-finished bunches; second, Mr. A. Hoadley, with equally well finished bunches, but smaller; third Mr. A. Gibson. Some excellent baskets of vegetables were staged and special mention should be made of those shown by Messrs. J. Buckland, G. Latter, A. Farmer, and W. Wolfe. The latter, who is an amateur, carrying all before him in his particular classes.—*S.*

Cirencester.

This young society held its second exhibition in the Corn Exchange on November 9th and 10th, and the weather being most favourable on both days the show was patronised by most of the leading families of the neighbourhood. For a second effort the results were of a most encouraging and satisfactory character in every respect. There was keen competition in most of the classes, as will be inferred from the number of entries, which were 230, as against 137 last year. Most of the exhibits were superior to those of the previous year, but exception must be made in the case of the incurved cut blooms, which were below the average, lacking depth and finish, no doubt owing to the sharp frost experienced on the 18th of September last. The Japs. were better, indeed there were some really excellent blooms in many of the stands.

Perhaps the chief feature of the show was a magnificent group of plants set up by Messrs. J. Jefferies & Son, and which comprised most of the new and leading varieties; they were also admirably arranged by Messrs. Jefferies' foreman, Mr. Dyer, and gave him much credit. There were classes for epergnes of Chrysanthemum bouquets, baskets of hardy autumn foliage and berries (a feature of the show, and keenly competed for), and buttonhole bouquets. There were also classes provided for cottagers both in plants and cut blooms; also a class for vegetables. These classes, as might have been expected, were very keenly contested, and in the matter of vegetables I doubt if the professional gardener could have beaten them, particularly with Potatos.

The miscellaneous classes consisted of groups of stove and greenhouse plants arranged for effect, and which brought out six competitors. They were a great attraction. Fruit and vegetables in the gardeners' classes were well shown, and there were also some good Grapes, Apples, and Pears. Bouvardias, Primulas, double and single, Poinsettias, Cyclamens, Mignonette, Pelargoniums, and table plants were for the most part well shown, and brought out a keen competition.

Among the leading prize winners were Mr. G. Bastin, gardener to Mrs. G. Holloway, Stroud; Mr. T. Arnold, gardener to Earl Bathurst; Mr. O. Orpett, gardener to the Misses Brown; and Mr. Price, gardener to Mrs. Bulley, Fairford. Mr. Orpett won the N.C.S. Silver Medal with his specimen plants; and the Society's Certificates went to Messrs. Jefferies & Son and Mr. T. Arnold for groups of Chrysanthemums.—*X.*

Sheffield and West Riding.

The tenth annual exhibition of this society was held on the 11th and 12th inst., but hardly came up to the usual Sheffield standard, owing to the lateness of the season. The open classes for cut blooms, however, brought out a very fine display, though they came from more favoured localities. Mr. R. Parker, Impney, Droitwich, was in rare form, and came in first for twenty-four incurved blooms, twenty-four Japanese, twelve incurved, six incurved, and twelve Japanese. In the open classes for plants, Mr. W. Redmill, gardener to J. G. Lowood, Esq., had the best group; Mr. Scott, gardener to J. Colley, Esq., the best six plants; and Mr. E. Pidsley, gardener to Mrs. Wilson, Westbrook, the best three Japanese. In the local classes Mr. Pidsley also came out well, taking first honours for a group of miscellaneous plants, for six exotic Ferns, for a group of Primulas, and for six buttonhole bouquets. Other conspicuous winners were Mr. H. T. Greaves, Mr. W. Redmill, Mr. W. Wenman, Mr. C. Scott, Mr. J. H. Clements, etc.

Mr. H. J. Jones, Lewisham, sent a large and very fine collection of Japanese blooms; and collections of stove and greenhouse plants were contributed by Messrs. Fisher, Son & Sibray, Mr. Seagrave, and Mr. B. Crossland, etc. An object of some attraction was a couple of Chrysanthemum blooms in the middle of a block of ice. This was shown by Mr. W. Colchester, Ipswich, by way of demonstrating the practicability of sending English blooms abroad.

Liverpool.

The annual exhibition of Chrysanthemums, fruit, and plants was held in St. George's Hall on the 15th and 16th inst., and proved a great success, the cut flowers surpassing those seen at any previous show, the Japanese especially being far ahead for size, substance, and general finish. The incurved blooms were fully up to Liverpool size, but somewhat less in depth than usual. The plants included many splendid specimens, and Mr. J. Harrison proved himself the victor in nearly every class.

For three large flowering plants trained, distinct, Mr. J. Harrison, gardener to Mrs. Bateson, Aigburth, was first with grand specimens. Second, Mr. W. Wilson, gardener to H. Cunningham, Esq., Gateacre; and for six untrained plants, Mr. E. Bennett, gardener to J. E. Gordon, Esq., Wavertree, came in first. For a group of Chrysanthemums arranged

for effect first, Mr. T. Winkworth, gardener to R. Brocklebank, Esq., Chilwall, was first with fine massive flowers well harmonised for colour. Cut flowers were shown in large numbers, the entries totaling 2,148. In the forty-eight bloom class, twenty-four incurved and twenty-four Japs, D. Forbes, gardener to A. Holt, Esq., Aigburth, was first, having grand blooms of Etoile d'Or, Viviand Morel, Edwin Molyneux, Florence Davis, Mr. W. Coles, Sunflower, Lilian B. Bird, Madame Marie Hoste, Mrs. Irvine Clarke, Boule d'Or, John Lambert, Lord Alcester, Golden Empress of India, Queen of England, John Doughton, John Salter, &c. Second, Mr. G. Burben, gardener to G. Cockburn, Esq., Birkenhead. Third, Mr. J. Jellicoe, gardener to F. H. Gossage, Esq., Camp Hill, Woolton. With thirty-six blooms, twelve each of incurved, Japanese and reflexed, Mr. Jellicoe won the Cup presented by Messrs. R. P. Ker & Sons, showing amongst others splendid blooms of Etoile d'Or, Florence Davis, Gloire du Rocher, Avalanche, G. C. Schwabe, Viviand Morel, Sunflower, Mdle. Marie Hoste, Emily Dale, Empress of India, Lord Alcester, Queen of England, M. R. Bahuant, John Salter, James Carter, Chevalier Domage, &c. For eighteen incurved, distinct, Mr. T. Healey, gardener to Col. Wilson, Wavertree, was first, and with twelve the first award went to Mr. H. Howard, gardener to A. S. Mather, Esq., Woolton. Mr. J. Jellicoe had the best eighteen Japs, and Mr. J. Williams the best twelve, immense blooms. Mr. J. Jellicoe took the premier position for six stove and greenhouse plants, not less than three in flower, staging Thrinax elegans, Crotons Mortefontainensis (grand colour), Countess Anthurium carneum and Andreanum, and Erica hyemalis. Three Orchids: first, Mr. J. Bounds, gardener to A. L. Jones, Esq., Aigburth, with Oncidiums Forbesii, crispum, and tigrinum. One Orchid: first, Mr. T. Foster with Vanda sauvis with two spikes. Two Palms: first, Mr. T. Healey, with Latania borbonica and Cycas revolutea, each 10 ft. in diameter.

Fruit: six dishes distinct, Pines excluded: first, Mr. J. Bennett, gardener to Hon. C. Wynn, Rhug, North Wales, who had Alicante and Muscat of, Alexandria Grapes, Glout Morceau and Beurré Diel Pears, Hero of Lockinge Melon, and Cox's Pomona Apples. Second, Mr. T. Elsworth, gardener to A K. Gladstone, Esq., Court Hey, Broad Green. Two Pines: first, Mr. J. Bennett; two bunches of Black Alicante: first, Mr. W. Wilson, Gateacre; two bunches any other black Grape: first, Mr W. Siren, gardener to S. Smith, Esq., M.P., Liverpool, with Gross Guillaume. Two bunches of White Muscats: first, Mr. G. Middleton, gardener to R. Pilkington, Esq., St. Helens. Six dishes dessert Apples: first, Rev. L. Garnett, having finely coloured fruit of Melon, Ribston Pippin, Cornish Aromatic, Baumann's Red Winter Reinette, Cox Orange Pippin, and American Mother. Second, Mr. J. E. Kelly, gardener to Sir Pyers Mostyn.

Special exhibits were staged by Messrs. R P Ker & Sons, consisting of their fine strain of Cyclamen; the Liverpool Horticultural Company, miscellaneous plants and a splendid assortment of wreaths, crosses, anchors, &c.; Messrs. Turner Bros., Garston, Palms, foliage plants, and cut flowers in various devices; Messrs. Dicksons, Limited, Chester, a fine collection of Apples; Mr. R. Owen, Maidenhead, a fine stand of cut blooms of new Chrysanthemums; Messrs. W. Clibran & Sons, Altrincham, cut Chrysanthemums, &c.

CYCLAMENS IN NOVEMBER.

That Cyclamens are still enjoying public favour, and are likely to do so for many years, is evidenced by the numbers that continue to be grown, both for autumn and winter display, and again for spring flowering. Two long houses, at least, are devoted to them in the nursery of Messrs. H. Cannell & Sons, Swanley, Kent. The more forward of them are arranged in large batches of a colour, such as rose, crimson, white, deep crimson, and various other shades. The flowers, in most cases, are of large size, and not only are they fully developed in quantity, but buds nestle under the foliage in great numbers. The foliage itself is handsome, but individual plants here and there showed that the foliage had grown at the expense of the flowers, for single leaves could in some cases scarcely be covered by the hand. The leaves are, however, pretty well developed in most cases, although the plants are only grown in 48 size pots. The general requisites for plants of this class are a genial atmosphere, to dispel damp and prevent the flowers from getting spotted, as well as attention in the matter of watering. A well-lighted position near the glass, or, what is better, a low span-roofed house with judicious ventilation, are also indispensable to good cultivation.

GARDENING MISCELLANY.

CARNATION MRS. CANNELL.

The general appearance of this variety is that of the old and well-known Mary Morris, but it is dwarfer, and distinct in other ways, as is evidenced by a batch of it now flowering in the nursery of Messrs. H. Cannell & Sons, Swanley, Kent. The plants are, of course, grown in pots, and the stems, flowers and all, only attain a height of 12 in. The flowers are of large size and rosy-pink, with broad petals that are nearly entire at the edges The petals are not so numerous as to cause crowding, consequently the pods do not split in the process of expansion. Carnations are particularly acceptable at this season of the year, and great preference is given to those of the lighter shades, with a few of the bright scarlet ones. To enable them to flower well, it is only necessary to keep them in a minimum temperature of 50°, to keep growth gently moving, and to prevent the flowers from getting spoiled by a deposition of moisture upon them.

PTERIS WALLICHIANA.

It is well known that the leaf-stalks of Pteris tremula are inconveniently long when the plants are used for table decorative work. Those of P. Wallichiana, on the contrary, are comparatively short, and the fronds being spreading, the pots are partly hidden. The lamina is triangular, three times pinnate and pinnatifid, much in the same way as those of P. tremula, but the plant is altogether dwarfer in habit. Should it be as easily raised as the latter from spores, there seems no reason why it may not become popular for market work. We noted it in the nursery of Messrs. Pitcher & Manda, Hextable, Swanley.

GARDENING FOR FUN.

"In these days, when so great effort is being expended to do away with worms and their kind," says Professor L. H. Bailey, in *American Gardening*, "it seems strange that anyone should grow plants for the sole reason that their pods resemble worms and snails; yet such plants are grown, and the resemblance is great. These plants are grown for no other reason than that they are curious, and for the inimitable pleasure of dropping them into your wife's soup, or laying them beside her plate at dinner time! At least, these are the only uses yet recorded for them. But they are interesting plants, nevertheless. They set a-going a whole series of speculations as to how and why these pods ever came to imitate crawling things so closely. It would be interesting to know if birds mistake them for worms, and thereby scatter the seeds, or if the quirls and wrinkles are only so many means of catching hold of passing animals. These plants are of several kinds, all belonging to the Pea family. I have a dish of them now before me. The round, snail-like specimens are Medicago scutellata, and they are technically known as Snails. The larger and fatter worms are Scorpiurus vermiculatus, and the small, slender ones, which have crawled to the top of the cup, are Scorpiurus subvillosus; these two are appropriately called Caterpillars or Worms."

NEW DOUBLE WINTER-FLOWERING BEGONIA.

Progress is still being made in the improvement of the winter-flowering race of Begonias in the nursery of Messrs. J. Veitch & Sons, Chelsea. A handsome variety in the way of John Heal has been raised, but the plant has more of the vigour of Adonis, and the flowers are perfectly double, and as neat as a Camellia when at their best. The seed-parent of John Heal was Begonia socotrana, crossed with Viscountess Doneraile, a dark-coloured single variety of the summer-flowering race. In the case of the new variety a rose-coloured variety of the tuberous section was the seed-parent, and the pollen-parent was B. socotrana. The seeds were sown about twenty months ago, and amongst the seedlings this double variety turned up. The flowers are twice as large as those of John Heal, or even more, and are produced in succession upon long, drooping cymes after the fashion of Adonis. The outer sepals are the largest and longest, the others becoming gradually shorter towards the centre, and all are of a beautiful carmine-rose. The flowers keep up a succession for a long time and hang well—a fact to be attributed to their being double. The leaves are obliquely heart-shaped, doubly crenate, and of a rich, dark, shining green, and therefore resemble those of John Heal, and both of them are quite away from the B. socotrana type.

BEGONIA WINTER GEM.

This was raised from Begonia socotrana as the seed-parent crossed with a crimson-scarlet tuberous variety of the summer-flowering race, and retains the foliage of the seed-parent. The leaves are orbicular, peltate, of relatively large size, and crenate on the margin. The flowers are of a bright crimson-scarlet, and although only moderate in size are very welcome at this time of the year. The habit of the plant like B. socotrana is very dwarf, and very accommodating where space is a matter of consideration. We noted a quantity of it the other day in the nursery of Messrs. J. Veitch & Sons, Chelsea, grown in 60's and smaller size pots. Plants of the largest size could well be grown in 48-size pots to enliven the front of the benches in the intermediate house or warm conservatory. The plants are just now coming into bloom, and present a richness of colour not very common amongst Begonias, even during the late autumn and winter months.

NEPENTHES NORTHISII.

The name of this new hybrid will no doubt puzzle many cultivators as to its derivation. The raisers no doubt intended to give a name that would be suggestive of its origin; but being derived from two proper names, the meaning is not at first apparent. The hybrid was raised from N. Northiana crossed with the pollen of N. Curtisii, and the name is compounded from the first half of the former and the last half of the latter. The pitcher is cylindrical, and of a pale green, spotted and striped with crimson. The fringes of the wings are very numerous and conspicuous. The annulus is broad like those of both parents, slightly undulated on the outer edge, and of shining reddish-brown. The crimson-purple blotches in the throat are fairly prominent as are those of N. Northiana, in which they constitute one of the most decided features. The numerous stripes and splashes on the outside of the pitcher show the influence of the pollen-parent, while the lighter colour that prevails generally would be derived from the seed-parent. The constitution of the plant is good, and pitchers are borne freely judging from a fine specimen in the nursery of Messrs. J. Veitch & Sons, Chelsea. The Nepenthes house is worthy of inspection, for at present there are about 1,000 pitchers on the plants, most of which are suspended from the roof in baskets.

AGLAONEMA COSTATUM.

This bids fair to be the best species in cultivation, on account of its dwarf habit and brightly coloured leaves. Those which we have hitherto seen have long rambling stems, and are therefore suitable for planting against the old stem of a tree, Fern, or something of that kind, to which the slender, rooting stems may climb. The markings are not so clear, nor the green hue so well defined as in the case of A. costatum, which, as far as we have seen, only forms stems a few inches in height, and which are erect-bearing, large, ovate, accuminate leaves of a dark, shining olive-green, with a broad, creamy-white midrib, and irregular blotches of the same hue scattered all over the surface. Plants of this sort in 48 or 32-size pots would serve to enliven the stove during the winter months, and prove more manageable and more accommodating than the Diefenbachias. We noted a quantity of it in the nursery of Messrs. J. Veitch & Sons, Chelsea.

CENTROSEMA GRANDIFLORA.

During the last few seasons I have had the opportunity of watching the growth and development of a new ornamental climber of rare and exquisite beauty. This plant, Centrosema grandiflora, is a protegé of Mr. A. Blanc, of Philadelphia, and is to be offered for sale for the first time the coming winter. It is a hardy perennial, but from seeds sown in April plants grow off rapidly and bloom freely early in June. The flowers are inversely pea-shaped, and are quite large, many of them being two and a half inches in diameter. In colour they run through all shades from rosy violet to a reddish purple. Through the centre of each flower runs a broad, feathered band of

white, and the large buds and outside surface of the flowers being also white, at a little distance one plant appears to bear blossoms of several different colours at one time. Occasionally we find a Centrosema with pure white flowers, or with petals broadly margined and feathered with white. A most attractive feature of this plant is the way in which the flowers look you in the face. Every imaginative person sees faces in the Pansy, and the Centrosema is even more suggestive. Therefore, "Look at Me" would not be a bad name for it. The blossoms are produced in great abundance, sometimes from six to eight in a cluster. The foliage of the Centrosema is graceful and delightfully fragrant. The stems are slender, curving and twining over any support with the utmost grace. They are not much larger than good-sized knitting needles, but they often climb to the height of six or eight feet. I predict for this plant large sales and great popularity, and anticipate for it, when once the florists take it in hand, as great a variety and delicacy of colouring as we find in the Sweet-pea. It is well adapted for many gardening purposes, blooms until frost, and if potted will no doubt flower freely in the house.—*Wm. F. Basset, New Jersey, in American Gardening.*

THE USES OF CHEMICAL MANURES IN THE PRODUCTION OF FRUIT.

At the opening meeting of the Liverpool section of the Society of Chemical Industry, on the 2nd inst., Mr. Henry Brunner gave his inaugural address on the "Use of chemical manures for the production of fruit." After referring to the importance of fruit growing for profit in land cultivation, Mr. Brunner pointed out that one-fourth of the cost of the production of the fruit is due to the necessary supply of manure, and that although he was uncertain whether natural manures could be completely replaced by chemical, he had no doubt that a large proportion of it could be with advantage to the crop, and economy to the cultivator. This statement was supported by the lecturer's own experiments, especially in regard to the growth of Strawberries. Further advantages of chemical manuring consisted in its being more certain in effect, and more convenient both to handle and to distribute. At the same time, Mr. Brunner did not recommend the fruit grower to discard the use of farmyard manure altogether, but that he should adopt some system of rotation of manures most suitable to the soil and products grown. The paper concluded with a most interesting critique of the best forms of chemical manures to employ, and their relative values.

ASTER VERSICOLOR NANUS.

Those who object to tall Asters would probably find something more suitable in this variety, which flowers late and attains a height of only 12 in. The stems branch freely and produce a great quantity of flowers, which are white when they first expand, but soon deepen to rose. As there are flowers in all stages of colour upon the plant, this has given rise to the specific name, which means changeable, or changing colour.

THE "APPLE" OF THE BIBLE.

Botanists regard the Apricot as a native of Armenia, and hence its botanical name of *Prunus Armeniaca*. Its common name we take to be derived from prækokai or præcoce from its being an early ripening Plum or fruit. But Canon Tristram, with apparently good reason, believes the Apricot to be the "Apple" of the Bible. He says:—"The Apricot is most abundant in the Holy Land; everywhere it is common in highlands and lowlands alike. By the shores of the Mediterranean and on the banks of the Jordan, in the nooks of Judea, under the heights of Lebanon, in the recesses of Galilee, and in the glades of Gilead the Apricot flourishes and yields a crop of prodigious abundance; its branches laden with its golden fruit may well be compared to 'Apples of gold,' and its pale leaves to 'pictures of silver.' Many times have we pitched our tents in its shade; thus verifying the words, 'I sat down under his shadow with great delight, and his fruit was sweet to my taste.'"

The Violet Disease.—I was taken to the frame ground in the Rose Hill Cemetery, Chicago, to look at the finest bed of Violets anywhere, and I saw the grandest bed of Chickweed possible to conceive of, fat and saucy. I was told the only way to keep the disease away after August 15th was to let the plants get smothered. There certainly were Violets below, and I was told that in a day or two the weed would be cleared away, the Violets would be housed, and then all would be well. Funny idea, isn't it?—*Florists' Exchange.*

DEATH FROM MUSHROOMS.

Mushrooms have been so exceedingly abundant in the southern counties, at least this season, as to call forth the remarks from many elderly persons that they had never before seen them in such quantities. Fortunately, no other fungus is so common, indeed the deleterious kinds are comparatively rare. Yet several fatal cases of poisoning from eating fungi have been recorded during the present autumn; in no case, however, have we been able to ascertain what particular kind of fungus had caused, or was supposed to have caused, the fatal result. We repeat what we have so often said before, that very few fungi are really poisonous in a young state, and even Mushrooms in an advanced stage will cause irritation and diarrhœa, and may even become poisonous. Violent purging may follow the eating of Mushrooms the gills of which are nearly black, though still firm and undecayed. Another thing to be considered is the cooking. There is no doubt that the more thoroughly fungi are cooked the less likely they are to produce unpleasant effects. In view of the deaths that have occurred in consequence, as has been assumed, of eating poisonous fungi, a contemporary lately suggested that even the true Mushroom should be avoided, because the risk of being poisoned is too great.

Considering the enormous quantities of Mushrooms now consumed, both wild and cultivated, the number of casualties through mistakes is very small, and as it is clearly impossible to prevent people from eating them, it would be more to the purpose to teach the young to discriminate between the good and the bad in fungi. As a matter of fact, country-bred persons, of the labouring class especially, are able to distinguish a Mushroom from a Toadstool, and they are also able to distinguish the Horse Mushroom (Agaricus arvensis) from the more delicate Agaricus campestris, or true Mushroom. As a rule they discard everything else in the shape of a fungus, whether it be a Toadstool, an Agaric of any kind, or a Devil's Snuff-box, a Puffball, or Lycoperdon. Yet many of the species of Agaricus are equally as good as A. campestris, and the giant Puffball (Lycoperdon giganteum) is delicious when young and solid. At the same time we should advise all persons who have not had practical instruction in the matter to avoid any and every fungus that they are not sure about. In nine cases out of ten the only person in a country village possessing any botanical knowledge is the "doctor," but his knowledge is rarely of the practical kind.

In this connection we have a few remarks to make on the kind of botanical teaching fostered by the science and art department, to say nothing of the universities and medical schools. Take the examination papers of the science and art department for example, and we find not a solitary question on economic botany, the only branch of the science of any real utility to the 3,000 or so candidates that present themselves annually. They are examined in the physiology and anatomy of plants from a text-book standpoint, and are asked questions on obscure phenomena of plant life that they have no possible chance of verifying or observing, or often even of understanding; but the kind of knowledge that would be most useful, and most easily learnt from competent teachers, is wholly ignored. The teaching is commenced at the wrong end; instead of demanding a practical acquaintance with plants and their properties, questions on tissues and vital functions are given, even in the first or elementary stage. It is true that the answers are often intelligent and good, but the fact remains that few of the candidates could distinguish a Lime tree from an Elm, Hemlock from Chervil, the Dropwort from a Parsnip, Fool's Parsley from the genuine plant, or Barley from Rye or bearded Wheat.

We should much like to see the elementary stage, at least, almost limited to the discrimination of plants and their products, reserving questions on the minute structure, growth, and nutrition of plants for the advanced stage. A knowledge of the berry-yielding plants of the hedges and woods would be far more useful than the phenomena of root-pressure, or the supposed sources of the carbon and nitrogen of plants. What is most deplorable is that few of the teachers possess sufficient knowledge of field and economic botany to teach it, so they must first be taught. But if the department insisted on real knowledge instead of book learning, it would soon be forthcoming.—*British Medical Journal.*

SOCIETIES.

Royal Horticultural, *Nov. 15th.*—As might have been expected, the meeting on Tuesday last was not a large one. The principal features of the exhibits were Chrysanthemums, Orchids, Ferns and Pelargoniums. A group of Orchids was exhibited by Messrs. Hugh Low & Co., Clapton, prominent in which were Cypripedium bellatulum, Oncidium tigrinum, Vanda Kimballiana and other species now in season. A similar group was shown by Messrs. F. Sander & Co., St. Albans. The more important plants in this case were Cypripedium Leeanum giganteum, Cattleya labiata albanense, and the hybrid Masdevallia Measureiana. Messrs. B. S. Williams & Son, Upper Holloway, also showed a small group of Orchids, chiefly Cypripediums in variety, Cattleya gigas and a piece of Cymbidium gigantea. Two pieces of Angræcum bilobum and Cattleya Massiana were staged by C. J. Lucas, Esq. (gardener, Mr. G. Duncan), Warnham Court, Horsham. A hybrid Cattleya named C. Harrisii was shown by Thos. Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, Manchester. A variety of the curious looking Catasetum tabulare, was shown by Welbore S. Ellis, Esq., Hazelbourne, Dorking. Varieties of Cattleya labiata were shown by R. Young, Esq., Fringilla, Linnet Lane, Liverpool, and by Mr. Houghton, Walthamstow. A beautiful variety of Odontoglossum crispum was shown by Messrs. J. Laing & Sons, Forest Hill. A fine piece of Cypripedium Morganiæ burfordiense and a plant of C. pavoninum were shown by Sir Trevor Lawrence, Bart. (grower, Mr. White), Burford Lodge, Dorking. Several plants of Cypripedium insigne were staged by Mr. Joseph Fitt, Panshanger Gardens, Hertford. Several hybrid Cypripediums were exhibited by Messrs J. Veitch & Sons, Chelsea, and three of them were certificated.

A Silver-gilt Flora Medal was awarded to Mr. H. B. May, Dyson's Lane, Upper Edmonton, for an extensive collection of Ferns. Some of the more striking or uncommon kinds were Lastrea lepida, Adiantum Fergusoni, Pteris tremula variegata, Platycerium stemaria, and Pteris tremula Smithiana. A collection of Chrysanthemums was staged by Mr. G. Wythes, gardener to the Duke of Northumberland, Syon House, Brentford. Palms were stood along the back and small Palms and Maidenhair introduced amongst them in front, while the flowers themselves were cut with long stems and foliage. A Silver Banksian Medal was accorded the group. A similar award was made to Messrs. H. Cannell & Sons, Swanley, for an attractive group or collection of good Pelargoniums set up in a large and showy bunches. They also had several stands of cut flowers of Chrysanthemums, some of which received Awards of Merit. Some stands of Chrysanthemums consisting of large blooms were shown by Messrs. J. Veitch & Sons, who also staged a fine pan of Begonia decora, having bronzy foliage. Small ots of Chrysanthemum flowers were shown by Wm. Seward, Esq. (gardener, Mr. J. Shrimpton), The Firs, Hanwell; by Messrs. J. R. Pearson & Sons, Chilwell, Notts; by Mr. Robert Owen, Castle Hill, Maidenhead; by Mr. J. Dibbens, Breakespear Road, Brockley; by Mr. E. Molyneux, Swanmore Park, Swanmore; by Mr. C. E. Shea, The Elms, Foot's Cray, Kent; and by Mr. Blick, gardener to Martin Smith, Esq., The Warren, Hayes Common, Kent. A basket of Violets was shown by Lord Foley (gardener, Mr. Miller), Ruxley Lodge, Esher. Prizes were offered by the Society for a group of Chrysanthemums, and the first prize was awarded to Mr. G. Wythes, who had eighteen large bushy plants in pots. Some of the best flowered plants were Cullingfordi, Val d'Andorre, Elaine, Mrs. Dixon, and Eynsford White.

At a meeting of the Fruit Committee a Bronze Banksian Medal was awarded to Mr. Wythes for a collection of Melons, packed in open baskets. A Melon named Golden Ball was shown by Lord Foley. He also showed a dish of the Brown Turkey Fig from the second crop. Nineteen varieties of Apples for naming were brought up by the Rev. E. S. Lowndes, Little Comberton, Pershore. Smaller lots for the same purpose were brought up by Mr. McDonald, gardener to Sir Chas. Nicholson, Bart., Totteridge, Herts; by the Rev. W. G. Bryan, Lingfield Vicarage, Surrey; and by W. M. Rose, Esq., Ilfracombe. A new Potato named Fidler's Colossal was exhibited by Mr. C. Fidler, Reading; and also by Mr. G. Brawn, Walsall. A box of Tomatos named Gilbert's Satisfaction, all in fine form and well ripened, was exhibited by Mr. Gilbert, Burghley Gardens, Stamford.

ORCHID NOTES AND GLEANINGS.

Cypripedium Leeanum Maseereelianum.

THE great size of the dorsal sepal of this variety, and its pronounced markings, give the whole flower a telling effect. It is white, with a small amount of green at the very base, and heavily spotted with violet-purple upwards. The petals are undulated on the upper edge and yellowish, spotted with brown. The lip is of large size, and of a bright shining brown. There are now several forms of C. Leeanum in cultivation, and like that under notice they all show the influence of the pollen-parent (C. Spicerianum) in the form of the petals and the markings of the upper sepal, as well as the white ground colour. The seed-parent was C. insigne, which in its ordinary form has the greater part of the upper sepal green, spotted or blotched with brown. The elimination of this, except at the base, has greatly improved the brightness and clearness of the progeny, of which the variety under notice is one, and has been flowering for some time past in the nursery of Messrs. Pitcher & Manda, Hextable, Swanley.

Oncidium tetrapetalum.

ALTHOUGH a native of Jamaica, this is comparatively seldom seen in cultivation, the reason being that the plant is somewhat difficult to grow. There can be no question as to its beauty, however, and the durability of the flowers. Those whose favourite flowers are the Cattleyas would no doubt object to the small size of the flowers of this Oncidium, but beauty can exist independent of size. The leaves are arranged in two-ranked rosettes, triquetrous—that is, having three edges and three grooved faces—and vary from 1 in. to 6 in. in length according to the vigour of the plant. The flower scape also varies in length in the same way, and bears a drooping raceme of neat and pretty flowers. The sepals and petals are brown and purple, banded transversely with pale yellow. The lip is three-lobed and white, with exception of a red blotch in front of the crest, which is yellow. The wings of the column are pale purple, as well as the anther cap, and this gives the column considerable prominence in the centre of the flower. The perfume of the latter is long-lasting, and resembles that of the Lily of the Valley. A piece of it has been flowering for a long time past on a small raft or basket in the nursery of Messrs. Pitcher & Manda, Hextable, Swanley. The small amount of space it occupies, the beauty of the flowers and their fragrance should make this species a favourite with those who like the small-sized and pretty Orchids, which are uncommon in collections generally.

WHAT TO DO IN THE GARDEN.

Gesneras.—As the flowers of the later batches fade and the foliage becomes shabby the plants may be allowed to go to rest by gradually withholding water. The rhizomes would suffer if allowed to get dust dry before the leaves have so far faded as to be of little service to them.

Eucharis.—When the plants are at rest or have finished flowering, repotting may be effected if the bulbs are too densely crowded in the pots. The bulbs should be assorted into sizes, so that the flowering in the pots may be regular. Good turfy loam with a little peat and plenty of sharp sand will make a suitable compost. Some crushed bones would add to its durability and also serve to keep it more open.

Coprosma Baueriana variegata.—Cuttings of this can be struck in spring by inserting young shoots or at least those with a piece of the old wood at the base in sandy soil, and placing them in a gentle warmth. Cover them with a bell-glass. Even by this method they take a long time to root, and a safer method would be to layer some shoots in small pots alongside of that containing the plant. Select a plant or plants that are of no value for decorative purposes, so that they may be thrown away after the layers have been taken off them.

Winter flowering plants.—Before removing these to the conservatory, they should be kept cooler and more airy, so as to partly harden them off, and by this treatment they will last all the longer in fine condition. They include such things as Sericographis Ghiesbreightii, Jacobinia (Justicia) carnea, Libonia floribunda, L. Penrhosiensis, Centropogon Lucyanus, Eranthemums, and others of that class,

Azaleas.—Where cut flowers are wanted in quantity it will be advantageous to introduce some of the earlier flowering kinds into heat, which will bring them on more rapidly and regularly than when left in the ordinary greenhouse. The old A. indica alba, A. narcissiflora, and the grand semi-double Deutsche Perle respond readily to a gentle forcing, and as a rule they come on steadily, though slowly, when merely kept in the greenhouse.

Forcing pit.—In order to keep up a supply of plants in flower the forcing pit should now be kept in active operation, introducing batches of Rhododendrons, Deutzias, Prunus sinensis, Hyacinths, Narcissi, chiefly of the Paper White at this early period, as well as Lilac and Lily of the Valley. The early Roman Hyacinths will be most in evidence at this period of the year. Most of these things will stand a considerable amount of forcing, but the aim should be to bring them on as gently as possible. Plunging the pots in fermenting material would not only supply heat but also the moisture so favourable to growth.

Vineries.—The earliest vinery started about the beginning of the month should be kept at a minimum night temperature of 55°, allowing it to rise to 65° by day. With the aid of fermenting materials this can easily be done while the weather remains mild as it has been for some time past. Prune the vines in succession houses as the leaves fall off. Maintain a dry atmosphere where Grapes are still hanging by judicious firing and ventilation.

Figs.—To have ripe fruit in April it is necessary to start at once by getting the pot plants ready by top dressing and plunging them in fermenting material. A good plan is to elevate them on inverted pots and to pack fermenting material between the pots, not necessarily entirely covering them at the first provided there is sufficient material to give the necessary heat required in the earlier stages. More can be added afterwards and artificial heat applied when the weather gets cold or when frosty nights occur, to keep up the requisite and increasing temperature.

Cucumbers.—The plants grown on for maintaining a supply of fruit from the end of December to January will now be showing fruit which should be thinned out, retaining only a moderate crop; for upon this the ability of the plants to keep on bearing till spring will depend. The bad weather and feeble light will not permit of heavy cropping which soon exhausts the plants. Attend to stopping, tying and keeping the glass clean.

Strawberries.—The earliest batch of Strawberries may be put into heat towards the end of this month. Reliable sorts or those which can be depended upon should be used, including Vicomtesse Hericarte de Thury and Black Prince. Comparatively little if any fire heat will be needed for the first fortnight. The shelves of a Peach house or vinery just started would afford the necessary heat to bring them on.

Apricots and Peaches on open walls.—Advantage should be taken of the present open and mild weather to execute planting and transplanting and root pruning of this class of trees. Old ones can sometimes be renovated by the mere act of lifting and transplanting them after having shortened the long straggling roots. Before putting a tree in the position of an old one, the soil should be removed or partly so, substituting fresh material, and at the same time working in a good quantity of lime rubble if the natural soil is in any way heavy or deficient in porosity.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "THE EDITOR" or "THE PUBLISHER," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa, London."*

ROSES FOR BUTTONHOLES.—*Omega*: Many of the Tea and Noisette Roses are well adapted for buttonhole work when gathered in the bud state. The following include some that are most suitable, namely, Ma Capucin, Marie Van Houtte, Madame de Watteville, Niphetos, W. A. Richardson, W. F. Bennett, Rubens, Madame Lambard, Celine Forestier, Reve d'Or, and several others.

AZALEAS INJURED.—*Wm. Kellock*: It all depends upon whether the buds were advanced or not. The early kinds would be more likely to suffer from being left out in a sharp night's frost than the later or less advanced kinds. If in a position sheltered by trees or houses, so that the sun could not shine upon them early in the morning, the chances are greatly in their favour. Either way nothing can be done for them now, but give them the ordinary good treatment, and the buds as they swell up will soon show whether they have sustained any injury or not.

LILIUM CANDIDUM DISEASED.—*M. M., Aberdeen* The attacking fungus is of such a nature as to be difficult to deal with successfully. In all cases which we have observed, it attacks the plants, destroying the leaves, flowers, and ultimately the stems, just as the stems are pushing up rapidly for bloom and the flowers themselves have almost reached the expanding stage. The only remedy which we have seen applied is sulphur. If the fungus has spread much before this is applied, the plants cannot be saved nor will their flowers expand. You should watch them very closely when the flower stems are pushing up, and give the foliage a good dusting with flour of sulphur as soon as you see the first speck of the mildew like fungus. This should be done in the morning when the leaves are wet with dew, or you may syringe the plants on purpose; or on the other hand you may put the sulphur in a pail of water, thoroughly mixing it with the syringe, and then syringe the plants with the mixture. This will kill the spores and those portions of the fungus that come outside the leaves and stems in order to produce the spores. By this means the fungus will be prevented from spreading to the healthy parts of the plant. Should the sulphur get washed off by rain, repeat the application immediately after the rain. In this way you may keep the fungus in check, even if you cannot hope to exterminate it.

NAMES OF PLANTS.—*G. T.*: 1, Lomaria Patersoni; 2, Pteris incisa, frequently called Litobrochia vespertilionis in gardens; 3, Platyloma rotundifolia.—*A.S.*: 1, Viburnum Lantana; 2, Viburnum Tinus; 3, Symphoricarus racemosus; 4, Cratægus tanacetifolia.—*H. B.*: Rubus laciniatus.—*L. M.*: 1, Rosa rugosa; 2, Spiræa filipendula; 3, Thuya gigantea.—*Omega*: 1, Aster ericoides, or the Heath-like Aster; 2, the Chrysanthemum appears to be Golden Madamoiselle Marthe, or Flora, but it was smashed in the post.—*Mrs. Leadbetter*: Odontoglossum luteo-pur pureum sceptrum.

ROOT-PRUNING CHERRY TREE.—*Omega*: When growing too rampantly the trees may be checked to advantage by root pruning. Young trees may be lifted, long strangling roots shortened back, and the trees replanted. In the case of large or old trees, it would be advisable to extend the operation over two years, cutting back half of the roots now and the other half next autumn. In other words, a trench may be taken out extending half way round the tree, and the roots shortened back. Dress the cut ends with a sharp knife. Complete the other half next year. Get underneath the roots so as to cut all those that dip perpendicularly; or they may be lifted into a horizontal position if possible. In making up the trenches again make the soil firm wherever it has been disturbed.

SIZE OF BOTANIC GARDENS.—*C. B. G.*: We are unable to lay hands upon statistics, but we believe no other botanic garden has an acreage so extensive as that at Kew. There are certainly none in this country nor on the Continent. The possibility is that some of the Indian gardens are larger, but we doubt very much whether this is the case. No other in the world has the same amount of glass. None of the continental gardens possess the same amount, and the gardens of tropical countries do not require it. The larvæ sent belong to some of the night flying moths, Noctuina, not to the butterflies. We will try to develop them into the perfect state. The earwig question, we believe, is imperfectly known.

NAMES OF FRUITS.—*G. T.*: Apples: 1, Gravenstein; 2, Emperor Alexander; 3, Gooseberry; 4, Pear, Marie Louise d'Uccle; 5, Doyenné Boussoch.—*F. H. D.*: 1, Beauty of Kent; 2, Small's Admirable; 3, Cox's Pomona; 4, London Pippin; 6, Cellini; 5, Margil; 7, Court of Wick.

ELEMENTS OF BOTANY.—*J. C.*: We are not acquainted with Schoedler's "Elements of Botany," but are always suspicious of books that go back to the fifties. A vast amount of progress has been made in several branches of botany since then, and we always select modern books on the subject. Master's "Botany for Beginners" is very good in its way, but does not go very far. Other good books on the subject are Edmond's "Botany," 2s. 6d.; "Elementary Botany," by Prantle and Vines, 6s.; and "Elementary Botany," by Henfrey and Masters, 15s. A later edition of Bentham's "Handbook of the British Flora" than you mention, is that published by Messrs. Reeve & Co., in 1887, price 10s. 6d. The illustrations to the same are published separately by the same firm, price 10s. 6d.

COMMUNICATIONS RECEIVED.—R. G. W.—A. H.—Saxon—G. J. I.—E. W. & S.—T. A.—S. & S.—G. S. A.—E. P. L.—P. B.—J. C.

TRADE CATALOGUE RECEIVED.

DICKSONS, LIMITED, Chester.—Forest and Ornamental Trees, Select Fruits, &c.

LITTLE & BALLANTYNE, Carlisle.—Forest and Ornamental Trees, Fruit Trees, &c.

THOMAS LAXTON, Bedford.—Novelties in Seeds.

LONDON SEED TRADE.

November 15th, 1892.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a further considerable advance in price of Red Clover. This article is fully 10/- per cwt. dearer than at the opening of the season. White Clover is scarce, and dealers readily find buyers at higher figures. Alsike steady; Ryegrasses unchanged.

COVENT GARDEN MARKET.

November 16th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Grapes..... per lb.	0 6	2 0	Pine apples.		
Kent Cobs ...100 lb.	100 0	105 0	—St. Michael's, each	2 6	6 0
Peaches ... per dozen			Apples...per ½ sieve	1 0	3 6
Melons ..... each			Plums...per ½ sieve		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, French, per lh.	1 0		Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	1 0		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	5 0	Seakale .....per bkt	3 6	
Celery.....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers .....each	0 3	0 6	Spinach ... per strike	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 9	1 0
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	
Horse Radish, hundle	2 0	4 0			

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Begonias ...per doz.	6 0	12 0	Chrysanthemum, doz.	4 0	9 0
Cyperus .....per doz.	4 0	12 0	— large, doz.....	12 0	30 0
Dracæna term., doz.	24 0	36 0	Heliotrope, per doz.	4 0	6 0
Dracæna viridis, doz.	9 0	18 0	Marguerites, per doz.	6 0	12 0
Erica Hymalis, doz.	12 0	18 0	Mignonette, per doz.	6 0	12 0
,, Gracilis, doz...	9 0	12 0	Palms in variety, each	2 6	10 0
Evergreens, in var. doz	6 0	24 0	Palms, Specimen ...	15 0	63 0
Ferns, invar., per doz.	4 0	18 0	—scarlet .....per doz.	3 0	6 0
Ferns, small, per 100	6 0	10 0	Solanums.....per doz.	9 0	12 0
Foliage Plants, doz.	12 0	60 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s d		s. d.	s. d
Arum Lilies, 12 blms.	3 0	6 0	Mignonette... 12 bun.	3 0	6 0
Asters.....doz. bun.	6 0	8 0	Pelargoniums, 12 sps.	0 9	1 0
Bouvardias, per bun.	0 6	1 0	—scarlet.....12 bchs.	4 0	6 0
Carnations, 12 blooms	1 0	3 0	Primula, double, bun.	0 6	0 9
Chrysanthemum, dz bn	4 0	9 0	Pyrethrum doz bnchs	2 0	4 0
— .....doz. blooms	2 0	9 0	Orchid Bloom in var.		
Eucharis ...per doz.	3 0	6 0	per bloom, from	0 3	1 0
Gardenias 12 blooms	1 6	3 0	Roses, yellow, dozen	2 0	4 0
Heliotropes, 12 sprays	0 6	0 9	— French, per bnch	3 0	6 0
Hyacinths Roman			— French, 100 blms	6 0	12 0
doz. sprays	0 9	1 6	— Red..... doz. blms.	1 0	2 0
Lilac, White, French,			— Saffrano...per doz.	1 0	2 0
per bunch...	5 0	6 0	— Tea ..... per dozen	1 0	3 0
Lilium Harrisii,			Stephanotis, dz. sps.	4 0	6 0
doz. blooms	4 0	9 0	Tuberoses, per doz	0 3	0 6
Liliums var., dz. blms.	2 0	4 0	Violets, Parme, French		
Lily of the Valley dz. sps.	9 0	12 0	per bunch ..	3 0	4 0
Maidenhair Fern, 12 bs.	4 0	6 0	—Czar, French, bun.	2 0	2 6
Marguerites, 12 bun.	1 0	3 0	—Small ,, doz. bun.	1 6	2 0
Mimosa (French) p. bh.	1 0	1 6			

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FLOWER SHOWS, &c., 1892.

[The Editor will be greatly obliged if Secretaries of societies will communicate to him the dates of their exhibitions as soon as fixed.]

NOVEMBER.

22.—Dalkey Chrysanthemum Show.
24.—National Chrysanthemum Society: Meeting of Floral Committee.

DECEMBER.

7.—National Chrysanthemum Society: Meeting of Floral Committee.
13.—Royal Horticultural Society: Committee Meetings at Drill Hall.

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12	Greenhouse Ferns, 6 var., including Maiden-hair	1	9
12	Maiden-hair Ferns, 12 var., most lovely kinds...	5	0
6	Maiden-hair Ferns, 4 distinct var., named	2	0
3	Adiantum Farleyense, most handsome Maiden-hair...	2	6
3	Greenhouse Asparagus plants, strong, well rooted	1	9
6	Aralia Sieboldi, handsome foliage plants, strong	2	6
3	Lydogium scandens, the pretty climbing Fern	1	9
6	Greenhouse Selaginellas or Mosses, including golden	1	6
12	Assorted Ferns for cool greenhouse without heat	2	6
3	Crotons, highly coloured, best varieties ...	2	6
3	Dracæna indivisa, about 1 ft. high	2	0
6	Large choice greenhouse Ferns, A. Farleyense tenerum, Amabile, &c., 1 ft. high.	3	0
6	Fuchsias, 6 varieties, named	1	6
1	Tacsonia, 1 Hoya, 1 Solanum jasminoides	2	0
6	Primula obconica, always in flower strong	2	0
6	Zonal Geraniums, best named varieties	2	3
6	Ivy Geraniums, 6 var.	1	6
6	Foliage Begonias (B. Rex), handsome leaves	2	0
3	Passion Flowers, 3 varieties, named	1	6
12	Tuberous Begonias, assorted colours	4	0
3	Double White Primulas	1	9
12	Gloxinias, extra fine strain	2	6
6	Cyclamen persicum, good strain	1	9
1	Stephanotis and 2 Hoyas	2	0
3	Hydrangeas Dr. Hogg	1	6
6	Heliotropes, 6 varieties	2	3

ENGLISH'S HARDY PLANTS.

6	Delphiniums, mixed colours, light and dark	1	6
4	Marguerites, white and blue, named	1	6
6	Perennial mauve Michaelmas Daisy	2	0
6	Sedums, in 6 varieties, named	2	0
6	Lavender or Southernwood, strong plants	1	6
6	Christmas Roses	2	6
12	Hollyhocks, mixed, from double flowers	2	6
6	Assorted winter-flowering Begonias	1	6
12	Sweetbriars, strong plants	2	3
20	Canterbury Bells. Aquilegias, or Campanulas	1	9
3	Large-flowering Clematis, purple, etc., named	2	6
6	Mrs. Sinkins, new white Pink (12 for 1s. 10d.)	1	4
12	Irish Ivies, strong plants, 2 ft. to 3 ft. high	1	9
6	Named perennial Phlox, 6 var.	1	6
6	Perennial Michaelmas Daisies, white, very large	2	0
12	Iceland Poppies, pretty perennials	2	0
12	Roses on own roots, best kinds	4	6
6	Helianthus (Perennial Sunflowers)	2	0
12	Chrysanthemums, 12 distinct varieties	2	0
12	Pansies and Violas, best named kinds	1	9
12	White Marguerites	2	6
6	Lobelia cardinalis, intense red flowers, perennial	2	0
3	Scarlet Salvias, very free flowering	1	3
6	Tritoma Uvaria (Red-hot Poker)	2	0
6	Rudbeckia Newmani, bright yellow, perennial	1	9
6	Nicotiana affinis (sweet-scented Tobacco plant)	2	0
100	assorted hardy perennial plants, named	5	0
12	Carnations, from double flowers	2	0
12	Pentstemons, assorted colours	1	6
6	Perennial Pyrethrums, assorted colours...	1	6
40	Wallflowers, blood-red, yellow, etc.	2	0
12	Wallflowers, Double German, mixed	1	6
6	Double Scarlet Geums	1	6
6	Carnations, Crimson Clove, Purity, Gloire de Nancy, etc., named	3	0
12	Perennial Gaillardias	2	0
1	Tulip Tree, 1 Adiantum Tree	2	0
6	Assorted flowering shrubs, 1½ to 3 ft	2	9
12	Auriculas, fine plants...	1	6
3	American Blackberry	1	6
6	Roses in pots, 6 varieties, named	8	6
3	Deutzias, 1 Passion Flower, 1 Tacsonia	2	0
6	Hardy Primulas, Sieboldi, cashmeriana, etc.	1	6
6	Tiger Lilies (12 for 3s.)	1	9
12	White Gladioli, The Bride	2	0

CHEAP HARDY CLIMBERS.

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LONDON COUNTY COUNCIL.

Parks and Open Spaces Department: Assistant to the Chief Officer.

The London County Council is about to appoint an **Assistant** to the **Chief Officer** of the **Parks** and **Open Spaces Department.** The duties attached to this post will be to assist the Chief Officer in matters relating to horticulture in the various public parks and gardens in London, and in supervising and directing the management of the Open Spaces, and the laying out of new grounds, and generally to act in outdoor work under the direction of the Chief Officer, Applicants must therefore possess a thorough knowledge of the science and the practice of horticulture, and general experience in the management of Parks and Gardens.

The salary attached to the office is £300 a year, but there will be no superannuation or pension. The office will be held during the pleasure of the Council, and the holder will be required to give his whole time to the duties of his office and will not be allowed to take any private business, to hold any other appointment, or to occupy any other paid position. Applications, containing particulars of the qualifications and experience of the applicant must be on the forms to be obtained at this office, and must, with copies of recent testimonials attached, be addressed to "The Clerk of the London County Council, Spring Gardens, S.W.," and be endorsed on the outside "Assistant Superintendent, Parks."

They must be delivered here not later than 10 a.m. on the morning of the 9th of December, after which time no application will be received. Any application which does not contain all the particulars above-mentioned, or which in any other respect fails to comply with the terms of this advertisement, will not be laid before the Council. Personal canvassing is strictly prohibited.

H. DE LA HOOKE,
Clerk of the Council.

SPRING GARDENS, S.W.
November, 1892.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Nov. 28th.—Bulb Sale at Protheroe & Morris' Rooms (and every day in the week).
Bulb Sale at Stevens' Rooms.
TUESDAY, Nov. 29th.—Sale of the Maplewell Masdevallias at Protheroe & Morris' Rooms.
WEDNESDAY, Nov. 30th.—Annual Dinner of the National Chrysanthemum Society at Anderton's Hotel.
Sale of Lily Bulbs at Protheroe & Morris' Rooms.
Bulb Sale at Stevens' Rooms.
Trade Sale of Fruit Trees at Cliffe, near Rochester, by Protheroe & Morris.
THURSDAY, Dec. 1st.—Plant Sale at Protheroe & Morris' Rooms.
Bulb Sale at Stevens' Rooms.
FRIDAY, Dec. 2nd.—Orchid Sale (Charlesworth, Shuttleworth & Co.) at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, NOVEMBER 26th, 1892.

CHRYSANTHEMUMS FOR NEW ZEALAND.—It will doubtless be of interest to many to know that the Committee of the National Chrysanthemum Society has resolved to repay in full the compliment paid them by the Chrysanthemum growers in New Zealand when they sent across to the mother country in a frozen condition the flowers raised by Mr. John Earland. In order to carry this happy resolve into effect arrangements have been made with the Blackfriars Cold Storage Company to send out in time to be exhibited at the annual exhibition of the Wellington, New Zealand, Chrysanthemum Society, in April next, a dozen fine Japanese blooms presented by Mr. W. Herbert Fowler, of Taunton, and which formed a portion of the 48 varieties with which he won the Holmes Memorial Challenge Cup, and a similar number of fine incurved varieties shown in such superb form this season by Mr. Mease, gardener to A. Tate, Esq., Downside, Leatherhead

Our Chrysanthemum growing friends at the Antipodes will thus be able to see something of the quality which holds good about London. The flowers will be sent out in two stands, as set up for exhibition, with tubes and cups complete and frozen solid in zinc frames with room enough to admit of three inches width of ice all round the stands. When placed in the water the vessels were put into a cold chamber registering 14 degrees of frost, and in about a week they were ready for the zinc tops to be put on. Before dispatching them on their long journey the zinc boxes will be placed in strong wooden cases with a packing of sawdust between the wood and the zinc, and in this way there will be no difficulty in sending them out.

The thanks of the committee are largely due to Mr. Kaye, the manager of the Cold Storage Company, for he has given every facility for freezing the blooms, and that without any cost to the National Chrysanthemum Society. Mr. Kaye's staff have also taken a lively interest in the matter, the lovely flowers evidently being a decided change to them from the daily sight of little else but frozen mutton.

THE NAKED JASMINE.—This remarkable plant may very well be said to constitute the link which binds the shrubby or hardy climbers of the old year to those of the new. It seems as if it were an odd and almost unnatural fancy on the part of this plant that it should display its first blooms in November, just as all other things seem to be giving over, and should, except when very severe weather prevails, be found blooming all through the winter. With the aid of this hardy climber we may have some of this useful section of plants in bloom all the year round. Hardly is it over before the good old Pyrus japonica is flowering; and then, what with Jasmines, Clematises, Roses, Honeysuckles, Escallonias, and myriads of other things, there need be no lack of wall bloom until the yellow Jasmine again resumes flowering.

Out in the border we have no plant so generous in winter blooming as is the Christmas Rose, or in the shrubbery as the Lauristinus, and for that reason alone are to be very highly valued. But whilst we should perhaps regard the yellow Jasmine with scant attention in the flowery months of summer, we should always have much regard for the white Hellebores of our borders. Happily for us, they bloom at a time when outdoors hardly another hardy plant (the Jasmine excepted) is flowering. Yet in how many gardens do we find these really beautiful midwinter flowers conspicuously absent! Too many gardeners think they have done all that is needful if they crowd in as many flowers as is possible into gardens during the short summer months, forgetting that a peck of bloom in winter or early spring is worth far more than a bushel in summer.

The winter so far is sparing the late outdoor Chrysanthemums, but when these are over, and that will be soon, what is there to furnish flowers other than the plants we have named, until the Snowdrops, Crocuses, and Squills remind us that spring is again with us, and the turn of the season has begun?

BLENHEIM.—There can be no doubt but that many interested in horticulture are looking with considerable concern as to the ultimate fate of this fine place. Whilst always a great show place—and that is far from being a special gardening recommendation—it has of late come to possess undoubted gardening features in the additions made to the glass department, and the collection at great cost of a remarkably fine lot of Orchids, which under the able control of Mr. Whillans have developed into a very valuable property.

We have not too many wealthy men who care to embark in Orchid culture, and at one time of his life few men perhaps less regarded these beautiful epiphytes than did the late Duke of Marlborough. Now there is natural concern as to the ultimate fate of the Blenheim collection. We shall be sorry for many reasons to learn that it is to be dispersed, although that would cause no surprise. Orchid culture on a large scale is a costly luxury, although the floral returns are indeed considerable, for Orchid flowers ever will be a long way beyond all other flowers in regard to beauty and rarity. Blenheim may well be said to constitute a sort of White Elephant to its not too fortunate possessor. It can only be maintained at enormous cost, and even the garden returns, which may seem considerable to persons of humble means, cannot go far towards recouping the heavy annual cost of maintenance.

Perhaps some day the nation may be disposed to deal with the estate as it did recently with perpetual pensions, pay the owners a stipulated sum and let the palace and park revert to public uses. Alone the palace or the park would have little of horticultural interest, but the enclosed gardens certainly are first-rate, and now more than at any previous time attractive. No doubt the unexpected death of the late Duke of Marlborough has left matters relating to Blenheim in great uncertainty.

THE LONDON COUNTY COUNCIL AND ITS PARKS.—As will have been remarked from a recent statement made in these pages, the London County Council has come to a wise determination with respect to the headship of the public parks and gardens department, and having appointed Mr. J. J. Sexby to the position of chief of the section, is now proceeding to the appointment of a duly qualified horticulturist to serve as his assistant, as will be seen by an advertisement in another column. The salary attached to the office —£300 per year—is by no means excessive, yet fairly good, and should tempt very good men to try to attain so excellent a position, because it is certain that a post of this kind carries with it many social distinctions.

But then the holder should be an able practical gardener and especially one who has a very wide knowledge of all that relates to the decorative aspects of gardening; he must be a good manager of men, be capable of laying out new grounds, and above all it is needful that he should be a man of suave disposition and willing to regard with all consideration the opinions of the able men who now hold the position of park or garden superintendents, and with whom it might be very easily possible for an injudicious man to get into an unpleasant condition of friction.

It is to be hoped that the Council will not fix the maximum age for candidates for this post too low. It is not physical strength so much as practical knowledge and professional capacity which is required to fill such a position.

Olympia.—The committee of the Gardeners' Orphan Fund has arranged with Mr. Imre Kiralfy to take a ticket benefit at Olympia during the fortnight commencing on Dec. 5th, in aid of the Orphan Fund. We hope to give full particulars in our next.

Proposed Earlier Opening of Kew Gardens.—The First Commissioner of Her Majesty's Works, Mr. G. Shaw Lefevre, has just given his promised interview to Mr. F. G. Heath, and has promised to carefully consider the subject of an earlier opening of Kew Gardens.

Something like a Chrysanthemum.—A Derby paper states that one particular novelty this season in a gentleman's collection of Chrysanthemums at Chesterfield "was a green variety named Florence Davies, that when shown at Birmingham last year required several policemen to keep the crowd off." This will be news at Lilford Road.

The National Amateur Gardeners' Association.—Arrangements have been made for the annual dinner of this association to take place at the Holborn Restaurant, on Tuesday evening, December 13th, at seven o'clock precisely. The medals, certificates, and other awards, won during the year, will be presented to the respective winners on this occasion.

Liverpool Horticultural Association.—The first meeting of the season of the members of this association was held in the Free Library, Liverpool, on the 19th inst., when Mr. Thomas White, of Aigburth, read a paper on "The culture of hardy bulbous plants," which was supplemented by some notes on the same class by Mr. Harrison, of Knowsley, and which will be found on p. 195.

Hartland's White Trumpet Daffodils.—We are sorry to learn from the Cork papers, that owing to a fire which originated in the out offices at Ard Cairn, Cork, and spreading to the bulb house, on the evening of the 17th inst., half of Mr. W. B. Hartland's collection of White Trumpet Daffodils has been destroyed, including one lot of Colleen Bawn, probably the most valuable of all (600 bulbs). We sympathise with Mr. Hartland in his loss, and hope he was covered by insurance, though no money can possibly replace some of the stocks now in ashes.

The Chiswick Gardeners' Mutual Improvement Society has again organised a concert in aid of the Gardeners' Orphan Fund, which came off on the 10th inst., and with, we are glad to hear, a very gratifying measure of success notwithstanding the dense fog that enveloped the district that night. The surplus of receipts over expenses amounts to £21 5s., which sum will obtain four life memberships to be balloted for by those members of the association who took an active part in promoting the success of the entertainment.

Parish Tithe Maps and Fees—It may not be generally known that three copies of each parish tithe map are kept in places of safety. One copy is to be found in the parish chest, a second at the diocesan registry, and the third at the office of the Board of Agriculture, in St. James's Square. The passing of the recent new Tithe Act, and the transference of the payment of tithe in consequence from the occupying tenant to the landowner, has caused very numerous inquiries to be made at the office in St. James's Square, and many complaints have been received there of the largeness of the customary fee of 2s. 6d. charged for the inspection of each parish map. A fee of 1s. only is charged for the examination of documents in the Record Office, and the President of the Board of Agriculture has, with the consent of the Treasury, now agreed that a similar fee of 1s. only shall be charged for the inspection of a parish tithe map. This change will not affect the various parish officers and diocesan registrars, who will continue to charge the statutory fee of 2s. 6d. as heretofore.—*Mark Lane Express.*

The Birmingham Gardeners' Association.—The meeting of the association on the night of the 14th inst., was an exhibition night for new Chrysanthemums and other things. Mr. Robert Owen, Maidenhead, sent a few blooms of new sorts, but as all were either from small plants or lateral shoots, a just estimate of their qualities could not be very well arrived at. The following notes are taken of them after seeing them in daylight the next morning. A bloom of a seedling marked White Fringed reminded us somewhat of old Marabout. It is a new type, the flowers pure white, and that sent was three inches in diameter, nearly half globe-shaped, very double, and each petal quilled as in the double flowers of Gaillardia picta Lorenziana, with Bouvardia like segments at the points. It is a pleasing flower. A Cultural Certificate was awarded to three very fine blooms of Col. W. B. Smith, a fine Japanese sent out last year by Messrs. Cannell & Sons, and exhibited by Mr. C. E. Harvey. A Cultural Certificate was also

awarded to Mr. Dedcott, for two dwarf plants of W. H. Lincoln, struck from cuttings at the end of May, and which were about eighteen inches high with three good blooms in each. Messrs. Pope & Sons, King's Norton Nurseries, sent two seedling Primulas of considerable promise, one an improved Emperor, the other a fine single pink variety.

Roman Hyacinths.—Growers generally are rejoicing over the quality and quantity of bloom which the Roman Hyacinths are yielding this season, thanks to well-ripened bulbs, and we refer to the fact in order emark from evidence placed before us, that though seedsmen and other dealers are generally prejudiced against rough, ugly shaped bulbs, it does not follow that the ugly bulbs are the worst sample to buy. In the autumn we saw some very ugly ones in the possession of one of the largest wholesale importers, the bulbs having knobs all round the base, and a few days ago were shown a sample of them that had been forced and which gave extraordinary results in the way of spikes. One bulb bore no less than thirteen spikes, and on five bulbs we counted fifty-two spikes, or an average of over ten spikes each, and all saleable stuff. The moral is evident—Don't despise ugly bulbs.

Pretty Well for Greens. — The newly published *Memories of Dean Hole* (London : Edwin Arnold) contains the following racy story, which the Dean used to tell with great gusto :—An old Oxford friend, who had a living in Worcestershire, was visiting his parishioners, when one of them, an old woman, informed him that since they met "she'd gone through a sight of trouble. Her sister was dead, and there wor a worse job than that; the pig died all of sudden, but it pleased the Lord to tak' 'im, and they mun bow, they mun bow." Then the poor old lady brightened up and said, "But there's one thing, Mestur Allen, as I can say, and ought to say —the Lord's been pretty well on my side this winter for greens!"

THE FOG ANNIHILATOR.

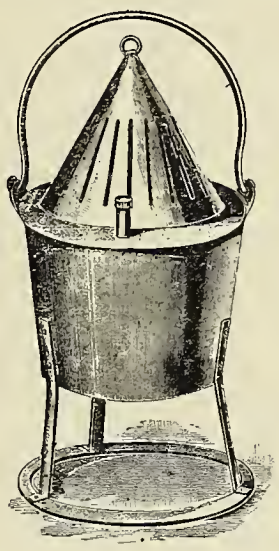
Plant growers in and about the metropolis, and Orchid growers in particular, have again had a sad reminder of the baneful influence of that specially detestable condition of the atmosphere which is known as the "London particular." Deplorable indeed are some of the accounts which have reached us with regard to several Orchid collections, and they set us wondering how Mr. Toope was getting on with his "Fog annihilator" On Tuesday we went down to Stepney Square, Mile End, to see what he was doing for ourselves, and are bound to say that we came away very sensibly impressed with the fact that Mr. Toope's system of ventilation does reduce the deleterious effects of fog in plant houses to a minimum, and being capable of application to existing houses at a very moderate cost, we can with every confidence recommend the system for general adoption as the most satisfactory solution of the difficulty that has yet been introduced.

A factory yard, in Stepney, is about the last place one would expect to find anyone putting up an Orchid house in, or anticipating even a very moderate amount of success in their culture, yet Mr. Toope has succeeded with the aid of his "Annihilator" under conditions that would otherwise have been well nigh heartbreaking. We have already given details of the system, and need now say only that it consists of affixing boxes of charcoal inside the house, over the bottom ventilators, and under the hot-water pipes, so that the air is purified before passing into the house and warmed at the same time, and drawn out of the house by means of exhaust caps fixed in the apex of the roof. By these means a current of fresh air can be constantly passed through the house night and day, fog or no fog, and the health of the Orchids and other plants of known susceptibility to damage by fog, which Mr. Toope has obtained for trial, testify to the efficacy of the system.

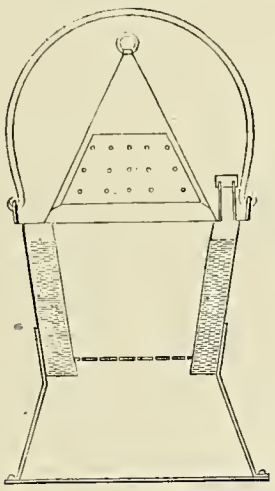
In the case of Mr. Toope's house, which is divided into two compartments, all the bottom ventilators have the charcoal boxes affixed to them, but this would not be necessary under all circumstances. In more salubrious places all that would be necessary would be to affix them to those ventilators which are used in the winter, the others being kept closed, and in this way a large house could be perfectly ventilated in winter by two boxes on each side of the house, and two exhaust caps on the top, the cost of the apparatus being a merely nominal sum. Mr. Toope is a very ingenious man, and the heating of his house is as ingenious as himself. For piping he uses only the same kind of zinc as he employs in the manufacture of the numerous most useful little apparatuses which he has invented for heating small greenhouses; and in the daytime the water is heated by surplus steam from a steam boiler, and at night by gas.

A NEW FUMIGATOR.

Mr. William Finch, gardener to Mr. Alderman Marriott, Queen's Road, Coventry, and one of the best specimen plant growers of the present day, has invented a new form of fumigator, which after some twelve months' experience, he has found to answer so satisfactorily, that he is putting it on the market for the benefit of other growers. The special feature of the new fumigator is the water way, fed at the top, which surrounds the fire and the tobacco paper, and so placed to prevent the smoke from being overheated,



thus securing a dense body of cool smoke. The inventor also claims that by using this form of fumigator there is a great saving in tobacco paper or tobacco rag whichever may be used. Mr. Finch



says also, "The fumigator being light in weight, can be carried about by a boy; it is so securely made as to be practically indestructible; and the draught is so perfect that much watching is unnecessary, the smoke passing freely through the smoke distributor." The general design of the Fumigator is well shown in the accompanying illustration, and we may add that it is made in three sizes.

ON SEEDLINGS.*

The long-expected book on seedlings, at which Sir John Lubbock has been working for the past eight years or more, has at last made its appearance in two bulky volumes. During the time he has been working up the subject he has prepared separate papers for the Linnæan and other societies. That on seedlings has been used as an introduction to the present work, and some others have been incorporated with it. The writers on seedlings, seeds, &c., have been very numerous, but their works are small compared with the great work under notice—indeed there is nothing comparable with it except *Gærtner's De Fructibus et Seminibus Plantarum*, and that is now about 100 years old. This work is therefore the most extensive and exhaustive that has ever been written by an English author, and will no doubt continue to be so for many years to come.

Each volume consists of over 600 pages of text, with a copious index and a very extensive bibliography at the end of the second volume. After the introduction, the whole of the natural orders of flowering plants, of which specimens of seeds or seedlings could be obtained, have been gone through systematically, from the Ranunculaceæ to the Grasses. The Dicotyledonous orders have supplied by far the largest number of specimens, as may be judged from the fact that the first volume only gets to the end of the Cucurbitaceæ, or Cucumber family. The more extensive orders, as might be imagined, have furnished the largest number of different types for illustration and description. This again applies to the Dicotyledons; for, considering the number of the Orchidaceæ, Palmaceæ, Liliaceæ, Gramineæ, and other Monocotyledonous orders, the amount of variation amongst the seedlings is comparatively limited, and the embryos to a great extent modelled after the same plan. The Dicotyledonous orders furnishing many types are the Compositæ, Leguminosæ, Cruciferæ, Rosaceæ, and Ranunculaceæ.

The investigations have necessarily been limited to a great extent to garden plants cultivated for use or ornament, with such others as could be obtained from a few other sources. The resources of Kew are by no means limited in this respect when compared with other gardening institutions, but the Royal Gardens cannot be considered a place for the raising of Orchids, hence the material of that order dealt with in the book are rather meagre. The differences in the seeds and seedlings of that order are, however, unimportant, because the embryo is always very diminutive and undifferentiated.

The intention of the author has evidently been to confine the work to the description of the seeds and seedlings without going into lengthy speculations on the why and the wherefore of different forms occurring amongst allied plants, and which would have greatly burdened the text and rendered the work very unwieldly in its dimensions. The forms of the cotyledons are indeed accounted for in most cases as due to the size and form of the seed, and the folding of large embryos into the smallest space so as to occupy the space at their command in the seeds with the greatest economy. The index, together with the fact that the seedlings are all arranged systematically in their natural orders, will facilitate reference by those who may have occasion to refer to the work while carrying on investigations in the same or other fields of plant life. In short the work cannot fail to be of service or interest to botanists, physiologists, and naturalists generally in various spheres of intellectual research while working in the laboratory, the class room, or otherwise.

Seedlings, there is reason to believe, represent the former conditions of the adult stages of plants at geologically remote periods of their history. In the majority of cases it is evident that an onward progress in the evolution of plants is being maintained, but in other cases there is an evident retrograde movement. For instance the seedlings of Acacias and their allies have pinnate or bipinnate leaves, while the adult plants in most cases have their leaves reduced to flattened petioles. The curious Acanthosicyos horrida has all its leaves reduced to mere prickles, while the cotyledons are of the average size of those of other members of the Cucumber family. The different stages of the embryo of Acer Pseudo-Platanus and Pterocarpa caucasica are very interesting, and show the methods by which the said embryos become so complicated when fully developed. Sir John Lubbock has also found out some very interesting cases of intercallary growth in the cotyledons of various genera of the Onograriæ, whereby they ultimately come to resemble true leaves in form. These are all well illustrated.

* *A Contribution to our Knowledge of Seedlings*, by the Right Hon. Sir John Lubbock, Bart., M.P., &c., with 684 figures in the text. In two vols., 8vo. Published by Kegan, Paul, Trench, Trubner & Co., London.

The Wolverhampton Horticultural Society. — Four years of success has marked the duration of this society. A profit of £310 on last year's exhibition has resulted, and the society besides having a large reserve fund in hand has already voted good sums of money to the Public Park for improvements. A further sum of £74 has just been voted for the purpose of providing a band in the Park at times during the summer. A further sum of £1,000 has also been voted for the erection of a large conservatory in the Park, and still the society has £200 at its bankers besides the reserve fund.

PLANTS RECENTLY CERTIFICATED.

At the meeting of the Royal Horticultural Society on the 15th inst., the undermentioned subjects, chiefly Chrysanthemums, received awards according to merit. The Orchids certificated on the same occasions are recorded under "Orchid Notes and Gleanings."

Begonia decora.—There is a Begonia from Brazil named B. decora—a shrubby species—but that under notice is a dwarf-growing form, a native of Malaysia, with the habit of B. Rex, but smaller in all its parts, and more nearly related to B. picta and B. imperialis—the former a native of the Himalayas, the latter coming from Mexico. The stems, as far as we have seen, are only 2 in. to 4 in. high, moderately stout and fleshy, but completely hidden by the foliage. The leaves are obliquely heart-shaped, drawn out to a point, and of a bronzy olive or brown, with a greeuish yellow band along the mid-rib and the primary lateral nerves. Both surfaces are hairy, but the hairs on the upper surface are elevated on little outgrowths or papillæ, making the surface rough. A pan of plants, with the leaves covering the surface of the soil, was exhibited by Messrs. J. Veitch & Sons, Chelsea, when a First-class Certificate was awarded.

Chrysanthemums.

Aida.—The blooms of this reflexed Japanese variety are of good average size, measuring 5 in. to 6 in. across. They may possibly be grown to larger size another year. The florets are numerous, compactly arranged, and slightly curled at the tips, but always concave there, as in the case of Criterion, Felix Cassagneau, and several others. The florets are comparatively broad, and of a pale buff-purple overlying creamy yellow, and of that colour towards the tips. The reverse is bright yellow, and best seen on the younger, unexpanded florets occupying the centre, and which at that stage are incurved. On the whole the variety is very pretty and distinct.

Lord Brooke.—This is an incurved Japanese sort, and although only of moderate size is a great acquisition on account of its rich colours and neat form. The florets are broad, regularly incurved, and of a deep golden yellow, more or less heavily bronzed on the reverse, particularly towards the tips. The blooms measure about 4½ in. or 5 in. across, and approach the true incurved type pretty closely. Both this and Aida were exhibited by Messrs. H. Cannell & Sons, Swanley, and received Awards of Merit.

Charles Blick.—For description of this fine yellow incurved Japanese variety see p. 178. It was exhibited by Mr. Charles Blick, gardener to Martin R. Smith, Esq., The Warren, Hayes Common, Kent, and received an Award of Merit.

Mrs. Needs.—The heads of this variety measure 6 in. to 7 in. across, and are therefore of good average size for the reflexed Japanese type. The florets are narrow, white with pale purple or pink tips, and this colour often extends down the edges, giving the whole a striped appearance reminding one of the old Belle Paule. The tips of the florets are, however, often deeply bifurcate, and therefore quite distinct.

Robert Flowerday.—This is an incurved Japanese variety, of large size and somewhat after the form of Mrs. C. Wheeler, but different in colour, and probably also in shape when the ultimate stage is reached. The upper surface of the broad, blunt, stiffish florets is crimson, shaded with purple, and silvery on the reverse, or slightly suffused with purple even there. The bloom measures 7 in. to 8 in. across. Both this and Mrs. Needs were exhibited by Messrs. J. R. Pearson & Sons, Chilwell, Notts, when Awards of Merit were accorded them.

Miss Dorothea Shea.—The blooms of this reflexed Japanese variety measure about 7 in. across. It was exhibited by C. E. Shea, Esq., Foot's Cray, Kent, and received an Award of Merit. For description see p. 178.

Princess Victoria.—An Award of Merit was also accorded this variety when shown by William Seward, Esq. (gardener, Mr. J. Schrimpton), The Firs, Hanwell. For description see p. 178.

The Carnation: its History, Properties, and Management, with a descriptive list of the best varieties in cultivation. By E. S. Dodwell. Third edition, with supplementary chapter on the yellow ground. London: Gardening World Office, 1, Clement's Inn, Strand, W.C. 1s. 6d; post free, 1s. 7d.—[Advt.

CROSSING AND CROSS-BREEDING.

Prof. L. H. Bailey, of the Cornell University discussing the subject of cross-breeding in plants at a meeting of the Massachusets State Board of Agriculture, said:—"The improvement of existing varieties by crossing is a more important office than, the summary production of new varieties. This is the chief use which nature makes of crossing—to strengthen the type. Think, for instance, of the great rarity of hybrids or pronounced crosses in nature! No doubt all the authentic cases on record could be entered in one or two volumes, but a list of all the individual plants of the world could not be compressed into ten thousand volumes. There are a few genera, in which the species are not well defined or in which some character of inflorescence favours promiscuous crossing, in which hybrids are conspicuous; but even here the number of individual hybrids is very small in comparison to the whole number of individuals. That is, the hybrids are rare, while the parents may be common.

"Darwin was the first to show that crossing within the limits of the species or variety results in a constant revitalizing of the offspring, and that this is the particular ultimate function of the operation. Darwin's results are concisely these: self-fertilization tends to weaken the offspring; crossing between different plants of the same variety gives stronger and more productive offspring than arises from self-fertilization; crossing between stocks of the same variety grown in different places, or under different conditions, gives better offspring than crossing between different plants grown in the same place or under similar conditions; and his researches have also shown that, as a rule, flowers are so constructed as to favour cross-fertilization. In short, he found, as he expressed it, that 'Nature abhors perpetual self-fertilization.' Darwin's well-known experiments show that crosses between fresh stock of the same variety were nearly 30 per cent. more vigorous than crosses between plants grown side by side for some time, and over 44 per cent. more vigorous than plants from self-fertilized seeds. On the other hand, experiments showed that crosses between different flowers upon the same plant gave actually poorer results than offspring of self-fertilized flowers. It is evident, from all his experiments, that Nature desires crosses between plants, and, if possible, between plants grown under somewhat different conditions."

On the subject of "producing new plants" Professor Bailey says: "the second result of crossing, the summary production of new varieties, is the subject which is almost universally associated with crossing in the popular mind, and even among horticulturists themselves. It is the commonest notion that the desirable characters of given parents can be definitely combined in a pronounced cross or hybrid. There are two or three philosophical reasons which somewhat oppose this doctrine, and which we will do well to consider at the outside. In the first place, nature is opposed to hybrids, for species have been bred away from each other in the ability to cross. If, therefore, there is no advantage for nature to hybridize, we may suppose that there would be none for man; and there would be no advantage for man did he not place the plant under conditions different from nature or desire a different set of characters. We can overcome the refusal to cross in many cases by bringing the plant under cultivation where new conditions overpower its former antipathies. Yet it is doubtful if such a plant will ever acquire a complete willingness to cross. In like manner we can overcome in a measure the comparative seedlessness of hybrids, but it is very doubtful if we can ever make such hybrids completely fruitful. It would appear, therefore, that with plants in which fruits or seeds are the parts sought, no good can be expected, as a rule, from hybridization, and this seems to be affirmed by facts. It is evident that species which have been bred away from each other in a given locality will have more opposed qualities than similar species which have arisen quite independently in places remote from each other. In the one case the species have struggled with each other until each one has attained to a degree of divergence which allows it to persist, while in the other case there has been no struggle between the species, but similar conditions have brought about similar results. These similar species which appear independently of each other in different places are called representative species. Islands remote from each other, but similarly situated with reference to climate, very often contain such species, and the same may be said of other regions much like each other. Now it follows that if representative species are less opposed than others, they are more likely to hybridise with good results; and this fact is well illustrated in the Kieffer and allied Pears, which are hybrids between representative species of Europe and Japan. We will also recall that the hybrid Grapes which have so far proved most valuable are those obtained by Rogers between the American Vitis labrusca and the European wine Grapes, and that the attempts of Haskell and others to hybridize associated species of native Grapes have given, at best, only indifferent results."

Touching on hydridization the essayist says:—"Among the various characters of hybrid offspring, the most prejudicial one is their instability; it is difficult to fix any particular form which we may secure in the first generation of hybrids; and therefore we find that the great majority of the best hybrids in cultivatiou are increased by bud propagation, as cuttings, layers, suckers, buds or grafts. In fact, there are few instances of undoubted hybrids which are propagated with practical certainty by means of seeds.

This simply means that it is diffidult to fix hybrids so that they will come true to seed, and makes apparent the fact that if we desire hybrids we must expect to propagate them by means of buds."

Professor Bailey sums up his able paper in the following words:—"Encourage in every way crosses within the limits of the variety and in connection with change of stock, expecting increase in vigour and productiveness. Hybridise, if you are curious to know what nature will do about it, but do it carefully, honestly, thoroughly, and do not expect too much. Extend Darwin's famous proposition to read like this: Nature abhors both perpetual self-fertilization and hybridization."

CHRYSANTHEMUM SHOWS IN CORNWALL.

Perhaps no county in England has greater advantages, climatically, for the proper cultivation of these chaste and brilliant blooms than Cornwall, and certainly it would be hard to find a county where they are more popular. This has recently been evidenced by the extent and importance of the exhibits at the shows held at Penzance, the Lizard, Plymouth, and other places. That at Penzance, for a local show, was decidedly the best ever held in the West of England. Not only were the exhibits numerous, but remarkable for richness of growth and colour and for specialities. Some remarkable specimens of the "Jap." class were shown by Mr. John P. Milton and Mr. Chirgwin, the latter's predominating, in our opinion, as to quality, and also in the opinion of the judge, Mr. Hensen, of Plymouth, for to him were awarded the largest number of prizes and certificates, although Mr. Milton ran him pretty close. This was also noticeable for the rich specimens of Pompon varieties, in which figured the names, besides those mentioned, of Mr. W. H. Murley and Mr. W. A. Gerry, whose productions were well worth mentioning. Other exhibitors in the open class were Mr. G. L. Bodilly and Mr. T. Branwell, jun. By far the best plant in the exhibition, and which won a certificate, was a ruby and gold Japanese, and the incurved specimens were remarkable. A prize group of five dozen varieties by Mr. Milton represented, in the opinion of the judge, the best stand ever exhibited in Cornwall. Mr. Gerry's plants would have done better but for the want of taste in their arrangement, and this should be a warning, especially to amateurs. There were exhibited on the platform some splendid Marantas, Palms, Banana, Aspidistra, etc. As regards the incurved blooms they were fairly good, but the judge threw out the hint that their appearance would have been improved if they could be grown without the sticks, in which case there would be less stiffness and the appearance more natural. Mr. T. B. Bolitho, M.P., exhibited (not for competition) a collection of Grapes, measuring in some of the clusters 18 in. by a foot, whilst his twenty different samples of Apples attracted much attention. The arrangements throughout were all that could be

desired, and the show was a thoroughly representative one. The show at

PLYMOUTH,

on Tuesday, was, of course, on a much more extensive scale, and the announcement that the exhibition would be patronised by the Duke of Edinburgh's family had the effect of drawing together a large company. The prizes offered were of the value of upwards of £100. The entries in all classes were large. There were, indeed, over 1,200 cut blooms, the entries in other classes being proportionately large. The competition for the special prize of £30 was very largely contested, and the entries included specimens from six or more of the adjoining counties. The show at the

LIZARD

by the local society, which is affiliated with the National Chrysanthemum Society, was a good one, many of the rarest specimens being exhibited; and it is a remark worth the making that the amateurs competed fairly well with the professionals, although the N.C.S. Silver Medal was taken by Mr. Nicholls. The show of fruits was also good, the leading prize being taken by the Rev. C. S. Vyvyan. The table decorations were considered above the average.—*S.*

HARDY BULBOUS AND ALLIED PLANTS.

THE first of these to appear above ground is the winter Aconite, Eranthis hyemalis; its yellow buttercup-like flowers sitting close to the earth seem to enjoy the rigours of the winter season. Snowdrops, double and single (Galanthus nivalis), follow the Aconites closely, and are among the most lovely harbingers of spring; and Crocuses succeed Snowdrops without a break or interval. They are of many and varied colours and are capable of some beautiful combinations in the hands of skilful and tasteful planters. When first planted these little bulbs have two inveterate enemies in pheasants and mice, which seem to never tire of digging them up and eating them. Van Thol Tulips are in before the Crocuses are over, and bright sturdy little things they are, well known and well liked by most people.

Some of the Wind Flowers, Anemones, also bloom quite early in the year, especially the brilliant and dazzling varieties of hortensis, fulgens, and palmata, and of the species we claim several as members of our native flora. Of these latter the Pasque Flower, A. Pulsatilla, the Wood Anemone, A. nemerosa, and the mountain Anemone, A. appennina, may be named. All of them make fine border plants, and are fit companions for A. rivularis, A. sulphurea, etc.

The Dog's-tooth Violets, Erythronium Dens-Canis are pretty little spring border plants. They thrive well in open gravelly soil, and they too throw up their white and purplish flowers and spotted leaves in the early spring months. The Squills (Scilla) must be classed among the most charming of early spring flowers, and sibirica, bifolia and its varieties, amæna, præcox, and verna, are all conspicuous for the depth and purity of their colours, and our common Blue Bell or Wood Hyacinth, Scilla nonscripta, also belongs to this family and it also has its clear pink and pure white varieties, which are fine plants for the front of a mixed herbaceous border or for shrubbery belts. Chionodoxa Lucilliæ, Glory of the Snow, is another charming hardy plant, and no gardener, large or small, should be without it. In appearance it very much resembles a Scilla, and it puts up its lovely porcelain blue and white flowers about the same time.

The Musk Hyacinth (Muscari moschatum) and the Fox-brush Hyacinths (M. comosum and racemosum), as well as the Grape Hyacinth (M. botryoides), are all distinct-looking plants, and worthy of more extended cultivation. The Crown Imperial (Fritillaria imperialis) is an other fine plant, and may be had in several colours. It never fails to please when in good order, but it is liable to go wrong in some places after being planted a few years. It likes good friable loam, and an open but sheltered situation. The Snake's Head (Fritillaria Meleagris) is worthy of notice on account of its quaint appearance and peculiar colours.

Perhaps no tribe of plants has grown more in public favour of late years than the Daffodils, and some fine varieties have been added to the family, but they and other Narcissi, with garden Tulips, Hyacinths, Ranunculi, and Gladioli, etc., must be passed over in this paper as forming much too large subjects for being briefly dealt with.

Of Tulip species there are several that are fit to rank with the best garden varieties. I will only name gesneriana and sylvestris, the first-named being a brilliant red and the latter a clear yellow colour. They both grow rather tall, and are the better for some light support when in flower. When planted in a well-drained warm border of good soil, few things are more satisfactory than St. Bruno's Lily (Anthericum Liliastrum), its pure white flowers being freely borne on strong plants if not overcrowded by other things. Robust-growing plants of this class are represented by the yellow Asphodel (Asphodelus luteus), the yellow Day Lily (Hemerocallis flava), the Star of Bethlehem (Ornithogalum umbellatum), the Spring Snowflake (Leucojum vernum), the Summer Snowflake (Leucojum æstivum), the Galtonia candicans, etc. These are all suitable for what may be termed the centre and back rows in a border, and they are easily kept in order.

Lilies proper—that is such plants as belong to the genus Lilium—are most of them hardy, only a few requiring protection in the winter-time. Nothing need be said in praise of their stately beauty and loveliness, as that is universally conceded, and the absurdity of painting the Lily is supposed to equal that of gilding refined gold, so I will merely name a few of such as are most commonly met with in gardens. These are the white Lily (Lilium candidum), the Martagon in several colours, Lilium testaceum, which bears flowers of a creamy-sulphur colour, quite distinct from any other Lily that I know; Lilium pardalinum, one of the finest border plants we have, the different forms of Chalcedonicum, tigrinum, bulbiferum, and umbellatum. Some of these are in great evidence in this locality on a certain day in July, both in gardens and elsewhere. Lilium giganteum is indeed a giant as its name implies, and one of the most magnificent of plants. It winters well in a cold frame, and if only one strong bulb is planted in good loam in the middle of a No. 2 pot, and duly sheltered, but not forced during growth, the flower stems will be 6 or 8 ft. high by the month of August, and will bear about seven to twelve splendid flowers each, which are of a whitish colour with dark markings inside. In shape they are something like a long horn, and they are deliciously sweet scented.

All the speciosum (lancifolium) section do well planted out in beds of deep free soil elevated a little above the surrounding level, provided they are not too much pressed upon by other things during growth and have a little coal ashes placed over the bulbs in the winter time. These and most, if not all, hardy bulbous plants are benefited by an occasional lifting and removal to a fresh site, the bulbs being assorted into sizes then replanted and each clump marked with stout peg or in some other way to prevent their being disturbed when in a dormant state. The Liliums are barely over when we have the Meadow Saffron, or Autumn Crocus as it is sometimes called, in flower. It is Colchicum autumnale, and it is closely followed by our old friend the Belladonna Lily (Amaryllis Belladonna), planted at the foot of a warm wall, its spikes of lovely pinkish flowers being thrown up quite late in the autumn when the foliage has disappeared. And so our hardy bulbous plants almost if not quite encircle the year with their fresh and bright flowers, some of them taking their rest in the winter and others in the summer time. As a class of plants they charm us in many ways, and in their various phases and conditions they seem to symbolise the changes in our own life.—*F. Harrison, Knowsley.*

CHICAGO EXHIBITION.

HORTICULTURAL DEPARTMENT.

A NIGHT-BLOOMING Cereus, more than twenty years old, has been attracting much attention at Jackson Park of late. It had forty blossoms, and arrangements were made to photograph it by flash-light when in full beauty.

Chief Thorpe is anxious to procure from florists and private collectors throughout the country as many specimens as possible, in order to create an exceptionally fine display next year during July and August in the horticultural building.

A fine assortment of rare plants from Jamaica has been arranged for, and the first consignment has arrived. Fear is entertained lest the fascinating "rum blossoms" should have been included.

Australia expects to make a very fine display, and the first instalment of tree Ferns, Palms, and other plants is on its way from New South Wales, accompanied by an official from Sydney Botanical Gardens as far as San Francisco. Should those arrive in good order, more will follow at once.

Fine results around the Pennsylvania Building are hoped for from the appointment of Mr. William Hamilton, Superintendent of Parks, Alleghnay, Pa., as chief floral artist on the grounds allotted to that State. He is one of the best-known horticulturists in America.

I think that a really representative collection of specimens from Great Britain would produce an unprecedented effect; so many flowers are grown there in so much more perfect a manner that the nurserymen showing them here would carry all before them. I may be prejudiced, but with the exception of (forced) Roses and Chrysanthemums I have seen nothing approaching the home standard, and many old, inferior varieties are grown which were long since discarded in the "old country." I have no doubt that East this may not be equally true. Anyhow, it is a grand opportunity for a fine display on the part of British nurserymen, which they should not be slow to avail themselves of. There is no firm of horticultural sundriesmen that I know of out West A fine display could be set up in that direction, at comparatively little cost.—*C. Macquarie, Chicago.*

THE VEGETABLE GARDEN.

Chou de Burghley.

THIS vegetable is not nearly so largely grown as it deserves to be, for I am sure, if its good qualities were more widely known, it would be much more esteemed than at present. One great point in its favour is its extreme hardiness, it being much hardier than all other Cabbages. It stood with me the winter of 1890-91, when all other greens, with the exception of some Kales, were killed, and the flavour is far superior to that of other Cabbages in the winter. A great mistake made by many who have tried it, is sowing it too soon, as it then grows to a large size, and splits like a Savoy in the autumn. The best results will be obtained by sowing at the end of April. It will then be found to form small but very useful heads, of fine flavour and quite hardy, which will come in very handy when other vegetables are scarce.—*G. H. S.*

Vegetables at Exhibitions.

DURING the past three weeks we have seen large numbers of collections of vegetables at the different Chrysanthemum shows which contained very fine examples of cultural skill; but as one looks at them the thought naturally arises as to when we shall see the end of the mania for size in the case of some kinds. Of course it is quite understood that these large vegetables are only grown for exhibition, and so long as no limit is put upon size the judges can do no other than award the prizes to the largest, if of good quality. Still they are not the best for table use—indeed, many are in fact quite unfit for a good table; but so long as they are encouraged at exhibitions, so long will the raisers of new vegetables strive to produce those that will sell for this purpose.

This is working in a wrong direction, as shows are understood to be held for the advancement of the useful in horticulture. Of course large fruit and flowers are as useful in their way as small ones, but I do not think the same can be said of large vegetables. Even at the present time a great deal of contradiction exists in this matter, as no good judge would notice extra large Turnips, Tomatos, or Potatos, be the shape ever so good; then why tolerate such enormous Carrots, Cauliflowers, and Onions, which are quite as useless?—*G. H. S.*

Daniels' Universal Potato.

THERE can be no doubt that most varieties of Potato lose some of their initial vigour after a few years' cultivation. With us this fact is markedly illustrated in the case of Schoolmaster, which now yields nothing like the crops that it gave a few years ago. This induced me last season to try the Universal, on the strong recommendation of a friend on whose judgment I can rely, and I planted a sack of them. The result has been highly satisfactory, and I can confidently recommend all who want a good, round, mealy Potato, to give Universal a trial.—*Con.*

FLORICULTURE.

Seasonable Notes.

Auriculas

Are now rapidly falling away to their winter's rest, the leaves wither, leaving only a kind of filbert-like cluster of leaves enfolding the heart of the plant. What some weeks ago was luxuriant is now spare, but the loss of leaves is the habit of the plant, and no one has need to feel alarm at the falling away to a small size. The time will come when these small hearts will put on an astonishing show of vigour and break out into rosettes of leaves, heralding the bloom which will follow. No doubt the drier the winter quarters of the Auricula the better, provided it be not in any way too warm or close. If the surroundings are damp, the higher the plants can be elevated near the glass the better, and a free circulation of air is necessary to dry up any condensed moisture, which gathering upon the foliage may cause spots. Really very little water is required during the dead months, and only when required should it be given. In a cold house or frame with a damp bottom there will be enough evaporation of moisture to carry the plants on for a considerable time; under drier conditions more water will be required.

Carnations and Picotees.

On every hand one hears that layers have done very well and appear to be well rooted. Some have been potting off for days past, placing a strong layer in a pot by itself, or two or three round the sides of a larger one. On the whole it is perhaps most favourable, unless the position of the bed be a favourable one, not to plant out until the spring. Young rooted layers put out in the open in the autumn have many risks to run, and though the plant is thoroughly hardy, many a one is liable to injury through hard frost following close upon heavy rains. Not infrequently the hearts of the plants are quite destroyed, though they be not killed outright. For wintering young plants of Carnations there is nothing like a cold frame with an ash bottom resting upon a layer of brick rubbish: water quickly passes away and does not stand about the pots. The lights should be removed except when rain and snow falls, or when severe frost abounds.

Cinerarias.

The Cineraria is now so much a greenhouse plant that it is either housed in such a house or in frames that are warmed. It is a plant subject to mildew, which, settling upon the undersides of the leaves, needs the application of flour of sulphur to keep it in check. Cinerarias can be wintered in cold frames, but only with great care, covering them up closely when frost abounds. If by chance a frame of Cinerarias is overtaken by frost, the best thing to do is to allow the plants to remain covered up closely and quite in the dark until thaw sets in; the thaw will be gradual, and many, if not all the plants may be saved in that way.

Herbaceous Calceolarias.

The Calceolaria is decidedly hardier than the Cineraria, but seeing how its succulent leaves are affected by damp, it is always best to winter the plants in a house or frame which can be heated at will. At this season of the year watchfulness is necessary, keeping the plants clean, picking off decayed foliage, watering moderately, guarding against green-fly and mildew, and protecting from frost. When fire-heat is applied to both Cinerarias and Calceolarias some air should be given, but from the leeward, not the windward side, so that cold currents of air do not fall upon the plants.

Begonias.

The tuberous rooted Begonia has won a place among florists' flowers. So great has been the improvement made in recent years that quality is now measured by the same test as in the case of other subjects esteemed by the florist. Presuming plants were placed out of doors for summer decoration, some which have not exhausted their power of producing flowers can be potted up early in October and they will bloom in a greenhouse for some time after. Those that have done blooming are lifted, the tubers dried, and then stored away for the winter. One thing to avoid is not to hasten the drying off of the tubers. But when they have dried properly, they may be put in shallow boxes with some cocoa fibre and dry peat mixed together and placed about them, and in any dry cool place, where frost cannot reach them—say a temperature of 50°—they can be kept till potting time, but should be occasionally examined to see that they are doing well. Tubers that have bloomed in pots should be similarly treated.

Tulips.

Tulips of the late flowering section should be planted at once. If any grower be waiting for fine weather in which to plant, it will be wise to cover up the bed from heavy rains, so that when it is fine overhead the soil may be in condition to plant. Early planting is better than late, because the weather is likely to be more favourable.

Show Pelargoniums.

Pelargoniums which were cut down in September and repotted will have by this time put forth shoots an inch or so in length. Water should be sparingly given and only to those plants which want it. The glass above the plants should be kept clean, that they may have the benefit of all the light possible. A little fire heat is necessary in dull, cold, foggy weather, and that for the purpose of drying up damp, but from 40° to 45° will be found sufficient. Great care should be taken not to draw the plants at this season of the year. To grow specimen large-flowering Pelargoniums successfully, there should be clean pots, ample drainage, and some lumps of charcoal mixed with the drainage is found beneficial. A good rich compost should be employed at the time of the second potting; the plant has a good deal to do, and needs corresponding sustenance. Any plants which may be required to bloom at the end of April or early in May should be stopped without delay. The effect of stopping is to throw out side branches to give early bloom. Rooted cuttings should be potted off, and they need to be kept close until the roots become active.—*R. D.*

CHRYSANTHEMUM NOTES.

Size of Show-boards for Japanese Blooms.

I feel bound to point out to you that your editorial note on the above subject at p. 176 may possibly mislead. The boards I used at the Aquarium were of similar pattern to the one I brought to the conference, and which I proposed as the standard size, viz., 6½ in. between the centre of each tube (26 in. by 19½ in. for a 12-board).

I think I may now fairly claim that the blooms show to better advantage on such a board than on any other. I still greatly fear that the 28 in. by 21 in. board is too large, and will lead to coarse flowers and to what is almost worse, altering the character of certain varieties by using wires and card-board discs in order to make the blooms cover more ground than they naturally would do. I think the time has come when the National Society should step in and make a rule that no cup should exceed 2 in. in diameter, and that any extra wires or other means of spreading out a flower should lead to disqualification of the stand in which such contrivances are used. I am almost inclined to believe that if this had been done some years ago, we should not yet have had to alter the size of the boards. I do however think that whatever the size is to be, that, and that size only should be allowed for Japanese blooms.—*W Herbert Fowler, Claremont, Taunton, Nov. 18th.*

Castle Hill, Maidenhead.

As in all other establishments the Chrysanthemums, both Japanese and incurved, have been late in reaching their full development this year with Mr. Robert Owen, Castle Hill, Maidenhead. When we examined the collection the other week, the bulk of the plants in the houses was still in perfection, while a great many were still in the progress of development. A notable feature of this collection is that the whole of the plants occupying the houses are new, either named or unnamed seedlings, or have been put into commerce within the last two or three years. Older ones are kept in stock, but they are mostly, if not all, out of doors. A large number of the seedlings are of Mr. Owen's raising, either from home-saved seeds or a few from American-saved seeds.

English-raised Varieties.

Viscountess Hambleden is now in fine condition, although unfortunately it was too late for the exhibitions. It is an incurved and pink Japanese variety of large size and beautiful form. Robert Owen is even later, but the bulk of the blooms are now in character. This is even more compact and of different shape, although belonging to the same section, golden yellow, and more or less of a bronzy gold at the base. Of the type of E. Molyneux is Richard Dean, crimson and gold reverse, but the flowers are not so liable to show an open centre. Of very large size and pure white is Pearl of Maidenhead, with spreading tubular florets, incurved at the tips. Middleton Clarke is a Japanese variety, with reddish purple, spreading florets, incurved in the early stages, and pale yellow on the reverse. The plants of Thomas Selwood are dwarf, and the close, incurved heads of a clear, shining yellow. It is considered an improved W. H. Lincoln. There are numerous plants of it, and the blooms fine in almost every case. A striking Japanese variety with large, globose heads of a uniform soft blush lilac, and with the florets peculiarly toothed at the tips is Mrs. Bruce Findlay. Fine also is Charles Bonstead, belonging to the incurved Japanese type. The flowers from the crown bud are pale coloured, but those from the terminals are rosy purple, striated with white. Thomas Hewit is a white, incurved Japanese variety, slightly suffused with lilac on the back of the broad outer florets; the crown buds are the best. Miss Lilian Cope is a white sport from Etoile de Lyon, but it is rather liable to sport back to the type. Excelsior is a last year's seedling of a reddish-purple with a silvery reverse, and gives promise of being a fine exhibition Japanese variety. The moderate sized blooms of the incurved Japanese Lord Brooke are of fine form, and of rich bronzy gold. Enterprise is a large Anemone with rosy purple, tubular rays, and a creamy white disc, tipped with lemon.

A number of true incurved varieties have also been raised from seed by Mr. Owen or obtained as sports. Lucy Kendal is one of the latter, a sport with reddish purple flowers instead of the violet purple which occurs in Violet Tomlin. A seedling from the latter has rosy purple flowers tipped with white, and they are large and neat. Robert Petfield is a beautiful rosy pink seedling, with broad florets having a silvery bue in certain lights. It recently received a First-class Certificate, as did the sport Lucy Kendal. The same may be said of the striking novelty Baron Hirsch, which has received several certificates. It is a seedling of a deep chestnut-red with broad chestnut-red florets, and blooms of large size. Henry Perkins, of which we give an illustration, is another of the same type but very late, and at present of a rich crimson-red or deep chestnut-red, and large size. That named John Fulford is of a bronzy metallic-red, tipped with gold. The list is also swelled by May Tomlin, of a soft purple with silvery reverse and very numerous florets. It is a late variety.

Besides the above-named sorts mostly raised by Mr. Owen, there are many unnamed seedlings raised by him. One of these resembles a pure white Viscountess Hambleden. A Japanese variety with nearly globose blooms is suffused and lined with purple on a white ground. Another with larger, soft pinkish-purple blooms, has long spreading florets all incurved at the tips. A Japanese reflexed sort has bright crimson florets and a chestnut reverse, and blooms of average size. A richly coloured variety chiefly differs from the latter in being incurved, instead of reflexing. A Japanese variety with large blooms is notable for its broad, spreading, crimson-red florets and buff-yellow reverse. A singular case of dimorphism occurs in a Japanese variety having pale yellow quilled florets when taken from the crown bud, but terra-cotta with a clear yellow reverse, flat florets, and incurved edges when taken from the terminal buds. Another variety has large crimson-amaranth flowers, and purplish on the reverse. We noted a sport from Viviand Morel, and which has come true when propagated from cuttings. The florets are white, with rosy tips and edges. There is also a beautiful nearly uniform pink variety, an improvement upon the well-known Mons. Freeman. Another incurved Japanese variety has broad, light yellow florets and bronzy outer ones. A yellow variety in the way of The Tribune has darker and broader florets. Several large Anemone Chrysanthemums may be noted, all unnamed seedlings. One is like an improved Georges Sand with buff-red rays and chestnut-red disc. Another is in the way of Charles Lebocqz, having bright yellow disc and pale yellow rays. Very singular also is a Japanese Anemone, with long, incurved, white rays and a mottled purple disc.

American and other Varieties.

Ada Prass is something in the way of Viscountess Hambleden, but the central florets are much shorter and not so regularly incurved. In the same strain as Viscountess Hambleden is Chicago, of a blush white with the outer florets pink. A reflexed Japanese sort is Esperanza, blush on the outside florets, but otherwise white. A singular-looking object is Carpenter; the soft rosy purple florets are all coiled or curled up like wood shavings. The blush pink florets of Madame Charles Capitant are broad and inclined to be spotted; it is a French variety. Mrs. Levin is a large Anemone with blush white rays and lemon disc. A pleasing light-coloured and incurved Japanese sort is Edith Walton; it is of a uniform soft lilac, and the back of the florets is covered with short bristly hairs. A promising sort is Acme, belonging to the same type as the last; the florets are purple, and suffused with white at the tips, or yellow in the young stage. Exquisite is a soft rosy purple, spreading Japanese variety. Senateur Bocher is a French variety of the type of Alberic Lunden, being dark crimson-amaranth, but very late. Rather pretty is Mrs. Libbie Allen, an incurved Japanese sort with broad, clear yellow florets. The florets of Incendie are of a crimson-red with old gold reverse; it is of French origin. Madame Lawson is a Japanese Anemone with a lemon yellow disc and white rays, the outer half of which is purple.

There are several unnamed seedlings, mostly American, one of which is a Japanese incurved sort, terra cotta and old gold reverse. Belonging to the same type is a deep chestnut-red variety, with some of the tips yellow, and the reverse covered with bristly hairs. A tall variety with large and bold heads shows a curious mixture. The inner surface is purple, and the outer blush-white, while most of the tips are greenish yellow. It may turn out a useful exhibition bloom. We noted several curiosities, but they are not much in favour at present. One of them, a seedling, has small white heads, and the florets deeply cut into four segments.

Falkland Park.

Chrysanthemums are now the leading feature in the cool house department in the gardens at Falkland Park, South Norwood Hill, the residence of J. McMeekin, Esq. A different system of arrangement is adopted here from that to be seen in most public or private establishments. The almost universal plan is to group them together in large masses with a view to general effect. In other cases it is a matter of convenience, and the plants have to be crowded together in the vineries or peach-houses where they can be accommodated. Whole houses are devoted to their accommodation in nurseries, but here again the massing system is the most dominant or indeed the only method of dealing with them which we have seen. At Falkland Park there is a long corridor into which all the houses lead, and, although unheated, it has a temperature similar to that of a greenhouse, and is therefore well adapted for Chrysanthemums. Quantities are located in the conservatory and another cool house; but the principal display is in the corridor, where they are arranged thinly on both sides of the pathway throughout its length, so that every variety can readily be examined separately. Some of them are dwarf and bushy, particularly the small flowered and decorative varieties; but the large flowered kinds are grown with a few stems and in most cases disbudded to a few blooms: but a few clusters of medium sized blooms surmounting the stems.

There are some handsome and richly coloured blooms of Etoile de Lyon on dwarf stems. Near by is the white sport from it, namely, Miss Lilian Cope, which would seem to be a good thing provided it would remain constant. The twisted flowers of Mr. H. Cannell are very choice in their way and of a bright yellow with broad florets. The blooms measure 6 in. across or a little over, but the stems are rather tall. The reflexed Japanese, Amy Furze, is not so common as it used to be, probably because not large enough. Here the blooms are almost globular and of a warm purple and lilac. The old Triomphe du Nord has similarly shaped flowers of a deep salmon-red, a colour that is not too plentiful. Belonging to same section, but having larger flowers, is that named M. L. Leroy; the heads are semi-globose, and the pure white florets revolute at the margin. The purple and silvery-lilac blooms of Madame Baco are very suitable for this kind of work. They are semi-globose and the florets curiously cut. Val d'Andorre maintains its character for dwarfness and large orange-red flowers. This is saying much for it in a year like the present, when so many well-known kinds have added 2 ft. or 3 ft. to their length when the crown buds were removed so as to get blooms from the terminals. Cullingfordi also remains very true to type, both in the stems and richly coloured flowers.

A number of incurved varieties are also in very good condition, notably Queen of England, Lord Alcester, and some others of that type, which have very large and perfectly formed blooms. A rather uncommon variety is Perle Precieuse, an incurved sort of medium size, with broad florets of a rosy-purple internally and silvery rose externally. Notwithstanding the usually early character of Mr. Bunn some plants of it are still in flower, as well as of Mrs. Geo. Rundle and others of the small old-fashioned types. The golden yellow Jardin des Plantes reminds us of the new sport named Mrs. Robinson King, and the two are frequently compared. Several Pompon Anemones and single varieties, all unnamed seedlings, may be noticed scattered through the cor-

Chrysanthemum Henry Perkins.

ridor, and some of them are pretty and worthy of more extended cultivation. The Pompon Anemones are of good size, and one has a yellow disc and buff rays, while another has bright yellow rays and a paler disc faintly shaded with buff. There are several seedlings, and one of the choicest has blooms 2 in. or 3 in. in diameter, with yellow rays faintly tinted with buff. It may be compared to a yellow Marguerite. A pink variety, with heads about the same size, is also pretty. A smaller flowered variety has rosy-purple rays and a golden disc. The collection is only being formed, and by this time next year the number of varieties will be doubled or trebled.

CHRYSANTHEMUM MARY ANDERSON.

BEAUTIFUL as are most of the Japanese and incurved varieties, if we eliminate the mere question of size, the above loses nothing by comparison with them. Few single flowers at this season exceed in beauty or usefulness the white Mary Anderson. Every one who sees it or grows it think most highly of it, the white blossoms and bright yellow discs being so light and elegant. For cutting the variety is to be strongly recommended, and we find it most useful for house furnishing if struck late in the season (May) and grown on in 48-sized pots. Although there are a number of single varieties grown now, I have only seen one other that I would care to grow. The singles have not yet become popular to any extent, nor do I think they will until we get more decided colours among them. Mary Anderson was shown in fine style at the late Bournemouth show.—*Con.*

GREENHOUSE RHODODENDRONS.

WITHIN relatively a few years past a race of Rhododendrons has been brought into existence, which has proved a most serviceable class of plants for cultivation under glass. They are generally known as hybrid greenhouse Rhododendrons, and have been raised on the one hand by crossing R. javanicum and R. jasminiflorum, and on the other hand by using R. multicolor as one of the parents. They may be, and are, grown by many cultivators in a greenhouse temperature throughout the year, but those who grow a large number of them will find it most convenient and economical to grow a goodly proportion of them in an intermediate house so as to obtain a supply of flowers for cutting or other purposes all the year round. We have frequently seen the collections of Messrs. J. Veitch & Sons, and Messrs. B. S. Williams & Son, at all times of the year, and we do not recollect a single instance of an entire absence of flowers. The temperature of the houses in which they are grown keeps the plants moving all the year round; and as they go out of bloom the leafy buds commence to push, and gradually develop and ripen their wood. Then the flower buds form, plump up and gradually expand. At the present time there is a good sprinkling of bloom in the two principal houses devoted to them at Chelsea, as well as in some of the others, where a display of flowering plants is being kept up.

NEW VARIETIES.

There are always some of the hybrid or cross-bred seedlings coming into bloom for the first time, and the best of them that are sufficiently distinct from those already named and in commerce are given names which take their places in the lists. Some of the older kinds gradually get superseded and in like manner drop out of the lists, and by this means every shade of colour comes to be represented by the very best types that are to be had. Ruby is one of the multicolor section with uniformly brilliant red flowers, larger than most that have hitherto been obtained of this type. All of them are characterised by dwarf habit, slender, twiggy, much branched stems and relatively small flowers; but the latter are destined to be enlarged. Incarnata Floribunda belongs to the Javan type and recalls R. jasminiflorum in its long tube, but in this case the tube is considerably thicker and like the lamina it is flesh coloured. Much larger and shorter are the red flowers of Neptune, with a five-lobed purple band in the throat. The best white is Purity, which is pure white with a pale lemon throat and yellow anthers. The flowers are also of good average size. Balsamæflorum roseum originated in the same batch as the other doubles, but it was later in attaining the flowering stage. The flowers are a beautiful rose, and double, resembling an Oleander. The petals are not at all crowded, nor are the flowers large. The variety, like all of the above, is now to be sent out, or put into commerce for the first time.

OLDER STANDARD SORTS.

One of the finest of the doubles is Balsamæflorum album, with flowers for all the world resembling double Tuberoses, but without the fragrance unfortunately. They may be wired separately for buttonholes. A beautifully distinct variety is Souvenir de J. H. Mangles, with deep salmon-red flowers, and a soft rosy-purple throat. Luteo-roseum has rosy flowers, slightly shaded with yellow. A handsome salmon-yellow variety is that named Monarch, contrasting with purple anthers. The flowers of Triumphant are moderate in size, but crimson-scarlet, and very freely produced. Bold and striking is Lord Wolseley, with Indian yellow flowers, and a wavy red line in the throat.

We noted an unnamed seedling of the type of Princess Beatrice, but having flowers of a brighter pink, with a line across the throat. The large and long tubed flowers of Princess Alexandra are blush-white. The shades of yellow are now pretty numerous, and many of them are very distinct, but it is difficult to describe them. For instance Princess Frederica may be described as buff yellow, with a pale purple transverse line, but the line is different from what we meet with amongst Chrysanthemums. Maiden's Blush is notable for the large size of its blush coloured flowers; the segments of the corolla are so broad that they overlap one another. A very pleasing colour is that of Princess Royal, with flowers of a uniform shade of rosy-pink, and of large size. All of the above named sorts will doubtless hold their own for many years to come, and those who grow only a few varieties will select those colours which most please their fancy.

GARDENING MISCELLANY.

AMASONIA PUNICEA.

THE value of this plant for stove decoration seems to be but comparatively little known, otherwise it would be more extensively used. We examined a batch of plants recently in the nursery of Messrs. J. Veitch & Sons, Chelsea, and which has been flowering for the last two months. The flowers are not all over yet, but, as those who are acquainted with this plant know, the flowers do not by any means constitute the most ornamental part of the plant, nor the longest lasting. The bracts subtending the two ranks of flowers are of a bright crimson-red, a hue which they maintain for many weeks together. The lowermost ones are largest, in fact resembling small leaves; they get larger with age, and ultimately, after the lapse of many weeks, they assume a bronzy-green hue closely similar to the leaves, or they may even drop while still highly coloured. The flowers are tubular with a more spreading five-lobed lamina, and are of a light yellow colour, contrasting well with the highly-coloured bracts. They are developed in succession and fall in the same ratio after they have been expanded for some time. The leaves proper are oblong-lanceolate, serrate, dark green, and leathery, and on well-grown plants attain a length of 12 in. or 13 in. After the plants have finished flowering the tops are cut off so as to furnish cuttings from the side shoots, which should be taken off in the spring and rooted, after which they may be shifted on into larger-sized pots, as they require it for autumn and winter flowering. The old plants may be grown on a second time instead of taking cuttings from them, if so desired, but young plants make the most vigorous growth.

NIDULARIUM AMAZONICUM.

THE fine form and neat arrangement of the leaves of this species make it one of the most useful for decorative purposes. The leaves are ligulate or strap-shaped, finely serrated on the margins, and more or less tinted with red on the upper surface, especially in the young state when they are mostly red all over the surface. The under surface is of a beautiful shining red at all stages of the growth of the leaves. The plant is always of dwarf and neat habit, and a few plants may therefore easily be accommodated in the stove. Propagation is effected, as in the case of most other Bromeliads, by suckers which are produced from the base of the old plants. Few of the Bromeliads are grown to any extent by gardeners generally, but this one is worthy of more attention than it at present receives. We noted it in the house recently done up with tufa rockwork in the nursery of Messrs. J. Veitch & Sons, Chelsea.

DIEFFENBACHIA PICTURATA.

NEW species of Dieffenbachia continue to be introduced. As in the case of Dieffenbachia Meleagris, this one also comes from the warm regions of tropical America, and both were introduced by Messrs. Linden, of Brussels, last year. The stems are erect, and attain a height of 2½ ft. or thereby. The leaves are ovate, elongated at the point, and of a rich dark green, irregularly blotched, and marbled in a broken or picturate manner with silvery white. A peculiarity of them is that the lower ones are more or less lobed at the base, with the lobes separated by a rounded sinus. The silvery white marbling is sometimes broken and intermixed with green in such a manner that the leaves appear dusted with a white powder. The specific name has been given in reference to this character. A beautiful coloured plate of it appears in *L'Illustration Horticole, pl.* 162.

WHITE FLOWERS AT CHRISTMAS.

AN amateur enquires—What in the way of hardy flowers can I have at Christmas in a cold frame? I think there is nothing better than the Christmas Rose, and that form of it known as Helleborus niger angustifolius. This is very early, and the flowers are whiter than those of the ordinary type. If the enquirer has a few strong plants, they will be showing flower, and if they are lifted at once, potted, and placed in the cold house, and the weather keep mild for the next five or six weeks, he may expect to have flowers by Christmas. But to ensure success, he should plant out under a west wall, at once if he can, some young plants of this Christmas Rose, placing them in rich deep soil, and allow them to remain for two years. By that time they will have grown into good stuff for treating as above recommended.—*R. D.*

SELAGINELLA CAULESCENS EMILIANA.

IN its various forms this Selaginella enjoys a wide distribution over the eastern part of Asia and the islands in that part of the world extending from Ceylon to New Guinea. Several distinct and beautiful varieties of it occurring in a wild state, have been introduced to cultivation, including S. c. japonica, S. c. amœna, S. c. argentea, and that under notice. When S. c. Emiliana is grown to full size, it forms tufts 6 in. to 8 in. high, of a feathery or fern-like appearance and of a pleasing light green. The stems are branched three or four times, with all parts densely covered by the small leaves, and the whole resembles a finely divided fern frond of triangular outline. These stems are upright, but the unbranched portion is so short that the surface of the pot in which the plant is grown is entirely covered. Propagation is easily effected by means of cuttings, but, curiously enough, the plant may be said to propagate itself. Small pieces break off, and, falling on the surface of the pot take root and grow. There are some fine plants of this variety in the gardens at Falkland Park, South Norwood Hill.

IPOMŒA LEARII.

STOVE climbers that flower in winter are relatively few, and therefore very welcome in the waning days of November when rain and fog are all too plentiful. The species under notice is one of the largest flowered species we have, whether for indoor or outdoor culture. The regularly funnel-shaped flowers measure about 3 in. in diameter, and are of a warm bright blue with a white throat and tube. Individual flowers are not very long lived, but as they are produced in axillary, somewhat branching clusters from the axils of the leaves, there are always fresh flowers coming on, so that a succession is kept up over a long period of time. The twining stems grow to a great length, and are therefore most suitable for training up wires on the undersides of the rafters of the stove. The leaves are heart-shaped, as in the case of many other species. The short side shoots, when allowed to hang down loosely, show off the flowers to the best advantage. Plants are easily obtained in the first place from seeds, and can be propagated afterwards by cuttings of the short side shoots. As the species is perennial and evergreen, frequent renewal is unnecessary. It usually flowers

from July till autumn, but that in the gardens at Falkland Park, South Norwood Hill, having been raised from seeds, is likely to flower for some time to come.

NEPENTHES MADAGASCARENSIS.

ALTHOUGH the pitchers of this species are only moderate in size, their beautiful form and rich colour make amends for deficiencies in other respects. The species was introduced in 1881 from Madagascar, but has not yet made much headway in gardens. Some plants of it have been recently reintroduced by Messrs. J. Veitch & Sons, Chelsea, with whom they may be seen. The pitchers are still of small size, being only about an inch long, but they have already assumed their bright red or crimson colour. They are flask-shaped, that is, broad at the base and suddenly contracted to a narrow neck above the middle. They have two prominent wings furnished with numerous fine fringes, and the body of the pitcher is mottled with pale green. The plant is not a very strong grower judging from the present appearances, but it is pretty and deserving of a little trouble to get it into its best form.

TOMATO WITH WHORLED LEAVES.

THE leaves of the Tomato, as is well known, are normally borne alternately upon the stem; but a curious freak has appeared amongst the plants being forced in the gardens at Hanger Hill House, Ealing. On the lower part of the stem the leaves were quite normal, but inserted rather closely together, say about an inch apart, or even less; then followed a portion of stem, slightly over 4 in. in length without any leaves. This was surmounted by a whorl of six leaves as nearly on the same level as possible, and a seventh was carried for a quarter of an inch higher up. All formed a rosette at the top of the stem, and could hardly fail to attract the notice of the gardeners as an unusual occurrence. The freak may be explained simply as a case of the displacement of the leaves by uplifting; instead of separating from the stem at the usual points, they had remained united with it and were all carried up to the same level. Tomatos are often very erratic in their behaviour in other respects.

FRUIT CULTURE IN KENT.

THE following interesting particulars of a Kentish farmer's experience in fruit culture are taken from the *Kentish Express* of Saturday last, and will be read with interest by all who are interested in the burning question of how to make the land pay:—Mr. W. Horne is a Kentish man, and an agriculturist of great business capability and resource. He obtained his agricultural experience in Gloucestershire, and, returning to Kent, took Perry Hill Farm, Cliffe-at-Hoo, in 1870. It was then principally arable land, but, being dissatisfied with the results of farming it, he turned his attention to fruit growing. At that time there was not half an acre of fruit on the holding. He commenced with eight acres of Pears, planting two sorts, "Williams" and Hessle's. He gradually gave up farming and extended the plantations year after year, until he has now taken in about 100 acres, which abound with all the best known varieties of bush and tree fruits.

As a producer for the market himself, Mr. Horne fully recognises the value of early fruits, and he spares no pains or expense in securing whatever is likely to meet with public favour. Growers have, therefore, come to recognise that they may rely upon obtaining at his sales the choicest new sorts introduced. A case in point is the feature of this year's sale—the new dessert Apple, The Beauty of Bath. This is the best flavoured and handsomest early variety in cultivation, while it is a certain and free cropper. Such a combination of excellent qualities has naturally created a great demand for the variety, and Mr. Horne, having foreseen this, was amply prepared to meet it. This new variety, which is described as "the coming Apple," has secured high honours, having been awarded a First-class Certificate by the Royal Horticultural Society, first prize at the Horticultural Exhibition, Earl's Court, and by the Bath, Taunton, and Trowbridge Horticultural Societies.

The system adopted by Mr. Horne in fruit growing is to plant the trees one rod apart, with bush fruit—Gooseberries and Baldwin Black Currants—underneath. After the latter have been planted about ten or twelve years the standard trees require all the ground. The bush fruit is then grubbed, and the land cleaned and sown down with grass. Occasionally plantations are made with Strawberries and trees. "The bottom fruit pays the way," said Mr. Horne, "and you have the top fruit to make the money. When the bush fruit is done with the sheep keep on the grass pays the rent." It is evident that farmers are turning their attention to this branch of the industry as a means of improving their position, as is shown by the great increase in the demand for trees this year.

Mr. Horne, however, does not think it would be wise for farmers to plunge right into fruit growing at once. His advice to them is "do a little and learn." They should plant out a variety, and in a few years they would see what suited their soil. Then they should select the best kind and plant largely of a few sorts "What we want to do in England," said Mr. Horne, "is to grow early kinds of all fruits, and it is my aim to get the earliest. America can supply us with Apples all the winter, and Australia and Tasmania during the spring months up to June. We are asked to cater for three months, July, August, and September." At the present time nearly all the English crop of fruit is consumed, as the growth is sufficient for but little more than three months.

Instead of England being an importer of fruit only, Mr. Horne is convinced that there is a good opening for exportation. Attention ought, he thinks, to be turned to growing Cox's Orange Pippin on a very large scale, and exporting them to America. There is not such a fruit for quality in that country, and the opening is, he is convinced, a splendid one. "Kent is called the garden of England," said Mr. Horne, "but I say, England should be the garden of the world. The industry is ours, but we have neglected it. Foreign fruit has a good appearance, but it has not the quality." At the present time the demand for Cox's Orange Pippin exceeds the supply.

A large regular staff is employed on the plantations, as there is a continual round of work requiring attention. In the spring a special staff is kept employed at grafting from the end of February until the second week in May; then comes the fruit-picking season. After this come the annual sales, and in the winter attention is engrossed by preparing for the following year's sale.

Other holders of land in the locality are now following Mr. Horne's example, and are giving more attention to fruit planting with trees from his nurseries. To give some idea of the extent to which the industry may be carried we may mention that one firm at Rainham this year grew no less than 10,000 bushels of one kind of Apple (Lord Suffield) alone, as well as thousands of bushels of the variety known as Worcester Pearmain, to say nothing of Pears, Cherries, Plums, Gooseberries, and Red and Black Currants. The amount produced by sheep keep by the grass growing beneath the trees was no inconsiderable item, so that after deducting the cost of picking the fruit there must have been a very handsome margin left for profit.

AN INCH OF RAINFALL.

THE meaning of an "inch of rainfall" is not understood, as a rule, by very many persons. A correspondent sends us a most interesting cutting on the subject, and one that may well be given here. To the ordinary unscientific individual, whose notions on the subject of rainfall are, as a rule, somewhat vague, an inch or two more or less of rain may appear a trifling matter, and 4¼ in. in a fortnight a comparatively insignificant amount. Few persons are aware that an inch of water over an acre of ground means 101 tons, or 22,623 gallons, of water. Accepting as correct the Registar-General's estimate of the gross area of London and its immediate suburbs, it would therefore appear that an inch of rain over the London district weighs in round numbers 45 millions of tons, and amounts to the overwhelming volume of 10,000 millions of gallons of water. With these figures in mind, the serious effects produced by a sudden downpour, such as we occasionally get in thundery weather, or by a long continued spell of wet such as we have recently had, do not seem at all surprising. Estimating the total amount of rain in London during the past fortnight as 4¼ in., and applying this amount to the above figures, we find that the weight of water which has fallen has exceeded 190 millions of tons, while in volume it has amounted to 42,500 millions of gallons. In attempting to grasp such enormous numbers, the mind becomes lost; but some idea of the immensity of the volume may be gained by imagining it all to be concentrated into one reservoir or basin. Supposing such a reservoir to be square and 30 ft. in depth, the sides of the square would be more than 13,000 ft. in length, and a walk round it would entail a journey of very nearly ten miles. If we imagine the water to be enclosed in a cubic vessel, the sides of such a receptacle would be each about 1,896 ft. long. These figures are most interesting.—*Bell's Messenger.*

CHRYSANTHEMUM SHOWS.

EDINBURGH.

THE above show, promoted by the Scottish Horticultural Association, was held in the Waverley Market, on the 17th, 18th, and 19th inst. The formal ceremony of opening the show on the first day was performed—in the absence of the Lord Provost—by Bailie McDonald. The number of entries is this year 849, against 812 last year, and generally speaking reflect the highest credit on the exhibitors; and from the appearance of the market the arrangement committee have given practical proof of great ability and fine taste in grouping and staging the exhibits and the decorations.

On entering from the principal entrance the visitors are at once struck with the graceful arrangements: from the roof is suspended in straight lines handsome gasaliers; on the galleries' fronts are draperies of white and gold; and the massive pillars are also beautifully toned with drapery, harmonising and blending in with the floral Queen of Winter. Right in front of you is a massive group of Chrysanthemums and other plants from Messrs. T. Methven & Son, nurserymen, which for blooms, variety of Chrysanthemums, and skilful arrangement, is one of the features of the show. Over from this on a long table was the principal feature—the blooms of the Japanese varieties. The association offers the City of Edinburgh Cup, value £20, given by the Corporation, for forty-eight blooms of Japanese Chrysanthemums (not less than thirty-six varieties). Eight competitors had entered the field, two of these staging exceptionally fine lots that were distinctly superior to the others, but they also made a very highly creditable bid for the blue ribbon. The judges awarded the first ticket to Mr. Richard Parker, Impney Hall, Droitwich; and the second to Mr. James Carruthers, Hillwood, Edinburgh, his lot being a few points behind Mr. Parker's.

The Scottish Challenge Cup, open to Scottish gardeners and amateurs only, for thirty-six blooms, eighteen incurved, eighteen Japanese: First, Mr. Alexander Watt, Blackhouse, Skelmorlie; second, Mr. David Nicoll, Rossie, Forgandenny. For twenty-four blooms (open), Mr. Richard Parker was first; and Mr. Blair, Trentham, Stoke-on-Trent, second. For twenty-four blooms, Japanese, not less than eighteen varieties: first, Mr. Wm. Rushton, Cochna, Duntocher; second, Mr. D. Ramsay, Gogar Park, Edinburgh; and for the twenty-four blooms, incurved, Mr. Richard Parker was first; and Mr. Shoesmith, Shirley Lodge, Croydon, second. The incurved blooms were good, some being exceptionally fine. For Chrysanthemums in pots the principal prize-takers were—Mr. Joseph Holmes, Winton Castle; Mr. D. Cavanagh, St. Edwards; Mr. A. McMillan, Trinity College. For a group of Chrysanthemums there were two competitors, and the first prize was given to Mr. Wood, Oswald House, who had a splendid lot for large blooms and good arrangement.

Messrs. Pitcher & Manda, United States Nurseries, Hextable, Kent, and Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, staged lots that were exceptionally fine. Messrs. Laird & Sons, Edinburgh, also staged an excellent lot of cut blooms, and their Conifers and Palms had a telling effect. Messrs. Dickson & Sons, Inverleith Nursery, had a very effective group of Conifers which received first prize. Beyond this Messrs. Dickson & Co., Waterloo Place, had a table containing 100 dishes of Apples and Pears from their Liberton Nurseries, and right down the centre they had a row of fruit trees (young ones with roots), tied to a trellis. The Apples were, without a doubt, superb, while the trees in form of training ought to make grand specimens, and from the splendid fibres on them planting them would give

the highest satisfaction. Fruit was also very good. Among the prize winners were Mr. Murray, Park Hall; Mr. Leslie, Pitcullen House; Mr. McIndoe, Hutton Hall, and others. Vegetables.—There was a very good show of them, and for the collections Mr. T. Fender, Crieff, was first. Bouquets.—A fair competition with these, but nothing exceptional in taste was displayed. Table Decoration.—We only saw one, and it had nothing special in taste. It seems a pity that this is not more encouraged in Edinburgh shows. An exhibit from Messrs. R. Sankey & Co., Bulwell Potteries, Nottingham; a collection of Apples from the Agricultural Department of the Government Nova Scotia; Messrs. Pitcher & Manda, Kent; and Mr. H. J. Jones, Lewisham, were awarded Silver Medals. A Gold Medal was awarded to The "Stott" Distributor Company, Manchester. Mr. Welsh (the chairman), Mr. Mackenzie, Mr. Dunn, Mr. Laird, and the rest of the committee deserve the thanks of all horticulturists for their labours and enterprise.—*J. Gameron, Cargilfield.*

WIMBLEDON.

THE annual Chrysanthemum Show was held in the large Drill Hall on the 15th and 16th inst., both days being deplorably wet, indeed could hardly have been worse, and militated so much against the attendance of the public that the takings must have been small indeed. It is feared that many other shows will have been found to suffer in the same way. The chief feature of interest at Wimbledon attached to the competition for the handsome Challenge Vase, which Mr. Mease, gardener to A. Tate, Esq., Downside, Leatherhead, had won twice previously, and a third win would enable him to retain it for good. That he accomplished, though not too easily, for there were some formidable competitors to contend with. The class was for twenty-four Japanese and twenty-four incurved blooms, and it is no exaggeration to say that of the latter finer or better finished has not been staged this year; that fact was universally admitted by growers. Mr. Mease had in these Lord Alcester, 4½ in. deep, the premier flower of the section, M.A.Bahuant Mrs.Coleman, Hero of Stoke Newington, John Lambert, etc., all superb flowers. Of Japs. he had Viviand Morel, the premier of that section, J. S. Dibben's Violet Rose, J. C. Schwabe, Mdlle. Marie Hoste, etc., very fine. Mr. Carpenter, gardener to Major Collis Browne, Byfleet, was second. Mr. Richings, Reigate, was third. Mr Mease was again first with twelve incurved blooms and twelve Japs., Mr. Carpenter being second. Again in the class for twelve incurved Mr. Mease was first, showing fine Robert Cannell, Princess of Wales, etc., Mr. Carpenter again being second. The same result happened in the class for twelve Japanese, so closely did these two leading growers tread on each others heels, but Mr. Mease would not be beaten. It is not always that such success attends upon one grower, but the Downside man was certainly in very fine form this year, as he took the Kingston Challenge Cup also the week previously. Mr. Bradford, gardener to W. H. Hall, Esq., Addington, had the best group of Chrysanthemums in pots, Messrs. Bateman & Sons, Merton, coming second. Mr. Bradford's plants were well flowered but too tall; that should be esteemed with ill favour by judges of these groups. The best miscellaneous group, one of the ordinary winter pattern, came from Mr. Lane, gardener to R. Dean, Esq., Wimbledon, Mr. Bradford being second. From Messrs. D. S. Thompson & Sons, nurserymen, came a very fine and attractive group of plants; also from Messrs. E. D. Shuttleworth & Co., Peckham Rye; and Messrs. Sheahan, North, Bateman, etc., had good groups. Mr. Mease had the best six double Primulas, finely flowered plants of White Lady, Marchioness of Exeter, etc. Mr. F. Ware, gardener to L. Waller, Esq., had the prettiest-dressed mixed basket of plants; Mr. Bateman a lot of beautiful Celosias; Mr. McGregor, gardener to Dowager Lady Hay, the best table plants; and Mr. Chandler, gardener to Canon Haygarth, the best berried plants in really first-rate Solanums. There were good Grapes, Pears, Apples, and vegetables, and the show was probably the best seen at Wimbledon at this season of the year.

LEWES.

THIS show was held in the Corn Exchange on the 16th and 17th November, and was the best ever held n the county town of Sussex. The quality of the blooms was first-rate, and in many classes the competition was so keen as to give the judges a task lasting upwards of half-an-hour to decide upon first and second. In such cases it is an honour to be beaten. The chief prize winners were the following:—Four pyramid plants, first, Mr. Smith, gardener to C. R. Kemp, Esq., Bedford Lodge, who also took first for four dwarf trained and for four standards. Mr. Brooker, gardener to J. Every, Esq., was a close second to Mr. Smith. For six untrained Pompons and twelve untrained large flowering plants, Mr. E. Stidworthy, gardener to J. Adames, Esq., was first in both classes, Mr. Smith, Mr. Dedman, and Mr. E. Brooker following. For the best group (60 ft.), Mr. G. Carvil, School Hill, took first with a grandly arranged group, heavily banked with moss around the outside pots; Mr. J. Edwards second; Mr. E. Funnell third; Mr. Bedford fourth (extra prize). Cut blooms (open), twenty-four incurved; first, Mr. J. Wallis, gardener to J. Mews, Esq.; second, Mr. Sayers, gardener to Mrs. Cook; third, Mr. Jupp, gardener to G. Boulton, Esq., all with grand lots of almost equal quality. The class for twenty-four Japanese was also stoutly contested, eventually falling as below: first, Mr. Wallis, gardener to J. Mews, Esq., with grand blooms of Mrs. C. W. Wheeler, Etoile de Lyon, Louis Bœhmer, Coronet, Sunflower, and Eynsford White; second, Mr. C, Sayers, gardener to Mrs. Cook; third, Mr. J. Blake. gardener to F. S. Roper, Esq.; fourth, Mr. G. Helman, gardener to Viscount Gage, Firle Park.

Fruit was a strong feature, and brought out good competition. Three bunches Grapes, black or white: first, Mr. E. Stidworthy, gardener to J. Adames, Esq.; second, Mr. Gose, Polegate; third, Mr. Smith, gardener to C. R. Kemp, Esq. Three dishes of dessert Apples brought together upwards of twenty lots, Mr. Helman, gardener to Viscount Gage, Mr. W. Manton, and Mr. J. Hopkins winning in the above order. Three dishes of culinary Apples were awarded as follows: first, Mr. Blake, second, Mr. Hopkins; third, Mr. Geale; fourth, Mr. Helman (extra). The best tray of vegetables saw nine competitors, all very close to one another: first, Mr. Collins, gardener to J. Fairs, Esq.; second, Mr. Watkins; third, Mr. Manton; fourth (extra), Mr. J. H. Geale; Mr. Helman being highly commended. Primulas and Cyclamen were well shown, and there were many special prizes offered by gentlemen and also by some of the leading seedsmen. Among the exhibits not for competition were a good collection of fruit from Messrs. Cheal & Sons; floral arrangements from Messrs. Kenward & Son, Lewes, and Messrs. Wheatley & Co. Mr. Dedman exhibited the finest specimen of Sparmania Africana I have seen. Mr. Thomas, gardener to Lady Shelly, had a good collection of fruit.—*Experience.*

REIGATE AND DISTRICT.

THE fourth annual show of the Reigate Society was held on the 11th inst., and it was considered by competent judges to be the best from all points of the series, and one that would compare favourably with any show in the South of England. It also enjoys the unique distinction of combining charity with the encouragement of Chrysanthemum culture, in that it guarantees each year a substantial sum to the Gardeners' Royal Benevolent Institution and the Gardeners' Orphan Fund. The weather on the whole was favourable, and there was a large attendance of visitors, especially in the evening.

For groups not exceeding 50 ft. super, Mr. J. Brown, gardener to Mrs. A. J. Waterlow, secured the first prize and the National Chrysanthemum Society's Certificate of Merit; second, Mr. H. Bailey, gardener to W. L. Barclay, Esq.; third, Mr. J. Hoad, gardener to G. Simpson, Esq.; fourth, Mr. A. Hayter, gardener to Lady H. Somerset. For a group not exceeding 30 ft., Mr. W. Peters, gardener to W. Finch, Esq., took the first prize and the National Society's Certificate of Merit; Mr. E. Tickner, gardener to J. Watney, Esq., being second. For trained specimens there were six classes, and all of them well filled. Mr. W. Hamilton, Mr. J. Brown, Mr. A. Hayter, Mr. E. Tickner, and Mr. Smith were the principal winners. For thirty-six Japanese blooms, distinct, Mr. C. Ritchings, gardener to Dr. Frankland, came in first; and Mr. C. J. Salter, gardener to T. B. Haywood, Esq., second. Twenty-four Japanese, distinct: first, Mr. G. Ormiston, gardener to J. Colman, Esq.; second, Mr. Hayter; third, Mr. H. Bailey; fourth, Mr. J. R. Cotton, gardener to E. Bell, Esq. Twelve Japanese: first, Mr. E. Tickner; second, Mr. Hamilton; third, Mr. Slowgrove, gardener to Mrs. Crawford; fourth, Mr. J. Hoad. Six Japanese: first, Mr. W. Peters, gardener to W. Finch, Esq.; second, Mr. G. Smith, gardener to W. R. Inglis, Esq.; third, Mr. J. S. Crofts, gardener to W. D. Freshfield, Esq. Six blooms of one variety: first, Mr. C. Ritchings; second, Mr. J. Brown; third, Mr. A. Hayter. Twenty-four incurved: first, Mr. C. Ritchings; second, Mr. C. J. Salter. Twelve incurved: first, Mr. C. Blurton, gardener to H. Cosmo Bonsor, Esq., M.P.; second, Mr. G. Ormiston; third, Mr. J. R. Cotton. Six incurved: first, Mr. Hamilton; second, Mr. W. Peters; third, Mr. J. Hoad. Six incurved blooms of one variety: first, Mr. C. Ritchings; second, Mr. G. Ormiston; third, Mr. W. Slowgrove. There were many other classes for reflexed, Anemones, and Pompons, table plants, Primulas, Bush Chrysanthemums, and Poinsettias, and in each class there was keen competition. Special prizes were given by the president, J. Colman, Esq. for table decorations of Chrysanthemums only, and these were taken by Mr. R. V. Smith, gardener to G. Taylor, Esq., and Miss Watney. The best Japanese and incurved flower in the exhibition were both shown by Mr. Ritchings.

BOURNEMOUTH.

THE Bournemouth Chrysanthemum Show Committee is to be congratulated on having had this year one of the very best displays in the south of England. It was held in the beautiful winter garden of the Mont Dore Hotel, a structure which affords ample space for the effective display of the exhibits, while providing for their being seen by a large company without an undue amount of crushing. On both days the attendance was very large, and I understand that although the expenditure was heavy the balance was again on the right side. The specially noticeable feature of the show was the groups, of which there were no less than sixteen. The first prize lot contained many grand blooms, and the arrangement was very good indeed. The grouping in the second best was also very fine, and the plants much dwarfer, but the blooms were not so highly finished. The premier bloom was an enormous and well finished one of Viviand Morel; and I noticed also some grand ones of Mrs. Alpheus Hardy. The Muscat Grapes deserve special mention, as also does a large wreath made by Miss Watkins, one half of which was made of white flowers and the other of high coloured ones. The effect was very good.—*Con.*

ORCHID NOTES AND GLEANINGS.

The Orchid Grower's Calendar.

CATTLEYA HOUSE.—If not already done every bit of whitening that was put on the glass to break the sun's rays during summer where it was impracticable to use blinds should now be washed off, so as to allow the plants all the light possible during the winter months. The glass of all our houses has been thoroughly washed down both inside and out during the past week; and plants that have been located during the summer and early autumn months in the cool houses have been returned to their winter quarters, such as Odontoglossum Harryana, Masdevallia chimæra, M. toverensis, etc., which we winter in the Cattleya house.

LÆLIA GOULDIANA, just now in flower, reminds one of a small form of Lælia autumnalis, except that the side lobes of the lip are rose-purple instead of white as in L. autumnalis. It is no doubt nearer to the latter species than is Lælia Crawshayana, and which it somewhat resembles in habit of growth, but the flowers of L. Crawshayana are much deeper in colour. The lip, too, is not reflexed at the tip as in Gouldiana, but is nearly flat and in shape like the broad part of an ordinary tea spoon handle. Basket culture suits both of these Lælias well, very little compost being required. Peat and moss in equal parts suits them well.

LYCASTE LANIPES will now be pushing up its numerous spikes. Ours have done remarkably well this season, having made enormous bulbs and foliage more like that of a Peristeria. We grow it in a compost of loam, peat, leaf soil, and sand, and when in good health it will produce twelve to fifteen of its creamy-white flowers to a bulb. Wood-lice are fond of the tips of the spikes iu the young state, and should be trapped by placing pieces of Potatos hollowed out and the hollow side put downward.

Look them over when going round at night and first thing in the morning.

THE COOL HOUSE.—It is a very easy matter to grow Masdevallias in this house during the summer, in fact there is no place that suits them better, but during winter they would be better suited if accommodated with a somewhat warmer house. As, however, everyone is not so favourably placed as to possess an intermediate house, they have to resort to some other means to tide their plants over the winter, and it is surprising and at the same time gratifying to find what can be done under the most trying circumstances. Ours are wintered at the warmest end of the cool house. During summer the stages are covered with ordinary roofing tiles, on which the plants are stood. This admits of the frequent application of the syringe amongst them, but during winter we find it necessary to cover the tiles with something that will retain the moisture for a longer period, so that the plants do not suffer during the night from a too arid atmosphere caused by the fire heat. Failing shingle, there is nothing better than coal ashes for putting on the tiles. Of course it does not look so well as shingle, but if the plants are benefited, and are in good condition, not much notice will be taken of what they are stood on. In very severe weather a very good plan is to cover the glass with mats, and as most cool houses are low structures they can be easily secured against high winds.

SOPHRONITIS may be placed at the warmest end with the Masdevallias. We have grown these in this way for a number of years, and have reason to be well satisfied.

TEMPERATURES.—East India house, 60° to 65° at night, with a rise of 10° by day. Cattleya house, 55° at night, with a rise of 10° by day. Cool house, 50° at night, with a rise of 5° to 10° by day. Giving air by the top ventilators should now be discontinued in the warmer sections, but a free circulation should be maintained through the bottom ventilator.—*C.*

THE undermentioned Orchids were exhibited at the meeting of the Royal Horticultural Society on the 15th inst., when certificates were awarded to them as recorded below.

Cypripedium Morganiæ Burfordiense.

THE leaves of this fine variety are narrowed to both ends, but particularly to the base, and are of a deep, shining green, sometimes tesselated with a darker hue. The scape grows about 18 in. high, and bears two or more flowers. The upper sepal is roundly ovate, suffused with pale purple on a lighter ground, and marked longitudinally with brownish green veins; ultimately it becomes revolute at the sides. The petals are 3 in. to 3½ in. long, decurved and spotted with crimson-purple, but more especially on the upper third of their length; the ground colour is creamy white, slightly shaded with green in places. The lip is very large, deep purple, and lined with deeper veins. The staminode is reniform, flesh-coloured, and netted with green in the centre. A First-class Certificate was accorded it when shown by Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking.

Cypripedium Tityus.

THE seed-parent of this hybrid was C. Spicerianum crossed with the pollinia of C. œnanthum superbum. The leaves are oblong, channelled, and keeled like those of the seed-parent. The scape, like that, is dwarf, only 6 in. to 8 in., and one-flowered. The upper sepal is oblate and white, with a small green area at the base, and marked with brown dots in lines corresponding to the veins, but giving place to purple ones, where they extend on to the white ground; the mid-rib is also deep purple as in C. Spicerianum. The petals are broad, oblong-spathulate, horizontal, with a few large undulations along the upper edge, pale greenish yellow, suffused with brown, and spotted with brown in the lower half. The lip is small, neat, and brown with a yellow edge. A First-class Certificate was awarded it when shown by Messrs. J. Veitch & Sons, Chelsea.

Cypripedium Perseus.

THIS is also a hybrid, and belongs to the Selenipedium group, or the South American type. The leaves are two-ranked, 8 in. to 12 in. long, arching, broad, and of a light shining green. The scape is about 2 ft. long, and bears several flowers. The upper sepal is moderate in size, suffused with pink, and having wavy, rosy veins on a straw-coloured ground. The petals are lanceolate, declining, undulated on the edges, rosy, with a greenish white centre, and 1½ in. to 2 in. long. The lip is of a deep rosy purple, except the infolded sides of the mouth, and which are yellow, spotted with brown; there is also a curious ascending auricle on each side of the opening. C. Sedeni porphyreum was the seed-parent and C. Lindleyanum the pollen-parent. An Award of Merit was accorded it when shown by Messrs. J. Veitch & Sons.

Lælio-Cattleya Aurora.

THIS bi-generic hybrid is the result of a cross between Lælia pumila Dayana as the seed-parent and Cattleya Loddigesii as the pollen-parent. All the sepals are oblong and of a warm lilac. The petals are two or three times as broad, elliptic, obtuse, and slightly darker in colour. The lamina of the lip is orbicular, undulated, crimson-purple, and the crisped side lobes are of the same hue. The tube externally is of a pale lilac-purple, deepening upwards, and creamy white internally, striated with branching purple veins. The size of the flowers is intermediate between the parents, but the colours of the lip strongly recall the influence of the seed-parent. The pseudo-bulbs as yet are only 1 in. to 2 in. long, and probably will never attain a very large size. An Award of Merit was accorded the hybrid when shown by Messrs. J. Veitch & Sons.

Cattleya labiata albanense.

THERE were nine flowers on a plant of this, grown in a basket and shown by Messrs. F. Sander & Co., St. Albans. The sepals are of a warm lilac. The petals are ovate, wavy, crisped, and of a deeper tint. The lip has a pale lilac tube, while the lamina is of a rich crimson-purple, fading to lilac at the edges, which are undulated and crisped; there is a pale lilac blotch on each side of the throat, and the interior of the tube is suffused with purple and white. An Award of Merit was accorded it.

Catasetum tabulare var.

THE sepals of this curious species are involute at the sides, and brown. The petals approach each other under the upper sepal, and are spotted with brownish purple on a creamy white ground. The lip is the most singular organ. Its sides are infolded, concave, and spotted with brown on a creamy white ground; along the centre is a greatly elevated portion, spathulate in outline, cordate at the base, toothed all over the surface, and heavily spotted with brown on a creamy white ground. The spur or sac of the lip is short and bluntly conical. The pseudo-bulbs are spindle-shaped, and 6 in. to 8 in. long, bearing a number of arching, strongly-ribbed leaves, about 18 in. long or more. An Award of Merit was accorded it when shown by Welbore S. Ellis, Esq., Hazelbourne, Dorking.

Seedling Cypripediums.

YOUR recent description, on p. 153, of Cypripedium pitcherianum, Williams var., answers so fully to a seedling I have had in flower for several weeks past, that I congratulate myself on possessing the identical form. The parents used in my case were similar to those mentioned, viz., Harrisianum and Spicerianum, and both parents were good forms of their respective species. Of course there are distinct varieties, and though two persons may use good forms of each, it does not always follow that the results will be exactly the same. Size, colour, shading, and lines and spottings vary, and it is only by close comparison and inspection that it can be said the two or more are exactly similar. Any way I am pleased with mine, and now once more I have flowered a second seedling, the result of the cross fertilization of C. insignis and C. Spicerianum, the former being the seed parent. The result is much like the one described on p. 185 as C. Leeanum Masereelianum. My plant is but small, it in fact only having been pricked out from the top of another pot and placed with several others in the small size known as thimbles in February, 1891. It is consequently just one year and nine months since that time, and I hope with age and strength it may produce flowers larger and even finer than the one now open. I have also another likely to be open in a week or ten days that I think will prove to be a distinct form. The colour already shows in a prominent manner. A quantity of others in various stages are progressing favourably, and next spring I hope to flower some forms quite distinct, judging from the parents.—*W. Swan, Bystock, Exmouth.*

WHAT TO DO IN THE GARDEN.

Fine-foliaged plants.—During the late autumn and winter months, flowering plants are comparatively scarce, and the most should be made therefore of the fine-foliaged subjects that may be made to do duty for them. Aralias, Dracænas, and Crotons are always to hand, and these may be supplemented and enlivened with lighter hued subjects such as Dieffenbachias, Calantheas, Zingiber d'Arcyi, Phrynium variegatum, Aglaonema costatum, and others. The judicious arrangement of these between dark-leaved plants will serve by contrast to give additional interest to the whole.

Gardenias.—In the forcing of these the use of a bed of Oak tan or fermenting leaves will be found of great service in urging on the buds. The pots should be merely stood on the surface of the bed or plunged only a little way, otherwise the roots would be unduly excited by being subjected to too much heat, and the buds might drop off in consequence. The continual moisture arising from the fermenting material will afford a continuous supply of moisture in the atmosphere.

Early Tulips.—The most easily forced and the most reliable at this time of the year are the red, white, and yellow varieties of Duc Van Thol, which may be had plentifully by Christmas provided care has been taken to pot them in good time. While being urged on in the forcing pit for this purpose they should be kept as near the glass as possible to prevent drawing, otherwise the flowers will be flimsy and short-lived.

Ophiopogons.—The variegated forms such as O. Jaburan variegatus and O. spicatus variegatus, but especially the former, will now prove very serviceable in the greenhouse or conservatory, where their richly-coloured grass-like leaves will be highly appreciated. The best way to treat these in order to get fine foliage is to plant them out in a frame or similarly sheltered place during the summer months. The increased root room will encourage the development of fine foliage much better than if the plants were retained in pots. They take less time in the matter of attention, and can easily be potted up in autumn.

Eurya latifolia variegata.—Many years ago this used to be a very common greenhouse plant. Being a relatively slow-growing plant, it was pruned or trained into pyramida form and largely used for brightening up the collections of hard-wooded subjects. It is closely allied to the Camellia, but has smaller leaves than the Tea plant even, of a dark green, richly variegated with creamy-white. In the early stages of growth the leaves are almost red.

Peaches.—The trees in the early house should be washed, dressed, and tied up preparatory to closing the house. No fire-heat will be necessary till the buds begin to swell, provided the weather remains open as it has been for some time past. If convenient a bed of fermenting leaves placed over the border will supply heat and moisture for some time to come. If the lights have been kept off until recently, the border will not require water for the present. Lightly syringe the trees twice a day, say about nine o'clock in the morning and two p.m. when the lights are closed for the day.

Chrysanthemums.—Keep the atmosphere of the house as sweet and cool as possible. In foggy or wet weather it will be necessary during the day to warm the pipes a little so that the chill, damp air may be driven out. The difficulty during the present mild weather lies in the fact, that artificial heat soon raises the temperature too high. An abundant ventilation can, however, always be given, so long as rain is kept out, and this will tend to keep the atmosphere buoyant.

Rose planting.—The planting of Roses is an important operation where large quantities of the Queen of Flowers are required. The operation should of course have been put in force quite a month ago; but in case unavoidable hindrances prevented it sooner it must be carried on now. Hybrid perpetuals on the Briar take better than Teas at this season. The planting of the latter had better be delayed till March if possible. In case they have just been received from the nursery they may be laid in by the heels rather thickly in a sheltered position where they may be protected with mats during severe weather. In preparing the ground for a plantation, it should be trenched 18 in. to 2 ft. deep,

working in a considerable quantity of well made manure, particularly if the soil is at all light.

Labelling of fruit trees.—It should be the duty of the head gardener in every well-kept garden to see that all newly-planted fruit trees are properly labelled, using material of some sort that will have more durability than wooden labels which often get defaced after a short time of exposure to the weather. Failing this, and which perhaps is the better plan, a book should be kept in which the names of the trees planted are written in consecutive order. When a label gets lost, broken, or defaced, there will then be no difficulty in finding the name of the tree and supplying a fresh label. It would then also be an easy matter to renew the whole number of labels at intervals of one, two, or three years as might be found necessary or convenient.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "THE EDITOR" or "THE PUBLISHER," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa, London."*

NAMES OF PLANTS.—*W. E.*: 1, Clivia miniata; 2, Davallia canariensis; 3, Adiantum cuneatum Pacotti; 4, Selaginella Braunii The specimens were very imperfect; please send a whole frond on future occasions.—*G. W. M.*: 1, Cypripedium callosum; 2, C. Spicerianum; 3, C. Pearcei: 4, C. Sedeni.—*A. Berners*: 1, Aster puniceus; 2, Aster turbinellas; 3, Aster amethystinus.—*J. C. S.*: Selaginella hæmatodes.—*G. H.*: Cotoneaster frigida.—*H. W.*: Cypripedium insigne, a good form of the type.—*J. W.*: 1, Croton Veitchi; 2, Croton Lord Derby; 4, Croton interruptum; 3, 5, 6, 7, 8, 9, 10 are all Crotons which we do not recognise; 11, Adiantum concinnum latum; 12, Onychium japonicum; 13, Adiantum Capillus-Veneris var.; 14, Selaginella Martensii robusta.

PARADISE STOCK.—*C. J. W.*: The Paradise stocks are simply varieties of the Apple, that have been raised from seeds many years ago, and because they were of dwarf growth and rooting near the surface, were found useful as a stock upon which to graft choice varieties of Apple. The French Paradise is too dwarfing in its effect and is only suitable for trees to be grown in pots. The English Paradise is more suitable for trees in the open garden. The Doucin stock is a somewhat stronger grower than the last named and will probably be more and more extensively used in the near future. The usual method of propagating these stocks is by layers. Seeds could not be depended upon to keep the plants raised from them true to character. Seedlings require to be two or three years old before grafting or budding anything upon them; but only the Crab and what is termed the free stock are raised from seeds. Strong and well rooted layers of the English and Paradise stocks may be grafted in the following spring after they have been rooted and severed from the parent plant. Their strength should be your guide. If weak let them have another year. Encourage the old plants or stools to make vigorous growth so that there will be no waste of time in getting the layers sufficiently strong. The graft in all cases where the variety of Apple is a moderately vigorous grower, should make 2 ft. or 3 ft., sometimes more, the first season after being grafted in spring. Budding in August and September may also be practised.

NAMES OF FRUITS.—*W. E., Portishead*: 1, Court of Wick; 2, King of the Pippins.—*James Trotter*: 1, Gloria Mundi; 2, not recognised; 3, Alfriston; 4, Cambusnethan Pippin; 5, a long cylindrical shaped Apple resembling one called Ladies' Fingers.

ARUM LILY.—*Arum*: It was a mistake to plant them under Filbert or any other trees. If they have finished flowering by the end of May or June, you can then plant them out in a piece of ground fully exposed to the sun. They require a considerable amount of water during the summer months and it would therefore be advisable to take out a shallow trench for them as for Celery. Dig in some well rotted manure in the bottom of the trench and supply them with plenty of water during dry weather. The old leaves will die down but that matters very little, young leaves will push away again soon. Lift and pot them in September before there is any danger from frost. When planting them out they should be separated into single crowns with as many roots as possible. They grow stronger when treated in this way and produce larger flowers. Should the old plants flower late in summer, it is not worth while planting them out. In that case stand them in the open air and water them till the leaves die down; allow them to rest for a short time and when growth recommences, repot the crowns singly, and supply them with water.

BOOKS.—*Heatherland*: Warrington's *Chemistry of the Farm*, price 2s. 6d., and published by Bradbury, Agnew & Co., would be of real help to you. The trouble with the weeds has, we suspect, arisen from your using the stable manure before it has been well fermented to kill the seeds of weeds.

AZALEAS WITH INSECTS.—*A. Butcher*: The leaves of the Azaleas you sent us were much injured by and swarming with thrips (Heliothrips hæmorrhoidalis). A dry atmosphere and its attendant conditions favours the development of thrips, particularly in plant houses where the hotwater pipes create a dry atmosphere that is not properly counteracted by syringing and damping down. Of course if you want to keep your plants resting at this time of the year, very little fire heat will be required except on frosty nights, and it would be well to damp down the paths and stages, particularly if the plants are standing near the hot water pipes. To destroy the thrips you should fumigate the house or wash your plants with a fairly strong solution of Gishurst Compound, or a strong solution of soft soap to which a little tobacco juice has been added. Lay the plants on their sides and thoroughly syringe the under side of the leaves with one or other of the solutions. Wash the plants in the same way with clean water about half an hour afterwards to wash off the soap.

COMMUNICATIONS RECEIVED.—H. B.—S. B.—G. H. S.—J. J. K.—R. G. M.—W. S.—J. F.—W. D.—F. H.—W. B. H.—W. P.—R. O.—J. H.

TRADE CATALOGUE RECEIVED.

DOBBIE & Co., Rothesay.—Chrysanthemums, Roses, Fruit Trees, Violas, etc.

HERD BROS., 47, King Street, Penrith.—Forest Trees, Fruit Trees, Roses, etc.

WILL TAYLOR, Osborn Nursery, Hampton.—Price List of Fruit Trees and Roses.

LONDON SEED TRADE.

November 22nd, 1892.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a steady sale for Red Clover at extreme prices. White Clover is dearer, but Alsike and Trefoil are unchanged, and Rye Grasses firm.

COVENT GARDEN MARKET.

November 21st.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Grapes..... per lb.	0 6	2 0	Pine apples.		
Kent Cobs...100 lb.	100 0	105 0	—St. Michael's, each	2 6	6 0
Peaches ... per dozen			Apples...per ½ sieve	1 0	3 6
Melons ... . each			Plums...per ½ sieve		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, French, per lb.	1 0		Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	1 0		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	5 0	Seakale .....per bkt	3 6	
Celery.....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers .....each	0 3	0 6	Spinach ... per strike	1 6	
Endive. French, doz.	2 6	3 0	Tomatos..... per lb.	0 9	1 0
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Begonias ...per doz.	6 0	12 0	Chrysanthemum, doz.	4 0	9 0
Cyperus .....per doz.	4 0	12 0	— large, doz.....	12 0	30 0
Dracæna term., doz.	24 0	36 0	Heliotrope, per doz.	4 0	6 0
Dracæna viridis, doz.	9 0	18 0	Marguerites, per doz.	6 0	12 0
Erica Hymalis, doz.	12 0	18 0	Mignonette, per doz.	6 0	12 0
,, Gracilis, doz...	9 0	12 0	Palms in variety, each	2 6	10 0
Evergreens, invar. doz	6 0	24 0	Palms, Specimen ...	15 0	63 0
Ferns, invar., per doz.	4 0	18 0	—scarlets .....per doz.	6 0	9 0
Ferns, small, per 100	6 0	10 0	Primula Sinensis per doz.	4 0	6 0
Foliage Plants, doz.	12 0	60 0	Solanums.....per doz.	9 0	12 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	3 0	6 0	Mignonette... 12 bun.	3 0	6 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, 12 sps.	0 9	1 0
Carnations, 12 blooms	1 0	3 0	— scarlet.....12 bchs.	4 0	6 0
Chrysanthemum, dz bn.	4 0	9 0	Primula, double. bun.	0 6	0 9
— .....doz. blooms	2 0	9 0	Pyrethrum doz bnchs	2 0	4 0
Eucharis ...per doz.	3 0	6 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Gardenias 12 blooms	3 0	5 0	Roses, yellow, dozen	2 0	4 0
Heliotropes. 12 sprays	0 6	0 9	— French, per bncb	3 0	6 0
Hyacinths Roman doz. sprays	0 6	1 0	— French, 100 blms	6 0	12 0
Lilac, White, French, per bunch...	5 0	6 0	— Red..... doz. blms.	1 0	2 0
Lilium Harrisii, doz. blooms	4 0	9 0	— Saffrano...per doz.	1 0	2 0
Liliums var., dz blms	2 0	4 0	— Tea ..... per dozen	1 0	3 0
Lily of the Valley dz. sps.	6 0	12 0	Stephanotis, dz. sps.	6 0	8 0
Maidenhair Fern, 12 bs.	4 0	6 0	Tuberoses, per doz	0 3	0 6
Marguerites, 12 bun.	1 0	3 0	Violets, Parme, French per bunch ..	3 0	4 0
Mimosa (French) p. bh.	1 0	1 6	—Czar, French, bun.	2 0	2 6
			—Small ,, doz. bun.	1 6	2 0

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PORTRAITS OF THE JUDGES

AT THE

International Horticultural Exhibition, Earl's Court.

Subscribers should see that their Newsagents deliver the Supplement with each copy.

For Index to Contents see page 216.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Dec. 8th.—Bulb and Plant Sales at Protheroe & Morris' Rooms.

TUESDAY, Dec. 6th.—Sales of Orchids and Bulbs at Protheroe & Morris' Rooms.

WEDNESDAY, Dec. 7th.—National Chrysanthemum Society, Meeting of Floral Committee.
Sale of Lily Bulbs at Protheroe & Morris' Rooms.

THURSDAY, Dec. 8th.—Bulb and Plant Sales at Protheroe & Morris' Rooms.

FRIDAY, Dec. 9th.—Orchid Sale at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, DECEMBER 3rd, 1892.

THE SALE SEASON.—Those redoubtable and energetic persons, the Knights of the Hammer, have of late, and still are, having in nurseries and gardens a very busy time. We do not like to assume that there is a class of nurserymen who cannot find other outlets for their stock, and are perforce driven to sell by auction. What we prefer to think is that sales having been found a cheap and ready method of clearing off superfluous stock, it has got to be the practice to grow specially for such sales. Also, that many traders who have no such sales find through them favourable opportunities to secure at moderate prices what additional stock they may need for all ordinary purposes.

The fact that so many of the sales are annually held naturally leads to the inference that they are profitable to the trader. But after all it does seem to be of most importance to learn that in many directions, and especially in the fruit department, there have been very extensive demands this year; that, indeed, orders have been pouring in so largely as to test the traders' powers appreciably. We have had a splendid time for transplanting, and should the weather keep open enormous quantities of trees will have been transferred from nurseries to permanent places in orchards and gardens. Whilst something is due to the favourable nature of the weather, something also is due to the impetus which various movements have given to the fruit tree and fruit production industries.

Still we may not overlook the various other elements of any hardy tree nursery, forest trees, shrubs of all descriptions, Roses, and many other things being called for in abundant quantities; showing that in spite of the depressed state of commerce there is no reason to fear for the future of horticulture, but that there is very much to be thankful for. If open weather has greatly facilitated the demand for nursery stuff, especially because it has enabled

planting to be so freely done, it has also been accompanied with such ample rains that, once planting is properly done, growth is inevitable.

THE CONDITION OF AGRICULTURE.—Although we are not agriculturists in the ordinary acceptation of the term, yet is there a far closer alliance between horticulture and agriculture than is generally supposed. Especially is it so in the matter of sympathy, for all who have to do with the produce of the soil have similar instincts and intimate associations. With the present very distressed condition of agriculture we have much of concern, provided it be shown that the agitation now being promoted is not political, and devised to create difficulties for the new Government.

We cannot but note that this agitation has taken a stronger hold of the agricultural mind since the General Election, and should it be shown that party wire-pullers are promoting it for the purpose of embarrassing the new Government then will the movement recoil on their own heads. But it may be, on the other hand, that the agricultural interest look for ameliorative measures in relation to land that they could not obtain from the late Government and Parliament. The movement will have to be watched with some sympathy and some distrust. So far as regards agriculture generally, it is surprising to find what is its present condition, when (except Wheat) all other land produce is relatively higher than it was some twenty years ago. Whilst bad seasons, such as the past one, have done exceeding harm to farmers there is yet very much to be explained.

When we see on every hand market-gardening, and especially fruit culture, at home so relatively prosperous, and the culture of allotments and small holdings equally so, it is so very difficult to understand why large farms, if fairly rented, should not pay. Is it found in the too-evident fact that the modern farmer is more swell than worker, and thinks more of the contents of his stable and his cellar than of his personal labours. Certainly no man should embark in agriculture who is not prepared to undergo rough work and plenty of it, and to put his pride in his pocket.

MARKET GARDENING.—This term covers now a very wide range of production and of cultivation, and there are plenty of critics who rail at our indifference to the immensity of foreign importations of fruit and vegetables, who have really no conception whatever of the amount of capital now invested in this class of enterprise, and how much is being done in myriads of ways and directions to grapple with the various trade problems that foreign competition creates. One thing which has to be carefully regarded is the bent of the public taste for certain products, and that taste must be watched and catered for.

Happily it is not so fluctuating an element as are articles of attire, but there is always some uncertainty hanging over the matter. For that reason the market garden trade or industry, although it must ultimately develop enormously, yet must do so tentatively, especially in relation to products which have yet to be made not only more popular, but to become permanently so. The fact is our great need is found in the creating of stronger tastes for fruit and vegetable produce. There is so much room for such development in that direction, and the faster that development the more readily will market growers haste to meet it.

When it is advised in reference to small holdings and allotments that it may be difficult to find proper markets for their produce, we reply that the needs of the families of the growers seem to be overlooked, and if these exist more largely upon the products of the soil as grown at home, they will have less need to sell for the purchase of other and too often less healthful or nutritious articles of food. There can be absolutely no doubt but that presently the demand for the beautiful products of garden culture will enormously increase, and to supply that demand we may well hope to see presently thousands of acres of land agriculturally waste brought into higher and more profitable cultivation.

THE ART OF COOKING VEGETABLES.—Some time since, as we noted at the time, Messrs. Sutton & Sons, of Reading, published a most instructive book on the "Art of Cooking Vegetables." The object of the firm was to diffuse a wider knowledge respecting vegetable cookery, less from the ordinary cook's aspect than from that of a connoisseur in vegetables, and whose desire it was to preserve in the highest degree the flavour and quality of vegetables without drowning them, as is so commonly the case, in water.

Generally we find the book to urge the cooking of vegetables entire rather than in a cut state. It seems hardly to matter whatever be the sort or kind, but there can be no doubt but that the more vegetables are divided and stewed or saturated rather than properly cooked, the less nutritious are they, and far less palatable. We very much doubt whether in connection with the instruction on cookery now so generally given in schools and classes, one half of the valuable information found in this book is utilised. To secure in vegetables the highest flavour and quality when cooked seems to be in most cases of ordinary treatment rather a secondary consideration.

The chief object of ordinary cookery seems less to make vegetables naturally palatable, than to render them so by the aid of condiments, gravies, &c. That is indeed a misfortune; vegetarianism ought to utilise such a book as that to which we refer, and it has to be said in relation to that movement that whilst it is trying to do much to popularise fruit and vegetables as articles of food, it yet does so very largely by serving them up as messes rather than as having strong natural attractions, which should always be regarded as the primary consideration.

The French Horticultural Society of London.—We are asked to state that the head-quarters of this society are now at the Hotel des Vrais Amis, 4, Old Compton Street, Soho Square, W.C.

The Kingston and Surbiton Chrysanthemum Society's Show of 1893 will be held on November 7th and 8th.

Gardening Engagements.—Mr. Hugh Crichton, for over twenty-five years gardener to the late James T. Caird, Esq., of Belleaire, has been appointed gardener to Dr. Cameron, M.P., Balclutha, Greenock.

The Edinburgh Chrysanthemum Show.—It is reported that 26,000 persons visited this exhibition and that over £850 was taken at the turnstiles, a considerable increase over last year's receipts.

Tree Planting in Connemara.—Messrs. Dicksons & Co., Waterloo Place, Edinburgh, have been entrusted by the Irish Land Commission with a very extensive order for young Larch trees, to be used in the Government scheme fore the afforestation of waste land in Connemara.

Toope's Patent Fog Purifier.—We regret to find that when discussing the merits of Mr. Toope's patented system of purifying fog in our last issue we inadvertently did him an injustice in stating that he makes his piping and patent heating apparatuses of zinc, whereas we should have said the best lead coated sheet steel.

Death of Mr. John Downie.—We very deeply regret to record the death, on Friday morning last, of Mr. John Downie, of 144, Princes Street, Edinburgh, and of Beechill Nursery, Murrayfield. For a lengthened period he had been more or less ailing; hopes were entertained that he would again rally, but it was otherwise ordered. During the last half-century he has been one of the most prominent horticulturists in Scotland, and his influence and connections extend to all parts of Great Britain. He was remarkable for his kindness, uprightness, shrewdness, energy and tact, distinctly a Scotchman of the old stamp, with a peculiar genuine richness (for his advanced age) of youthful buoyancy. He had great experience in landscape gardening, and his counsel and services were much requested. In the making and renovating of a large number of the principal gardens in Scotland he was consulted, and his services taken advantage of. He was the introducer into Scotland of the fancy Pansy, and many other florists' flowers have been greatly improved by him, and a mighty impetus given to their popularity. His own collections are well known to be exceptionally fine. Substantial proof has been given to him from time to time, his labours were appreciated, and at the principal shows he was frequently a judge. His well-known figure will be missed from amongst us, and many a gardener has lost a true friend in John Downie. We hope in our next to refer more at length to the valued services he rendered to horticulture.

Shepton Mallet Gardeners' Association.—In consequence of the success which attended some meetings of the gardeners of the district last season, and which were promoted by a temporary committee, a regular association has now been formed, with Mr. John Higgins as secretary, and Mr. W. H. Morton as treasurer.

The Root Show at Bingley Hall, Birmingham, which has been held during the present week has been a veritable triumph for the Duke of Portland, whose produce, grown on the Clipstone Park Farm, Mansfield, secured no less than nine first prizes, besides several seconds and thirds. In the Potato classes he had the best twelve, eight, six, and two varieties, and the most handsome dish of any variety in the show, which was of Sutton's Satisfaction. This fine variety appears to becoming extremely popular, as it was shown here no less than twenty-six times, and appeared in the first-prize lots in six of the nine classes devoted to Potatos already in commerce. Mr. A. V. Cross, Shutford, Banbury, was the next most successful exhibitor of Potatos, followed by Mr. J. Lye, Clyffe Hall, Market Lavington. Mr. A. V. Cross had also the best collection of British hardy outdoor fruits.

Lectures on Horticultural Chemistry.—The first of a series of four lectures on the chemistry of plants was delivered on the 23rd ult. by Professor Ivison Macadam, at the Surgeons' Hall, Edinburgh. The lectures form part of a scheme for technical education in horticulture which has been organised by the Scottish Horticultural Society, by the aid of a portion of the residue grant handed over to them by the Edinburgh Town Council for this purpose. There was a good attendance at the first night's lecture. Mr. W. M. Welsh, president of the society, in introducing the lecturer, commented with satisfaction on the largeness of the audience as justifying the institution of this course of lectures by the society. Professor Macadam first showed that plants could be divided into a portion which was combustible and volatile, and into an ash or saline portion. The combustible and volatile portion partly consisted of water, and partly of various and often very complex substances, built up from the elementary or simple bodies—carbon, hydrogen, oxygen, nitrogen, etc. The ash or saline matter was obtained mostly from the soil; whilst the organic or combustible portion was in origin partly derived from the soil, but also to a considerable extent from the atmosphere. The various proportions of these proximate constituents were then given, and it was shown that not only did the ingredients vary in different classes of plants, but that they varied also at different states of growth. It was also shown that the ingredients varied greatly in the various parts of the plant. The lecturer then showed the properties of the more common ash constituents, and illustrated his remarks by experiments and diagrams.

The Brisbane Botanic Garden.—In this beautiful garden (writes a correspondent of the Manchester *City News*) may be seen trees from all parts of the world, growing luxuriantly. One may walk in the avenue of Bamboos or sit beneath the shade of a beautiful Palm, Fig-tree, or majestic Fir, and take in a view which time will scarcely efface. All around are beautiful flowers of every hue and climate, and trees of almost every kind. There is the Banana tree, the Papan Apple, the Fig, Cypress, Pine, Bamboos, Palms, Bottle-tree, Gums, Eucalypti, and trees from America, India, China, England, Japan, and many other countries, always green, always beautiful. The walls are well planned, and the Ferneries are pictures of loveliness. Here are noble Fern-trees, rich Orchids, luxuriant varied climbers, Begonias, beautiful Maidenhair Ferns, Dracænas, Lilies, and almost every variety of Fern known to Queensland, together with the Ferns from other countries, all perfectly arranged, all thriving, the Tree Ferns touching the high roof and Orchids throwing out their blooms.

PLANTS RECENTLY CERTIFICATED.

THE undermentioned Chrysanthemums were exhibited at the meeting of the Floral Committee of the National Chrysanthemum Society on the 23rd ult., when they were accorded First-class Certificates :—

MRS. MITCHELL.—This incurved variety is a sport from Empress Eugenie. The florets seem broader, and are of a pale fawn fading off to buff-pink around the base as the florets reach their ultimate development. The blooms exhibited by Mr. E. Molyneux, The Gardens, Swanmore Park, Hants, were about 3½ in. in diameter by 2½ in. deep, and were beautifully firm and compact. Empress Eugenie shown alongside of them were seen to be quite distinct.

KENTISH YELLOW.—The blooms of this variety measure 5½ in. to 6 in. in diameter, and are of a clear bright yellow. The florets are moderately broad, smooth at the tips, and regularly but somewhat loosely reflexed ; but as the bloom reaches its ultimate stage the central florets rise upwards, making the whole semi-globose. There is plenty of material in the centre. It is a reflexed Japanese variety similar in size and form to the white Elaine, Eynsford White, and Sydenham White, but entirely different in colour.

MRS. BRUCE FINDLAY.—The heads of this Japanese variety attain a large size, measuring when in good condition 7½ in. to 8 in. in diameter, and 4½ in. to 5 in. in depth. The florets are rather narrow but flat, curiously toothed on each side of the apex as a rule, and of a uniform soft, bluish-lilac except towards the base, where they deepen somewhat. They diverge in all directions except on the top, which is somewhat flattened. The great number of the florets, their by no means common colour, and the size of the heads all contribute to make this a desirable variety. The leaves are dark green, leathery, trifid, and slightly cut.

ROBERT OWEN.—The compact and regular form of this Japanese variety, as well as the peculiar twisting of the florets, as shown in the illustration in our number for February 6th last, marks it out as very distinct from anything we have in cultivation. The florets are fluted, narrowed to an acute tip, hooked there, and nearly always regularly twisted against the sun. All the upper portion is of a golden yellow or deep apricot, but towards the base this is of a golden buff, but seems to vary from year to year according to treatment. It gained some prizes last year as the best bloom in the show, but there was only one bloom of it and consequently it could not be certificated till this year.

WABAN.—This is also an incurved Japanese form of a soft, uniform rosy-pink. It is altogether different in form, however, from Robert Owen or Viscountess Hambleden. The florets are very much fluted, appearing almost quilled, but they are loosely arranged, twisted against the sun, and forming a series of open or rather widely separated coils. The bloom measures 6 in. to 6½ in. in diameter, and 3 in. in depth, and seems destined to be incorporated with many collections before long and to make its appearance on the show boards. This, as well as Mrs. Bruce Findlay and Robert Owen, were exhibited by Mr. Robert Owen, Castle Hill, Maidenhead, who has been successful in the raising of many fine varieties.

PRIMROSE LEAGUE.—This may be described as a Japanese variety pure and simple. The blooms are creamy-white in the early stages with a primrose-yellow centre ; but as they attain their full size the yellow disappears to a great extent, and the outer florets are almost pure white. They are of medium width, the lower ones pendent or drooping, the middle ones spreading, and the central ones ultimately ascending more or less. The bloom is of great size, measuring 6 in. to 7 in. wide and 4 in. to 4½ in. in depth in the natural position, that is, without spreading out the florets. It seems likely to become a favourite with many cultivators. The exhibitors were Messrs. Pitcher & Manda, Hextable, Swanley.

MRS. W. CUTTING, a silvery-rose incurved Japanese variety, and THE TRIBUNE, bright yellow Japanese reflexed, were commended.

PACKING ORCHID FLOWERS,

HAVING had some experience in packing Orchid flowers I find the following method the safest and most practical in shipping these delicate flowers. When the flowers are cut they should immediately be placed in water, so the stems get well saturated before starting on their journey, especially when they have to be shipped a long distance. The boxes used should be made of light wood, about two feet long by a foot wide, and not more than four inches high. Never put more than one layer in each box, as the flowers are liable to get crushed and spoiled before they arrive at their place of destination. When you have your boxes ready line them with cotton batting, putting an extra thickness on the bottom, so as to prevent the flowers from getting chilled while standing on the cold platform of the depot or the express waggon. When you have done this, line it well with tissue paper, putting again an extra thickness on the bottom. When your box is lined you may commence packing. Lay your flowers in a row, putting a piece of tissue paper between each, so as to prevent the flowers from rubbing against each other ; then take a sheet of tissue paper, double it to a width of one inch, lay it across the stems close to the flowers, putting a tack at each end, and one or two in the middle. All the flowers should face the top ; this is easily done with all single-flowered varieties, such as Cypripedium, Lycastes, and most of the Cattleyas of the Labiata group ; many flowered varieties such as Odontoglossums, Phalænopsis, Oncidium, and many others, may be packed in the same way, only putting a tack on each side of the stem. When your box is filled lay a sheet or two of tissue paper over the top, putting a tack at each end, then turn your ends of the lining over this, which will keep the paper from rubbing against the flowers. After this is done you may nail on your cover ; if the weather is severe wrap the box in cotton batting, and over this put a sheet or two of brown paper. During the summer the same method may be used, with the exception of cotton batting.—*Joseph Manda, Jr., in Florists' Exchange.*

CHRYSANTHEMUM NOTES.

AMERICAN SEEDLINGS.

THE following comments on the new varieties exhibited at the late New York Chrysanthemum Show are taken from the *American Florist* :—When staged they presented a grand appearance and were constantly surrounded by enthusiasts, notebook and pencil in hand. The general public did not, however, pay any very special attention to this department except in the case of one or two varieties which had been well advertised. The number of seedlings shown was probably not as large as last year, but the average of quality was far ahead, the exhibitors having learned, apparently, the uselessness of bringing a lot of stuff inferior to already existing varieties. The approach to symmetry and regular fullness of flower was very apparent to one who has observed such collections in past years, ragged, twisted, open eyed, and generally eccentric characters seemingly having been gradually hydridized out of existence. Only an occasional Pompon or Anemone was to be seen. A great many of the seedlings were shown under number. A description of these, no matter how good, would be of little use, so only the best of those exhibited under name will be referred to here. Not less than six blooms of each variety competing were required to be shown, and in all cases with long stems. Awards were as follows :—Best white to W. S. Waby for The Queen, an immense incurved, improvement on Flora Hill. Best yellow to Pitcher & Manda for Mrs. F. L. Ames, a brilliant orange-yellow, very robust, style of Lincoln. Best pink to John Keane for Pride of Englewood, a handsome flower, but hardly a pink, nearer to a light garnet rather.

For best bronze to E. G. Hill & Co. for Robt. McInnes, approaching in colour Mrs. C. H. Wheeler, but much fuller in centre. For best any colour to E. G. Hill & Co. for Mrs. J. W. Crouch, an immense incurved amaranth. For any variety exhibited previous to 1892 but not yet in commerce, to F. T. Underhill for Emily Ladenburg. For best collection of seedlings not yet in commerce, to J. N. May for a set of about thirty-five varieties.

Certificates of merit were given to the following varieties : Exhibited by J. N. May, Thos. H. Brown, a large incurved bright pink, very early ; Gloriana, bright lemon, petals incurving and very broad ; Fascination, pale lemon, in way of Rohallion ; Yellow Queen, very early, petals broader than Mrs. J. G. Whilldin ; Portia, a soft pink, in way of Bride of Roses ; Miss Frances Thorley, an immense white ; Truth ; Summit, white reflexed, a perfect globe ; Creole, dark scarlet, somewhat in style of Emily Ladenburg.

To E. G. Hill & Co. for W. G. Newitt, a big white, style of Mrs. E. D. Adams. To Thos. H. Spaulding, for M. B. Spaulding, a splendid light yellow which was certificated at Philadelphia last year ; for Wm. Plumb, a lovely flower resembling Ada Spauldiug, but deeper in colour, as regular in form as a Dahlia, but possibly not quite large enough for prevailing demand. To Daille-douze Bros. for Wm. Brown, a strong robust grower. To Thos. Monahan for Black Beauty and Goliath. To Geo. Bennett for Ada Strickland, an exceedingly fine bronze Anemone. To Pitcher & Manda for Mrs. Leslie D. Ward, a hirsute buff-bronze, full double, and for Mrs. Bayard Cutting, an enormous flower in way of Mrs. Irving Clark, but better form, pink, shaded to violet-rose in centre, showing up especially well in the evening.

THE ROYAL GARDENS, KEW.

ON Tuesday a deputation from the Town Council of Richmond waited upon Mr. Shaw Lefevre, First Commissioner of Works, to urge that Kew Gardens should be thrown open to the public at an earlier hour than twelve o'clock on week-days. The object of the deputation having been spoken to by Alderman Burt (the Mayor), and others,

Mr. SHAW LEFEVRE, in reply, said that he had every sympathy with the general object which they had in view. The question of the earlier opening of Kew Gardens was, however, an old story, and not altogether free from difficulty. In 1883, as First Commissioner, he went into the subject, and with some difficulty persuaded the Treasury to sanction the expenditure of some £200 or £300 for the purpose of opening the gardens at twelve instead of one o'clock, and the Treasury, in giving their sanction, sent a minute to the department giving their reasons for so doing, but warning them that they thought the interests of the public generally must be considered in future rather than those of the neighbourhood. He had recently been further considering the question, and he had referred the matter of expense to a committee, which was now sitting investigating the subject of the labourers' wages at Kew and the royal parks generally, and until he knew accurately what the real cost of the arrangement which the deputation suggested was, he could not come to a final determination upon it. It was certain, however, that the expense would not be inconsiderable. The park-keepers were now employed as labourers in the early morning, but at 12 o'clock they donned their uniform and appeared in the capacity of parkkeepers. He disputed the statement that not much watching would be required in the gardens in the early morning in consequence of the paucity of the number of people, for the director assured him that it was just when there were few people about that most watching was required. The gardens were now, and had been for some time, open to the public on the morning of Bank Holidays, and notwithstanding that the railway companies advertised it very largely, it was a strange fact that comparatively very few people arrived before twelve o'clock. It must also be borne in mind that there was a great interest in

another direction—namely that of the scientific men, who were allowed the privilege of frequenting the gardens in the morning, and Sir Joseph Hooker, the then director, report a few years ago very strongly against the privilege being withdrawn. A large number of persons now availed themselves of that regulation, and he had received letters from gentlemen interested in the gardens objecting to the withdrawal of the privilege by the general admission of the public. Amongst others he had received a letter from an eminent scientific man, Mr. Alfred Wallace, a distinguished land nationaliser, who no doubt would have special views of the subject upon public grounds. He mentioned those facts to show that there was something to be said on the other side, but whether it should prevail against the more public interest, if there should be a general public demand from London for the purpose of using the gardens, was a matter which he would have carefully to consider.

GREEN FLOWERS.

People who have the reputation of being rather "green" are not held in very high esteem, and usually are regarded as stupid. We are generally rather disposed to think very much the same of flowers when they come green, and it is only the stupidly curious who are ever seeking for some form of sensation, who care for such floral eccentricities. The mention last week of the need for several policemen to protect from the vulgar throng a bloom of Florence Davis, at Birmingham, either showed that undue interest in the variety had been previously created by the announcement that it was a Green Chrysanthemum, or else its tendency to come greenish was thought was the case.

This is just one of the flowers, however, the which is all the more beautiful the less green colour found in it, and the tint is often far from being detectable. We have not yet found an abnormal green form such as the Dahlia has, and in those sometimes produced we don't want to see it either. When a bloom exhibits a green tint we may take it for granted that it is less flower than foliage. The absence of colour, and of course at the same time of fertile organs, show that the flower is only a make believe, and has no reality. It is happily the case that of Chrysanthemums Florence Davis is almost if not absolutely the only one that gives any evidence of foliage colour.

It is not a tint which ever can be attractive in flowers; we find in leafage such a body or wealth of green, that flowers of the same hue are almost abhorrent. Nature has kindly made green to harmonise with every colour found in flowers, but it is very discordant when found in the flowers. When we produce plants that have white, yellow, red, or crimson foliage, then we may be amused if not gratified to find that green flowers sometimes result. —*A. D.*

CHRYSANTHEMUM SHOWS.

Ayr.

The fifth of these shows which have been held by the Ayrshire Horticultural Society, took place on Wednesday, November 23rd, in the Town Hall. Horticulturists and other interested visitors on entering the exhibition and glancing around would soon perceive that the wonted enthusiasm characteristic of the cultivators of the now renowned Chrysanthemum was by no means on the decline in the district and county of Ayr. Most of the pot plants were as usual effectively arranged on either side of the central promenade. The remarkable feature of this season's show was its uniform excellence. Reverting to pot plants larger specimens have been included in some of the exhibits on at least one former occasion, but taking the whole display it was generally admitted to be the best since the society started these shows in 1888. In the contest for the three best pot specimens, any variety, Mr. Halliday, Ayr, came to the front with exceptionally handsome and well-flowered examples of Ornementes, La Triomphante, and Bouquet Fait, all Japanese sorts. Good specimens were also shown in a separate class for Japanese sorts by Mr. Gautz, Glendorme. Mrs. Dixon and Mrs. Rundle were well represented in the incurved section by Mr. Halliday, while Mr. Thomson, Airlie House, a noted grower, won first honours in the Anemone flowered and Pompon classes, his plants of the latter, viz., Nelly Rainford and Souvenir d'Elise Dordan being admirable specimens. Mr. Thomson was also first for a trained Chrysanthemum, variety Satinella, also a Pompon.

There has certainly never been a choicer collection of Japanese cut blooms staged at any of the society's former shows. The leading prize in this section was awarded to Mr. Halliday, whose stand included massive examples of Louis Bœhmer, Meg Merrilees, Ralph Brocklebank, Avalanche, and Elaine. Mr. Watt, Blackhouse, Skelmorlie, was first in the class for six blooms of Japanese with a superb stand, comprising Condor, E. Molyneux, W. H. Lincoln, W. W. Coles, Bouquet d'Dame, and Louis Bœhmer. Mr. Watt was also second in the class for six blooms of any sort, with no less meritorious flowers. He also staged the best bloom in the hall with W. W. Coles. The same bloom also secured the special prize as the best Japanese example.

On the first prize stand of incurved blooms, Mr. Halliday again presented well-finished specimens of Mrs. Heal, Lord Alcester, Golden Queen of England, Miss M. A. Haggas, and Alfred Salter. The best incurved bloom in the hall, Miss M. A. Haggas, was also selected from this stand.

Amateurs' pot plants and cut blooms were also a remarkably good display, especially noticeable being the exhibits of Japanese varieties of the latter staged by Mr. McQueen, Mauchline. His specimens of Sunflower, M. Bernard, and Avalanche could not have been easily surpassed. Other flowering plants that lent gaiety to the hall were Roman Hyacinths, Cinerarias, Primulas, including some choice specimens of P. obconica in good bloom. There was also a collection of admirably arranged Chrysanthemum bouquets placed for competition, and a varied assortment of plants and flowers for exhibition from the local nursery firms. The fruit section comprised a number of fine dishes of Apples and Pears, and also several stands of Grapes, among which there was noticeable some well coloured examples of Gros Colmar and Black Alicante, the first prize bunches of he latter being of handsome size and form.—*Western.*

Faversham.

The Faversham Chrysanthemum Society held their sixth annual exhibition on November 16th and 17th at the Institute. Year by year a steady improvement has been made by this society, both in the number and quality of exhibits, and this season every available space was occupied by exhibits of exceptional merit, the single-handed gardeners and cottagers coming well to the front, both in trained plants and cut flowers. Two very fine groups of Chrysanthemums were exhibited, and the first prize went to Mr. South. The groups of miscellaneous plants were very effective, and attracted much attention, and that of Mr. Bourne, who obtained first prize, was considered the finest group ever exhibited at Faversham. Groups of twelve untrained plants were well represented, and the prizes awarded to Mr. G. Akhurst, Mr. T. Creed, and Mr. H. Bourne in the order named. The cut blooms were of good quality. The Bronze Medal of the N.C.S. in the gardeners' class for the best incurved was won by Mr. South with a superb bloom of Lord Alcester. In the amateurs' class for the best incurved Mr. G. Goldfinch secured the N.C.S. Bronze Medal with a very fine bloom of Violet Tomlin, and Mr. E. Bryant's incurved Japanese L'Automne was as perfect as it is possible to find a flower, and easily secured him the certificate for the best bloom in this class, notwithstanding the fine blooms of Boule d'Or and Etoile de Lyon in the stands of other exhibitors. Amongst the other prize-winners in this class were Mr. E. Hill, Mr. L. Jackson, Mr. F. W. Spendiff, and Mr. C. Stidolph. In the cottagers' class Mr. E. Mannock was first with Mr. Bunn, and Mr. Anderson in the Japanese class with Mr. H. Cannell. Reflexed blooms are always well shown at this exhibition, and the Cullingfordi flowers of Mr. E. Hill were of excellent quality.

The collections of vegetables of both gardeners and amateurs were said by the judges to be among the finest they had seen exhibited anywhere in the county this season. Among the miscellaneous exhibits not for competition was a very fine display of Potatos, Apples, and Pears, and some good blooms of new varieties of Chrysanthemums put up by Mr. F. T. Hart, of Ospringe Nursery, in his usual attractive style.

Mr. T. F. Bing also showed a fine collection of fruit, and the exhibit of pot plants and floral decorations by Mr. W. Longley was of excellent quality.

THE VEGETABLE GARDEN.

The Herb Border.

This useful part of the kitchen garden is generally to be found in the most out-of-the-way corner, and left undisturbed for years. This may do very well where only a very few are required, but when a constant supply of good herbs is wanted every day in the year some regular system of cultivation must be employed. The best plan is to have two pieces of ground allotted to their culture, one piece to be replanted every spring. If only one piece of ground is used the plants are allowed to get old, and when it is really compulsory to replant them a scarcity is likely to occur until the bed gets re-established. Now with two distinct sets of beds in use this cannot occur, even supposing the beds are only one-half the size of those generally made; and the roots in the old beds will be useful for forcing, especially such things as Mint, Tarragon, Chives, etc.

Some of the roots will, of course, be required to make the new beds. Some again, such as Thyme, Sage, etc., are best raised from seeds. If the system above advised of planting a new set of beds be carried out every spring, say early in March before the very busy time comes on, so that we have always one bed undisturbed of each sort to cut from, there will be no fear of a scarcity of good herbs, which is one of the little things which causes great inconvenience if it does occur.

In selecting a piece of ground for a herb border it is very much the best to have a narrow border close to a path. As it is a place we so often have to go to in all kinds of weather, it is liable to cause a lot of dirt on the walks unless the herbs can be reached without going far on to the ground.—*G. H. S*

General Work.

The weather being so mild and wet great care must be taken of all the Lettuces, Cauliflowers, Endive, etc., in the cold frames. Take the lights right off on every favourable opportunity, and when wet tilt every alternate light back and front to give a free circulation of air. Remove all decayed leaves to prevent further mischief. While it is too wet for kitchen garden work, quantities of leaves should be got together for making hotbeds and leaf soil. I never remember seeing the weeds grow so much during November as they have done this year, and there have been very few opportunities of clearing them off.—*G. H. S.*

Jerusalem Artichoke—Sutton's White.

This is a decided improvement on the old red variety. From tubers planted last spring we are now lifting very fine Artichokes. Clean, well-formed tubers with shallow eyes, and a skin of the purest white. It is altogether a better shaped root and not so rough or irreular as the old form. Lovers of this useful winter vegetable should add this to their lists another season, as it is deserving of extensive cultivation.—*W. N.*

FRUIT CULTURE IN RELATION TO THE ALLOTMENT SYSTEM.*

That hardy fruits of the very highest quality can be grown to perfection in this country was proved beyond cavil at the Grand Exhibition held in the Town Hall in October of last year. It was a most regrettable fact that so few persons (comparatively) availed themselves of the opportunity of seeing things so good for food and so pleasant to the eye. The object lesson set forth at that exhibition was of very great importance indeed, and the promoters have reason to assume that the effects of that gathering had a beneficial influence. The proceedings were published, and, as you know, contained matter of great practical value to the cultivator, contributed by experts whose knowledge of the subject was the outcome of their own experience and observation. These proceedings were distributed free of cost to a large number of fruit growers and others interested in the subject. It seems to me that in no way can the objects of a botanical and horticultural society be more efficiently accomplished than becoming as it were a centre towards which all the practical improvements made in its vicinity shall tend, and from which they may again be disseminated to fructify in a wider circle. In looking over the published proceedings in con-

* A Paper read by Mr. Bruce Findlay at the fortnightly meeting of the Manchester Horticultural Improvement Society, held on November 24th, 1892.

nection with the Fruit Congress of last year there are, of course, many inferences to be drawn. The president of the first day's conference, the Earl of Derby, with his characteristic judicial calmness, made a few observations which I think deserve most careful consideration. His lordship said, "that every expedient which tends to increase the value of English soil and leads to the profitable employment of labour upon it deserves our serious attention." It seems to me that this statesmanlike utterance is pregnant with meaning. We think that the extension of fruit culture in this country will tend very much to "increase the value o English soil;" and on this ground I say, without fear of contradiction, that the subject with which we are dealing is of more importance than the subjects of Home Rule for Ireland or the Extension of the Parliamentary Franchise to Women.

We all know (or whether we know it not it is so) that we are absolutely dependent upon the vegetable world for our existence; this is, of course, a sim le elementary fact, but I fear that the bulk of mankind are prone to forget first principles. There seems to be a tendency in this age to "leave the elementary principles," and "go on" to, alas, not "perfection," but things of a baser sort. I suppose that it will be admitted without controversy that the food we eat (whether animal or vegetable), the raiment we wear, the fuel we burn, and all the elegancies of life come to us from God's works, as set forth in the vegetable kingdom. And, further, when we are suffering from disease and sickness, from what source does the medical practitioner derive his remedies? In nine cases out of ten the "vegetable kingdom." Seeing that these things are so, why, I ask, should our rulers in this country be so backward to recognise the importance of this matter under consideration? If a vote on account is proposed in Parliament to purchase some works of art, costing the nation a million of pounds, there is not much difficulty in passing such a resolution. But if it is proposed to spend a few thousands in connection with agriculture or horticulture, the "items" shake empty heads and cry "madness."

We had a local illustration of this spirit not so very long ago. An exhibition was held at Old Trafford called the "Royal Jubilee Exhibition." Manchester was justly proud of that exhibition; it was a success in every sense of the word, and why was it so? In the first place, because it was a magnificent display, and, secondly and mainly, because we had glorious summer weather throughout the season. I have never seen that the directors in their report acknowledged their indebtedness to this factor. I have no doubt whatever but that these same gentlemen with their Ship Canal experiences have found out their absolute nothingness and their entire dependence upon a higher power than themselves. If they had to battle with weather like 1892, depend upon it, the surplus would have been very small indeed. But what I have to say is this, that in dealing with the surplus they gave it to a something called the "Whitworth Institute," and a considerable sum was spent upon pictures.

This subject of fruit culture in connection with the soil is not modern. Lord Derby, in his admirable address, said most truly that "in the southern counties fruit-growing has been studied as an art for centuries." The orchards and gardens of Kent are spoken of by travellers with admiration as early as the seventeenth century. The earliest notice of British pomology is that by Richard Arnold, a citizen of London, who published his Chronicles in 1502, in which work he dedicates a chapter, "The crafte of graftynge and plantynge and alterynge of fruits as well in colour as in taste." The art of grafting is the subject principally treated of in this work, a proof that the science had attained some degree of advancement even at this early date. Arnold, as a pomological author, was followed by Sir Henry Platt Gerard, Lawson, Parkinson, Abercrombie, and others, and last, but certainly not least, by the late Mr. Robert Thompson, of the Royal Horticultural Society of London, who has done more, particularly in the arrangement of the nomenclature of fruits, than all the others together.

In the excellent address given by Mr. Baillie, of Chester, at the congress held last year, he stated that he thought a considerable quantity of waste land might be utilised by planting fruit trees, and instanced railway embankments. Now it seems to me that before these positions could be of much use for fruit-growing a very large expenditure would take place in providing suitable soil. Then, again, there is the question of police. We read in the Old Book of the tree of life planted in the garden of Eden, and that this tree was protected by keepers with a flaming sword which turned every way to meet trespassers. If our railway embankments are ever planted with fruit trees, I think that a very considerable number of "flaming swords" as keepers would be required. There is at the present time a larger quantity of land devoted to the cultivation of fruit than has been the case at any previous period in our history, but this has only been brought about very recently. "For many years prior to 1887, the system of granting garden allotments to agricultural labourers and to others of our rural populations had been established." The returns showing the number of allotments granted from the date of the passing of the Allotments Acts in 1887, prove that a very large number of people have availed themselves of the privileges of this Act. For many years prior to the passing of this measure it was well known that the agricultural labourers of this country had not the same interest in the soil as they once had. Every village and district of country readily afforded examples of patches of land having been consolidated with a larger tract belonging to some wealthy person in the neighbourhood. A constant dissevering of the land from the limited holders had thus been going on for several centuries. Though a necessary consequence of the improved state of agriculture, the decay of the cottar tenantry was an evil which was not sufficiently appreciated.

It seems to me consistent with sound policy to let every English labourer, when practicable, have some certain provision uninfluenced by the fluctuations of the labour market to which he might resort in time of need. My recommendation is that, however small, he should, if possible, have his share of the land. History speaks loudly and distinctly on this point, and traces the melancholy fate of the most powerful empires and states to the cutting off of every particle of the soil from those who were so closely attached to it. I wish not to be misunderstood on this important point, and beg to state that I entirely disapprove of any and every scheme which means confiscation and robbery; equality of possessions cannot surely be entertained seriously by anyone. The inequality of individual disposition and faculties must ever thwart the idea of a uniform distribution of wealth, and the absurd idea may be at once dismissed. But there can be no doubt, I think, that it would be well if possible to admit all into the benefits of the social compact, for the man who rents a perch of land is invariably found to be a better subject than he who is without any. He is more disposed to obey the laws of his country, and more energetic in spreading abroad a love for those laws, just because he knows that to them he is indebted for the preservation of his little property.

So true is this, writes Mr. Grigor, "that a statistical statement, indicating the safety and influence of any Government, might be accurately framed from the state of the poor with reference to their holding in the soil." Chartism springs up not among the occupiers of the ground. Those who watch narrowly the calendars of our assizes fail to discover a rickburner to have been known at the time to hold a plot of land. It is pretty evident then that in urging any system for investing the labourer with a handful of the soil, the plan morally and politically is free from objection. This, surely, is a great point to gain. To start him in a course which the Government of the country and all those who are interested in the cause of morality may equally applaud might be taken at once as a substantial proof of its goodness. Sir John Benet Lawes has a very valuable article on this subject, which is published in the proceedings of the Royal Agricultural Society of England. He says, "the passing of the Allotments Acts of 1887 and of 1890, and of the Small Holdings Act of 1892, is evidence of the public interest taken in recent years in the position and future prospects of the agricultural labourer. Stated in a few words the object of the first two of these measures is to facilitate the acquirement of areas not exceeding one acre, mainly, therefore, for the provision of what may be called garden allotments, as distinguished from small agricultural holdings. The object of the more recent measure is, on the other hand, to facilitate the acquirement of areas of more than one and not exceeding fifty acres, that is, for the acquirement of small farms."

The records which are available enable us to form a fairly approximate estimate of the impetus given to the extension by the discussion and by the passing the Allotments Acts. The following figures seem to me rather startling. The number of allotments in Great Britain in the year 1873 amounted to 246,398, and in the year 1890 to 455,005. The increase per annum between the years 1873 to 1886, a period of thirteen years, amounted to 8,569, and from the years 1886 to 1890, a period of four years, 24,302. It is noteworthy that the rate of annual increase in the last four years has been apparently three times as rapid as between 1873 to 1886. Clearly then there has been a great increase in the acquirement of allotments directly or indirectly under the influence of the Allotments Acts of 1887 and 1890, and it is probable that the increase will continue for some time to come. Nor can there be any doubt that such allotments are a very great boon, especially to rural populations. Indeed, the fact of the rapid increase in their number, which the figures indicate, is of itself sufficient evidence of the appreciation of them by those whose position they are intended to improve. It is another matter, however, whether the sanguine anticipations of those who have so strongly urged the importance of providing by enactment facilities for the acquirement not only of allotments but of small holdings will be realised. As every year sees an increasing number of the rural populations flocking into our towns, it is not unnatural that the urban populations should ask why those who have been born upon the land should not be able to earn a living upon it. The subject is one of great national importance, and it certainly is desirable that it should be freely and fairly discussed on its merits without reference to party politics.

I have very little faith in the "various ways" by which some propose to better the condition of the agricultural labourer. A "variety of measures" is, in my opinion, quite incompatible with his capacities, whose powers are altogether centred in the soil, and in sowing and reaping its products. Out of this element he is timid and helpless, but in it all his powers seem to be gratified, and the desire he evinces to become possessed of a patch of land to cultivate on his own account is little short of a passion.

The late Mr. James Grigor, of Norwich, in an article upon this subject, says: "This subject is of the deepest importance, and seldom indeed have the offices of humanity been exercised on a theme more sacred or interesting. It would be little short of stupidity to disguise the fact that the security of every nation must depend very materially on the condition of the labouring classes. The greater the distance between them and the higher orders in the enjoyment of common rights, the more unsafe will be the state of society in that community, and the more frequent those broils and disorders which impair the stability of a nation."

I do not for a moment consider that the best system of allotments would be a universal panacea applicable to every labouring man. Some there are, I know, who consider the whole system as Utopian. Inconsiderate friends, again, in talking and writing about it, have pronounced it to be the realisation in a great measure of the state of perfect existence which poets have sighed for, and that which will sooner or later possess the land. But poets, as a rule, are ill qualified to judge of what is practically beneficial, and that in the allotment system there is no poetry except that which springs from hard well-directed work concentrated upon a small piece of ground. If anything will possess the whole land, it is the same hard work. If ought will deepen the green hue of our crops, or cause them to wave more luxuriantly over the glebe, it is the contents of the manure tank carefully and judiciously applied; and, certainly, if white and trim cottages are to rise in the wake of the industrious, it would be difficult to find a reason why they should not in the case of those systematic workers who labour in their own allotments. If such things form suitable themes, poets are welcome to praise them, but it is mere folly to connect the results with aught except the "sweat of man's brow," and the important accompaniments of forethought and skilful management. Those who expect to see every man indiscriminately enjoying himself "under his vine and fig tree" are sadly mistaken. Such a scene will never, I fear, be realised upon this earth.

(*To be continued.*)

THE JUDGES AT THE INTERNATIONAL HORTICULTURAL EXHIBITION.

See Supplement.]

We have much pleasure in presenting our readers this week with a portrait group of the judges appointed to make the awards to the permanent exhibits at the International Horticultural Exhibition held at Earl's Court during the past summer, and which we doubt not will be welcomed as a souvenir of the exhibition by those who in any way assisted in making it a success, and perhaps equally so by those distant readers to whom the distinguished horticulturists whose portraits are given are known by name and repute only.

In the centre of the group is that prince of decorative florists, Mr. John Wills, of the firm of Wills & Segar, Onslow Crescent, South Kensington. Mr. Wills is a Somersetshire man by birth, and while gardener many years ago to Sir Philip Malpas de Grey Egerton, at Oulton Park, Cheshire, and subsequently to Captain Starkie, at Huntroyde Park, Lancashire, made a name for himself that became a household word among gardeners as the introducer of Viola cornuta as a bedding plant into English flower gardens, and as the raiser of a number of fine Golden tricolor and bicolor Pelargoniums, and other bedding plants at the time when bedding out was just becoming a mania. Coming south to London some twenty-five years or more ago, Mr. Wills quickly came to the front as a floral decorator; he may indeed be said to be the father of this particular line of business, and his work has never been excelled. This is not the time to recount what John Wills has done for the decorative phase of British horticulture, but certain it is that gardeners in general, and market growers in particular, owe him a deep debt of gratitude, the one class for the innumerable and invaluable lessons he has taught them in the decorative art, and the other for the immense impetus which his demands for decorative materials has given to their business. Our genial, kind-hearted old friend does not now take any great interest in public matters connected with horticulture, but the Gardeners' Orphan Fund, of which he is a member of the Executive Committee, and the Gardeners' Royal Benevolent Institution still happily number him among their most generous supporters.

On Mr. Wills' left is Mr. Harry Turner, of the Royal Nursery, Slough, a worthy son of a worthy sire, and a gentleman to whom the exhibition authorities are greatly indebted for constant and loyal co-operation in the organisation and management of the flower shows. A keen florist, and a good worker in the horticultural vineyard is Mr. Harry Turner, and to know him in private life is to greatly respect him, for he is good hearted, a good musician and a man of most amiable disposition.

Next to Mr. Turner sits the Chairman of the Floral Committee of the Royal Horticultural Society, and Chairman of the Gardeners' Orphan Fund Committee, Mr. William Marshall, of Auchinraith, Bexley. Mr. Marshall has all his life been a devoted worshipper at the shrines of horticulture and entomology, and takes as keen an interest in his British Ferns and hardy plants now as he did with his Orchids when he was winning prizes with them thirty years ago. Mr. Marshall was for some years a member of the Council of the Royal Horticultural Society at the time when the provincial shows of the society were paying and successful ventures, thanks largely to his business tact and capacity and unbounded energy. Mr. Marshall was also one of the founders, and one of the original trustees of the United Horticultural Provident and Benefit Society, and his warm heartedness, bonhomie, perfect impartiality, and business capacity make him an ideal Chairman of the Orphan Fund. In connection with the International Exhibition Mr. Marshall accepted an honorary office as guide, philosopher, and friend, in the matter of selecting the judges and looking after that section of the work generally, and how well those important duties were discharged by him goes without saying, for a better man could not have been found for the post. On Mr. Marshall's left is Mr. George A. Sims, Land Steward to Baron Ferdinand de Rothschild, M.P., at Waddesdon, near Aylesbury, whose service he entered some eighteen years ago as gardener.

On Mr. Wills' right is Mr. Henry Williams, only son of the late much-respected Mr. B. S. Williams, of the Victoria and Paradise Nurseries, Upper Holloway, and now the proprietor of that famous establishment. Mr. Williams closely follows in the footsteps of his revered father, and he cannot have a better model. He is a member of the Committee of the Gardeners' Royal Benevolent Institution and of the Orchid Committee of the R.H.S.; he has also served on the Committee of the Gardeners' Orphan Fund, and can always be depended upon for willing aid in the case of the charities Mr. Williams as an exhibitor greatly assisted the Earl's Court authorities, and his house of Orchids and insectivorous plants was one of the permanent and most interesting horticultural features of the exhibition.

Mr. George Cooke is gardener to W. E. B. Farnham, Esq., Quorndon House, Loughborough, Leicestershire, and a man of excellent parts. He is a sound practitioner in all departments, and specially successful in the cultivation of Orchids and Pitcher-plants, of which latter most interesting tribe he has been successful in raising some fine hybrids. Next to Mr. Cooke is Mr. A. Mackellar, gardener to H.R.H. the Prince of Wales at Sandringham, and formerly gardener to the late Duke of Roxburgh at Floors Castle, Kelso, and who is claimed by those familar with his work to be one of the smartest young gardeners who ever came out of Scotland. Behind him stands Mr. James Boyd, jun., of the firm of James Boyd & Sons, horticultural builders and heating engineers, of Paisley, and a man of rare ability in his profession. In all parts of the country is to be found substantial evidence of the good work of Mr. Boyd and his firm, and, may we add, not a few of our young friend's puns, for he is an inveterate punster when in the mood.

Mr. Owen Thomas, as gardener to the Queen at Windsor, is the right man in the right place. As gardener at Drayton Manor, at Impney Hall, and subsequently at princely Chatsworth, he displayed excellent capacity as a cultivator, and this ability, with his rare tact and unfailing courtesy, are qualifications which stand him in good stead in the honourable position which he now holds. Mr. Peter Blair is gardener to the Duke of Sutherland, at Trentham, and son of that very worthy old gardener, Mr. Blair, of Shrubland Park. He was formerly with Messrs. Veitch & Sons, at Chelsea, and succeeded the late Mr. Zadok Stevens at Trentham, where by his skill and assiduity he has made a name for himself as a gardener of which any young man may be proud. Mr. F. Sanders, of St. Albans, is the "Orchid King," well known throughout Europe and in many other parts of the world as the largest importer of Orchids of his generation. Orchids have passed through his hands in untold numbers, and the names of the new things which have been introduced by him and his collectors are legion—certainly far too many to be enumerated here. Mr. William Iceton is the proprietor of the Granard Nurseries, Putney Park Lane, S.W., whose specialty is Palms, of which he has always a superb stock. Though he received no early training in his business, he took to plant cultivating as a duck takes to water, and was the first to do Palms in large quantities in this country. He annually forces such things as Lily of the Valley in immense quantities, and, besides Palms, grows a large number of other useful decorative subjects, and grows them well, none better.

Mr. A. F. Barron, of Chiswick, is perhaps more widely known and respected than any other horticulturist in Great Britain, and that is saying a great deal, but not too much. For some thirty years he has been superintendent of the Royal Horticultural Society's Gardens, secretary of the Fruit Committee, and manager of the society's exhibitions, a position requiring a wide range of knowledge, a cool head, and good temper under all circumstances, and these are qualities which Mr. Barron possesses in an eminent degree, and which have gained for him the friendship and esteem of all who know his sterling worth. Fortunate indeed were the promoters of the Gardeners' Orphan Fund in inducing Mr. Barron to undertake the honorary duties of secretary, and well was it too for the poor orphans, for very largely indeed is the rapid growth of the fund due to the persistent, yet unobtrusive, labours of himself and his family.

Next to Mr. Barron stands Mr. Peter E. Kay, of Finchley, a genial, kind-hearted man, in whom the gardening charities, and numerous other charitable objects have a constant and generous supporter. Mr. Kay is a man of wide renown as a grower of fruit, and especially of Grapes, for market. He is indeed one of the magnates of the business, standing second to few in the extent of his cultivation, and second to none in the quality of it. He is perhaps the largest grower of the Cannon Hall Muscat in the world, and certainly he can never have been surpassed in his success with this shy-setting but otherwise noble Grape. Mr. Kay's vineyard is a thing to see and to dream of; it cannot be described here.

The last name to be included in this list is that of Mr. Frank Todman, who was not one of the judges, but who, as the Messrs. Bertram's able and courteous manager of the refreshment department, administered to the creature comforts of the judges on many occasions, and earned high encomiums from all.

There were three other judges on the list, namely, Mr. Jaques, gardener to Baron Ferdinand de Rothschild, M.P.; Mr. Smith, gardener to Lord Rosebery at Mentmore; and Mr. Wythes, gardener to the Duke of Northumberland, at Syon House, but they were not present when the photograph was taken at Earl's Court by that skilful photographer, Mr. Vernon Kaye, of 4, Onslow Place, South Kensington.

STRATHALLAN CASTLE.

The country seat of Viscount Strathallan is situated in West Perthshire, in one of the most lovely portions of Strathearn, about mid-way between Stirling and Perth. Three approaches lead to the Castle. I entered at the southern one, which will be about a mile in length. The first part of the drive runs through a fine plantation, thickly wooded with Larch and Spruce, and as an undergrowth Rhododendron ponticum has been extensively planted, no doubt as cover for game. Emerging from the plantation the first peep of the Castle is seen. It is a commanding edifice, built of stone, which in the distance resembles the old red sandstone. Pursuing my journey towards the Castle I became enraptured with the huge monarchs of the wood that surrounded me on all sides.

Standing in front of the Castle and looking north, a splendid view of the Grampian range of mountains is obtained, and on the south side some six miles distant are the Ochil Hills. The Castle is a modern structure of fine proportions, surrounded by a velvety lawn, sloping terraces, sparkling fountains, and a rippling brook, all of which enhance the grandeur of the fine building.

Moving onward through the pleasure grounds and shrubbery the kitchen garden is soon reached. This is enclosed by a stone wall, and trained up its sides are many choice varieties of Peach, Apricot, Plum, Apple, and Pear. Strathallan gardens have long been famed for their admirably trained fruit trees, and under the care of such an able and intelligent gardener as Mr. Fernie they are not likely to lose any of their reputation. On the outside of the wall there is a gravel walk running right round, on both sides of which there are splendid borders filled for the most part with small fruits, those with a south exposure are used for early Potatos, etc. At the time of my visit the kitchen garden was well stocked with all kinds of vegetables, the demand for them being very great, especially during the autumn. Numerous gravel walks run through the garden, and at each side are borders filled with herbaceous plants suitable for cutting purposes.

A move is now made towards the houses, of which there are three Vineries, one Peach house, one stove, one greenhouse, and several pits. It could be seen at a glance in passing through that Mr. Fernie is a man of action more than of words; considering the short time he has been gardener at Strathallan, it is simply marvellous the many improvements he has made. Still there are many more that he intends to carry out during the present winter, relaying of Box, widening of walks, etc. So ended my short and pleasant visit. Much more might be said about Strathallan gardens, but I am afraid that I have occupied too much space already.—*J. McNab.*

Venice in London at Olympia.—The ticket benefit in aid of the Gardeners' Orphan Fund, which we announced in our last issue, will take place during the next and following weeks. The tickets, which can be obtained from the leading nurserymen and seedsmen, from any member of the Executive Committee, or from Mr. Barron, Chiswick, will be identical with those sold at Olympia for similar amounts and entitle the holder to similar seats. Payments made at the doors will not benefit the fund, and we beg our friends to remember this.

JAMES BOYD, JR. A. MACKELLAR. OWEN THOMAS. GEO. COOKE. P. BLAIR. HENRY WILLIAMS. F. SANDER. W. ICETON. JOHN WILLS. A. F. BARRON. H. TURNER. P. E. KAY. WILLIAM MARSHALL. F. TODMAN. GEO. A. SIMS.

JUDGES AT THE INTERNATIONAL HORTICULTURAL EXHIBITION, EARL'S COURT, 1892.

PALMS AT UPPER HOLLOWAY.

For decorative purposes in various ways, Palms come in useful at all times of the year, but more especially so in winter. The leathery character of the leaves is well adapted for resisting the dry atmosphere of rooms, and provided they do not require a very high temperature, they can be kept for a considerable length of time in such places without material injury where only a moderate amount of gas is kept burning.

There are several houses through which Palms are distributed in the nursery of Messrs. B. S. Williams & Son, Upper Holloway, but the bulk of the most useful kinds for general decorative purposes are kept in a large house near the main entrance and close by the office. Here a great number of Palms are stored away at all times of the year ready for use. Being a high roofed structure all the tall ones are accommodated in it, arranged along the back with the smaller ones in front, so that the whole forms a regularly sloping bank of elegant and graceful foliage. The larger plants in this and similar collections consist of Latanias, Kentias, Seaforthias, Phœnix, and similar things of that nature.

Some of the tallest and most useful plants consist of Kentia Forsteriana, with tall upright petioles and graceful, pinnate leaves. Compared with the size and height of the plants, they occupy a relatively small amount of space, and are therefore more easily accommodated than plants of the same size and age of K. Belmoreana. In the young state the latter is fairly useful and graceful for table decoration, but when they get large, a few plants with their long spreading leaves would require a house to themselves. For the centre of circular groups in the middle of a room they might prove serviceable, where the ceiling is low, but they would be relatively ineffective in large rooms with plenty of head-room. Here the upright leaves of Kentia Forsteriana, like those of Cocos plumosa, take the palm for stately elegance. Then again the leaves prove very accommodating when they come to be tied up for packing or removal from place to place. They are pliable and do not readily snap in the process of tying up like those of Seaforthia elegans, which used to be such a favourite on account of its umbrella-like head of foliage.

There are several other garden varieties of Areca, such as A. australis and A. Mooreana, presenting minor differences. That known as A. lutescens is always acceptable in collections on account of its graceful habit and slender, wiry, yellow petioles. A. Canterburyana is to be compared with A. Forsteriana only after it attains a considerable size, for then it becomes more elegant than in the early stages. When young it bears but a few leaves, with broad and not very graceful pinnæ. The species of Rhaphis, including R. flabelliformis and R. humilis, are very useful for decorative purposes, but especially the latter. Every part is slender and attractive. Numerous small plants of it in this house would suggest the fitness of this species for associating with such plants as Aralia gracillima, Crotons, Dracænas, and other plants used for table decoration.

In another house we noted a batch of Livistona rotundifolia with perfectly circular and fingered, fan-shaped leaves. The plants stand about 9 in. high, twice as far through, and carry about a dozen leaves. The leaves are of a light shining green. The plants are in 32-size pots, but have quite recently been potted on from a smaller size. Cocos Weddeliana may be seen in various sizes, including a large batch of quite miniature, but elegant seedlings. The leaves are said to stand the dry atmosphere of a room much better than those of Geonoma gracilis, another Palm of very similar habit. A graceful plant, something in the way of some of the Kentias, is Ravenea Hildebrandtii, a species coming from the Comoro Islands. The nearly upright petioles are almost cylindrical, bearing a linear, lanceolate, arching, pinnate lamina, the pinnæ being drooping and linear. A very different-looking Palm is Nephrosperma Van Houtteanum, better known as Oncosperma Van Houtteanum, and sometimes as Areca nobilis. The arching leaves are 2 ft. to 2½ ft. long, pinnate and arching, with long, drooping, linear-lanceolate pinnæ. The petioles are furnished with numerous long spines, like those of Acanthophœnix. It is a native of the Seychelles, and was introduced in 1868. Another beautiful Palm with pinnate leaves is Elaëis melanocca, which was recently certificated.

The snowy-leaved Wax Palm (Ceroxylon niveum) is a bold and telling subject of quite a different appearance from any of the foregoing, and takes rank amongst the broad-leaved Palms that show off their massive grandeur best by contrast with the slender and graceful leaved kinds. In the young state, say, when the leaves are about 2 ft. long or more, they are elliptic and interrupted here and there along the margins with broad, truncate and dentate teeth, indicating future division. They are leathery or rigid in texture, deep green above and of a silvery white beneath, owing to a dense coating of scurfy matter. Another by no means common Palm with massive leaves, is Verschaffeltia splendida. The oblong leaves are bifid at the apex and more or less of a red tint, while the petioles are furnished with bristly and sharp spines as in the case of Oncosperma. Many others might be mentioned, but the above will give an idea of the general collection, and also of the great variety of kinds that may be seen in the nursery.

Odontoglossum grande.

ODONTOGLOSSUM GRANDE.

This splendid Odontoglot, the largest and finest of the genus, has been so often imported during the past 50 years, and is so plentiful that it has come to be regarded as a common Orchid, and is not nearly so much esteemed as its merits deserve. It was discovered by the late Mr. G. Ure Skinner, in 1839, near Guatemala, and it flowered for the first time in this country in 1841, at Woburn Abbey, Beds. It is an amateurs' orchid *par excellence*, and being of easy growth and flowering through the winter months, every lover who can command an average amount of heat should certainly have it in his collection. It is a special favourite with Mr. David Lord, of Stackstead, near Manchester, who is very successful in its cultivation, as the accompanying illustration of one of his plants will show.

CHRYSANTHEMUMS AT CHILWELL.

Situated about three miles from the town of Nottingham and near to Beeston Station are the nurseries of Messrs. J. R. Pearson & Sons, where for about four weeks at this season of the year is to be seen such a splendid lot of Chrysanthemums in flower as cannot fail to be fully appreciated by the hundreds of growers who journey there from far and near. This year the show is indeed a grand sight, the plants well clothed with foliage and bearing flowers of extraordinary size. The firm is well to the front with new varieties, and amongst the many worthy of note may be mentioned J.C. Schwabe, grand, John Farwell, very large, Mermaid, blush, very fine, Edwin Lonsdale, deep purple, Wm. Tricker, pink, incurved Japanese, Dida, primrose, splendid, Vice President Darquier, Gloire de Rocher, Emily Doone, Puritan, Florence Davis, Viviand Morel, Louis Bœhmer, W. W. Coles, Avalanche, Stanstead White, and Colonel Smith, all of which were carrying blooms of splendid size in the Japanese section; and many scores of perfect blooms of all the best varieties in the incurved section testified to the skill and energy with which the firm cultivate them. Mrs. Robinson King, Empress of India Lord Alcester, Queen of England, and Robert Cannell were all splendid, and good examples also are seen of Flora Macdonald and Noel Pragnell, two promising new incurved varieties.

The great house in which the bulk of the plants is arranged has a path down the centre this year, and a very wide bank of plants on each side, profusely bloomed bushes of the best single varieties also being placed on each side of the entrance. Another large span-roof house is devoted to late kinds only in bud at present, while a long span-roof is full of seedlings, and amongst these hundreds of plants which are from seed sown in February there are several of great promise, one Jap. variety in colour resembling Triomphe du Nord, and another large white Jap. being very fine. A large single white which has been named Mrs. C. Seeley is also a fine thing.

Thriving batches of Eucharis bristling with spikes, double white Primula in full bloom, a long house of Zonals all ablaze with colour, and a collection of Apples grown on young trees in the nursery were all worth a note, besides a big batch of Cœlogyne cristata in 6 in. pots, in most robust health, and another batch of Zonal Pelargonium Turtle's Surprise of surprising floriferousness. Although the last mentioned are all interesting to gardeners, the show of Chrysanthemums alone induces crowds of people to come from Nottingham and districts on Thursday and Saturday afternoons especially.

Chrysanthemum Soup.—At a little dinner recently given by Mr. John Thorpe an appropriate delicacy was Chrysanthemum soup, in which choice Japanese flowers, finely chopped, formed the flavouring. Mr. Thorpe says it was good, too, and his guests seem to agree with him.—*American Florist.*

PRIMULAS & CYCLAMENS AT CASTLE HILL.

THE Chrysanthemum season being pretty well over, it will soon be time to reckon upon other classes of flowers to supply a needed want. Of ordinary florists' flowers the Chinese Primula and Persian Cyclamen naturally claim attention during the winter months. Numerous fine strains have been worked up, so that it is difficult to see where improvement can be made. Larger flowers both of Chinese Primulas and Cyclamens can be obtained, but it is at the expense of number in the case of the latter, and at the expense of fertility in the former. Where extremely fine flowers of very large size of Chinese Primulas are selected, the varieties are found to produce but a limited number of seeds, even when carefully fertilized.

We recently examined Mr. Robert Owen's Imperial strain of Chinese Primulas at Castle Hill, Maidenhead. There are numerous varieties, all grown in 48-size pots, but it is only fair to say that the plants are only commencing to bloom, and will hardly be at their best till February. The varieties are named so as to indicate the colour, such as Carmine, Magenta, Violet Purple, Crimson, and Blue. The colours in each case are very rich, indicating careful selection of the plants intended for seed. Of the blue there are several shades, varying from a very pale to a deep hue. As a rule, cultivators prefer the darkest shade of this colour. Pure white varieties are represented by batches having the ordinary type of leaf and also those with fern-leaved foliage, and in both cases they are very choice. There are some very beautiful laced varieties amongst the single types. That named Rose-laced has rose flowers edged with white, the latter following the outlines of the much-cut edges, giving a very pretty effect. There are also purple and pink varieties laced in the same way. Curious in its way is a white variety bordered with irregularly shaped pale rose blotches; if the latter were a little more intensified it would be more effective. There are several semi-double varieties that are regularly perpetuated from seeds, including a delicate, bright pink one, that is certainly fine. Another of the same type is pure white, or faintly tinted with blush.

The Cyclamens are more decidedly in season, and will continue to throw up flowers for a long time to come. The pure white flowers of the Giganteum strain are wonderfully pure and effective. Another white variety, named Butterfly, is notable for its spreading flowers—that is, the segments instead of being erect are spread out horizontally like a butterfly on the wing. Others of the ordinary type have rose, deep purple, crimson, and white flowers. Considerable differences may be noted amongst the latter, for some have long and others have short and broad, rounded segments. A strikingly distinct variety has been picked from amongst the others. In their early stages the flowers are of a deep rosy red or purple, but as they become fully developed they acquire a dark bronzy, crimson, metallic lustre, of a shade which is very difficult to describe as it is uncommon.

AMERICAN VIBURNUMS.

Viburnum Opulus is now so well known and so commonly planted that any further notice of it does not seem necessary. It occurs all over the northern hemisphere; and it is, perhaps, worth recording that there are now growing in the arboretum plants raised from seed sent from Northern China, which are much more ornamental in flower than either the North American or the European forms; the sterile ray flowers, being twice as large and rather more than an inch across, while the anthers, instead of being green, are bright purple. The plants are perfectly hardy, and this variety should be better known and generally planted.

But the most beautiful of all the American Viburnums, as far as concerns the flowers, is V. lantanoides. It produces, like Viburnum Opulus, neutral ray flowers around the outside of the cymes, and these are very large and pure white. The leaves are broad and thick, and in the autumn turn to a brilliant scarlet colour. Naturally this plant grows under the dense shade of trees in the northern forests, which it cheers in early spring with its great cluster of flowers, and again in autumn with the bright colours of its leaves. It is a difficult plant to cultivate, and we have heard of a single instance only where, brought into the garden from the woods, it has been made to grow successfully. Mr. Dawson has found that grafted on the European Viburnum lantana, it grows stronger and more vigorously than it does on its own roots, and his stock of grafted plants now gives promise of ultimate success. It is such a beautiful plant, and one so well suited to flourish under the shade of trees, that serious efforts to get it established are well worth making.—*Garden and Forest.*

ABIES AS FOREST TREES.

ABIES ALBERTIANA (Prince Albert's Fir—or, as it is now called by botanists, Tsuga Mertensiana—is one of the finest and hardiest of Jeffrey's introductions from the north-west of America, which he sent home to Oregon Association in 1851. It is already tolerably common in Scotland, although seldom met with except in ornamental grounds in the other divisions of the United Kingdom. It is seen thriving and growing with marked rapidity in many northern districts, as well as at rather high altitudes, wherever it has been planted with ordinary circumspection, and it is likely to prove one of the most useful, as it is one of the most graceful, of the new Conifers introduced by the Scottish Society. At Balmoral, Aberdeenshire, planted twenty-six years ago, it has attained a height of 35 ft., with a girth of 2 ft. 6 in., at an altitude of over 900 ft., and of the many trees growing there, all seem to be perfectly at home. At Castle Menzies, Perthshire, it is 72 ft. high, and 5 ft. 9 in. in girth; at Munches, Kirkcudbrightshire, 69 ft. high, and 4 ft. 3 in. in girth; at Riccarton, Mid-Lothian, 68 ft. 6 in. high, and 3 ft. 2½ in. in girth—these being noted places for fine collections of Conifers, and where this tree was planted soon after its introduction to this country, exactly forty years ago. At the Cairnies, Perthshire, at an altitude of 630 ft, it is 63 ft high, and girths 6 ft. 9 in., the greatest girth recorded. At Dolphinton, Lanarkshire, at an altitude of 830 ft., it is 55 ft. high, and 3 ft. 6 in. in girth, raised about twenty-seven years ago from home-grown seeds.

ABIES DOUGLASII (Douglas's Fir)—now known to botanists as Pseudotsuga Douglasii—is a grand tree in every respect, and so far has proved to be the most valuable Conifer introduced to Britain since the Larch reached our shores early in the seventeenth century. It was one of the first Conifers sent home by Douglas to the Royal Horticultural Society, in 1827, from the North-west of America, and worthily bears the name of that intrepid explorer of the primeval forests of the Far West. It has long been a favourite with the tree-planter, and under suitable conditions no tree grows more satisfactorily. Of late years it has been freely used as a plantation tree, raised chiefly from home-grown seed, which is produced in abundance. It is thus raised in large numbers at a comparatively small cost, so that it can be planted in quantity as a forest crop at about the same rate as ordinary forest Conifers, all of which it quickly leaves far behind in height and girth of stem. To see it at its best as a forest tree at the present time one has to visit some of the Perthshire estates, where for many years it has been more frequently planted than any other one of the newer Conifers. At Scone (of which David Douglas was a native), Murthly, The Cairnies, and many other places, it is planted in quantity, thriving well in the woods, under ordinary treatment, along with the common coniferous trees, and occasionally forming plantations by itself, as on the Scone Estates. The tallest tree recorded is the famous Douglas Fir at Dropmore, Buckinghamshire, which is 120 ft. high and 11 ft. in girth. The equally famous trees—there are two of them—at Lynedoch, Perthshire, are respectively 91 ft. 9 in. high and 12 ft. in girth, and 72 ft. 2 in. high and 11 ft. 2 in. in girth. These fine trees grow in a free, loamy soil, at an altitude of 340 feet, in a tolerably well-sheltered spot near the small river Almond. They are the oldest trees of the Douglas Fir in the district, and were planted in the year 1834.

ABIES GRANDIS is another of the giants introduced by Douglas in 1831, from North-west America, which grows with great vigour in the British Isles under much the same conditions as the Douglas Fir, and, not being at all fastidious as to soil, it is sometimes seen outstripping that rapid grower on poor and cool ground. The tallest tree recorded grows at Riccarton, Midlothian, 83 ft. 3 in. high and 3 ft. 8½ in. in girth; this particular tree having been carefully measured by the owner, Sir James H. Gibson Craig, Bart., and found to have grown 53 ft. in height in the last twelve years, or an average of 4 ft. 5 in. annually—a most remarkable growth, and showing what the tree can do in a fair soil under good treatment. The late baronet of Riccarton, Sir James's father, was a leading member of the Oregon Association, and the collection at Riccarton, which has always been tended with the greatest care, is at present the finest in the county, and contains many beautiful specimens of new and rare Conifers. The next tallest tree is at Dolphington, a high-lying estate at the south end of the Pentland Hills, where the owner, John Ord Mackenzie, Esq., an enthusiastic admirer of Conifers, has grown them with great success for many years, and his Abies grandis is 68 ft. high and 5 ft. 5 in. in girth. The tree with the thickest stem in Scotland grows at Poltalloch, Argyllshire, and girths 7 ft. 9 in., with a height of 64 ft.

ABIES MENZIESII (Menzies' Spruce)—or, as it is now called by botanists, Picea sitchensis—is still another of the giants of the forests of North-west America, which in suitable soils of a moist, cool nature has made remarkable progress in Britain, particularly in Scotland, and in some parts of Ireland, for which it seems specially well adapted.—*Malcolm Dunn, Dalkeith, in the Journal of the Royal Horticultural Society.*

CHRYSANTHEMUMS AND THE MILD WEATHER.

THE continuance of mild weather through the month of November shows what may be done with Chrysanthemums, that is, late flowering ones, without any special care beyond planting, staking, and keeping them free from weeds. By planting them against a wall or a close wooden fence in a sunny position, their flowering could be rendered more certain, even in seasons that were not very favourable. In such a position protection could be afforded by means of a light covering of tiffany or some similar material. There have been several sharp frosts already during the past autumn, freezing the plants so much in the open as to cause them to hang their heads, yet not a bloom seems to be injured when they come to expand. In the face of these facts it seems strange that those who grow their plants for exhibition should find such injury result from a single night's exposure, should there happen to be frost. It would mean that highly fed plants are more susceptible to injury from frost than those that receive no attention whatever. *A priori* it seems difficult to reason why they should be so tender.

In many gardens this autumn, Chrysanthemums, both named and nameless, have been flowering profusely without any protection whatever, and in some cases those that have been growing with perfect exposure on all sides have done much better than those huddled up in close proximity to shrubs. When originally introduced to this country many varieties proved to be not only hardy, but capable of producing a large quantity of flowers useful either for garden decoration or for cut flower purposes.

Some of those in flower at the present time are Empress of India, Mrs. Sharpe, and a sort named Bardeer, all incurved varieties. The blooms of the first named are not of large size, but regularly incurved. The last named has bronzy rose-coloured flowers of good size, but not much incurved. Of the three Mrs. Sharpe is no doubt the best for outdoor work on account of the great quantity of flowers it produces. The crown buds are incurved, moderate in size and rose-coloured, with a nearly white centre. The others, which are the most copious, are of a bright rose, without the slightest evidence of injury from either cold or wet. When grown under glass the flowers are only of medium or small size, and rose-pink in colour, For pot work the variety is most suitable for growing into trained specimens.

In the way of Japanese varieties Lady Selborne produces a large quantity of bloom, branching freely all along the upper part of the stems, and furnishing a large quantity of bloom suitable for cut flowers William Holmes is also a very free-flowering sort. producing its blooms in heavy clusters near the top of the stems. A Pompon, variously named Beauty of the Garden, President, and William Murray,

flowers very freely in many widely separated gardens. The flowers are of good average size, regularly and compactly imbricated, and of a deep rosy-purple, ultimately fading to a much paler shade. Under glass, especially when disbudded, the flowers attain a much larger size. The mildness of the season is also pretty well indicated by the fact that Boule de Neige is now opening its white flowers beautifully. It is usually considered a midwinter flowering variety even under glass.—*Mum.*

GARDENING MISCELLANY.

NIDULARIUM SPLENDENS.

The utility of the Bromeliads for general decorative purposes is not very widely recognised in this country. The rigidity of the leaves and their ability to withstand a dry atmosphere are characteristic of the family. When making their growth some of them delight in a dry atmosphere, others prefer a moist one. The majority of them may be kept for some time in dwelling rooms even in winter, when a fire is kept burning at least during the day. The Nidulariums may be kept in good condition for months. As a rule the members of this genus are in perfection just when they come into bloom, while the foliage of several is handsome at all times. The leaves of N. splendens are ligulate, spiny toothed at the edges, deep green, spotted with olive green, and arranged in a neat vasiform tuft. The central ones surrounding the flower spike are short and of a bright carmine red with green tips. The flowers nestle in the midst of these brightly coloured leaves or bracts, and the petals being deep blue with white edges, they show off boldly by contrast. There are some fine flowering plants of it about 6 in. or 8 in. high in the nursery of Messrs. B. S. Williams & Son, Upper Holloway.

MARANTA ROSEO-PICTA.

The leaves of this species are roundish or oval, and stand about 6 in. high, forming a mass covering the pots. The blade itself is 3 in. to 5 in. long and 3 in. to 4 in broad, of a deep rich green with a rosy midrib bordered with an irregular grey band. A broader but similar band of irregular outline traverses the entire leaf on each side of the midrib but nearer the margin than the latter. The under surface is of a uniform violet purple and adds much to the handsome appearance of the whole. The plant may be described as having the same habit and style of growth as M. Veitchii, but it is dwarfer and neater, and may be grown to perfection in 48 or 60-size pots, as may be seen in the nursery of Messrs. B. S. Williams & Son, Upper Holloway.

A SMOOTH-LEAVED PANDANUS.

As a rule, gardeners like those plants best which are not spiny, particularly plants that entail frequent handling. Some of the species of Pandanus, including P. javanicus, have some of the spines pointing forwards, while the rest are directed backwards. The latter prove troublesome when the plants are being handled in shifting them about, and also when being sponged. All this inconvenience is entirely avoided in the case of P. amaryllidifolius, which has ligulate, channelled, and arching, smooth leaves of a rich dark green. Their shape and general appearance are very similar to those of an Amaryllis, hence the name. A few small and weak serratures may be seen near the tips of the leaves, but that is all that reminds us of the usually spiny character of the members of this genus. The plant is far from common in this country, but we noted it in the rich collection of Messrs. B. S. Williams & Son, Upper Holloway.

AMARYLLIS MRS. WILLIAM LEE.

The great bulk of the garden varieties of Hippeastrum, best known as Amaryllis, flower during the spring and summer months. A. aulica and A. reticulata flower during autumn and winter, and are therefore valuable on that account. Mrs. William Lee is a variety of the latter and a very pretty one too. The leaves are larger and have got the same white midrib as the type, but it is not of such a pure ivory white. The flowers on the contrary are larger and more brightly coloured. They are funnel-shaped, lined and netted with warm rosy veins on a pink ground. The ornamental value of the plant is greatly augmented by the fact that the leaves are evergreen, not deciduous as in the case of the spring and summer flowering kinds. The number of flowers on a scape is also greater than what is customary amongst the better known kinds, and varies from four to six. A good representative collection of all the types is grown by Messrs. B. S. Williams & Son, Upper Holloway, where numerous plants of Mrs. William Lee were flowering finely the other week. As the flowers are developed in succession, a display is kept up for some considerable time.

BEGONIA SEMPERFLORENS ROSEA.

The old B. semperflorens was originally introduced in 1829, but does not seem to have acquired great popularity until comparatively recently, and the coloured varieties more especially have taken the public fancy, including such fine things as B. s. carminea gigantea, B. s. rubra Vernon's var., and others. There was an old variety under the name of B. s. Frau Maria Brandt, having rose-tinted flowers and a dwarf habit. The plant under notice is not particularly dwarf, but will attain a height of 18 in. or 2 ft. There is a fine plant of it in the nursery of Mr. Robert Owen, Castle Hill, Maidenhead, where it originated as a chance seedling from B. s. atropurpurea. The branching stems bear a great quantity of flowers of a light rosy-pink. Under glass at least the leaves are of a bright, shining green. The leaves of this variety B. s. atropurpurea, when grown out of doors in the summer time, acquire a deep bronzy, metallic lustre. The variety rosea might behave in the same way if placed under the same conditions. It may be grown both for summer and winter decoration.

RASPBERRY PLANTATIONS.

Where not already done cut out all the old fruiting canes and tie new ones in, giving preference to the strong well-ripened canes. If wire is used tie in 4 in. apart, if to a stake six will be found plenty for each stool. Cut close to the ground the remaining growths to give light and strength to the fruiting canes. Clear off coarse weeds and give a good mulch of manure or any other top-dressing at hand. I ought to have mentioned not to cut the canes back to the required height until growth commences next spring. —*W. N.*

APPLE GOLDEN RUSSET.

The fruit of this variety is of medium size, broad at the base, and suddenly tapered upwards to the eye, which is closed or half open, and set in a shallow, lightly plaited basin. The skin is light yellowish-green in places, but the most of it is clouded all over with a thin russet. The sunny or exposed side often appear as if varnished over with a bright shining red. There are also numerous small russety specks of a deeper shade scattered over the whole surface. The flesh is of a pale yellow, almost white, tender, but crisp, and briskly but agreeably acid or aromatic, and above all creating a desire for more. It is a first-class dessert variety, lasting in good condition from November to March. The tree grows well and fruits freely, but requires a warm situation to bring out the qualities of the fruit to perfection in cold or northern localities. At Chiswick, where it is grown in the gardens of the Royal Horticultural Society, the fruit is of excellent quality.

JACQUEMONTIA VIOLACEA.

About three dozen species of Jacquemontia are known to science, but very few of them are in cultivation. They are closely allied and similar to the Ipomœas, and are likewise climbers requiring stove treatment. The specific name of that under notice is somewhat misleading, inasmuch as the flowers are not violet but of a clear, bright blue, not very intense. The flowers are produced in clusters of five in the axils of the leaves, and that fact recalls another name which has been given the species, namely, Convolvulus pentanthus, meaning the five-flowered Convolvulus or Bindweed. The leaves are heart-shaped. The plant keeps on flowering from midsummer till late in the autumn, or practically till winter, for it is still flowering in the stove at Kew.

CLETHRA ARBOREA VARIEGATA.

There are two varieties of this greenhouse tree, a smaller form than the type and the variegated sort under notice. Neither of them are by any means common. The small or medium sized flowers are produced in long racemes, and have been compared to those of the Lily of the Valley. The variegation in this case consists of broad but irregular patches of pale yellow covering great part of the leathery, evergreen leaves. Greenhouse temperature is all that is necessary during the winter months, for the tree may be stood in the open air in summer. Grown as standards, it is very handsome when in flower, and may be used in the conservatory at that time, or in the hall of the dwelling house. The variegated sort we noted in the gardens at Falkland Park, South Norwood Hill.

ORCHID NOTES AND GLEANINGS.

Orchids in the Black Country.

When visiting the Dudley district recently, I derived considerable pleasure in looking through the collection of Orchids now in course of formation by Mr. Williams, of the Durham Ox Inn, Upper Gornal. The genial proprietor is well known throughout the length and breadth of the Black Country as an enthusiastic florist and a keen exhibitor. Formerly he devoted considerable attention to the culture of the Auricula, and I am under the impression that he looks back with pleasure and pride upon some of the battles he fought and won as an Auricula exhibitor. He then turned his attention to the culture of the Rose and to all kinds of stove and greenhouse plants without the slightest relaxation of his indomitable energy. It is scarcely necessary to say that here again he was equally successful.

Latterly he has been devoting a good deal of his spare time to the cultivation of Orchids, and the results have been surprising. At the time of my visit there were some fine Cattleyas in bloom, mostly C. labiata autumnalis vera, C. Warocqueana, C. Bowringiana, and C. Harrisonæ; in addition, there are some grand varieties of Dendrobium Phalænopsis Schroderiana, whose semi-pendulous racemes were very striking and effective. Altogether the show was most creditable and well worth seeing.—*J. McNab.*

Cypripedium Leeanum superbum giganteum.

A race of Cypripediums has been raised from C. insigne and C. Spicerianum, and by using fine types fo both as parents wonderful improvements have been made upon the old form known as C. Leeanum. C. insigne Maulei was used as the seed-parent in one case, and this gave rise to C. Leeanum superbum, which was a great acquisition in its day. Several large-flowered forms have since made their appearance, including one which we were shown last week by Messrs. Charlesworth, Shuttleworth & Co. It measures 5 in. across the petals and 2½ in. across the dorsal sepal. This latter may be considered the finest feature of the flower, because the greater part of it is pure white spotted with purple, the small basal area being pale green. The greenish-yellow petals are spotted with brown, and like the pollen-parent are wavy along the upper edge.

Cypripedium Niobe.

Numerous as are the hybrid Cypripediums, there are always some that stand out pre-eminently as different from the others. One of these is Niobe, the upper sepal of which is nearly round, and white suffused with pale purple and having deeper veins, a dark mid-rib, and pale green at the base. The petals are wavy on both edges, yellow along the centre, and otherwise of a rosy hue. The lip is of a deep brown. It was first exhibited before the public on the 10th December, 1889, and ever since it has flowered regularly about the same time of the year, earlier or later according to circumstances, but always lasting in good condition for a considerable time. A First-class Certificate was accorded it on the occasion mentioned. In habit it closely resembles C. Spicerianum, which was the seed-parent, while C. Fairieanum was the seed-parent. It has been flowering for some time past in the nursery of Messrs. J. Veitch & Sons, Chelsea.

Dendrobium McCarthiæ.

The large flowers of this Ceylon species are very showy and distinct, but they would appear much larger if displayed to the best advantage. This they are not, for the flowers hang downward, and the lip being almost erect under the petals and upper sepal, it is greatly hidden by the latter. If the sepals and petals were spread out, the aspect and bearing would be more like that of D. Phalænopsis Schroderianum. They are of a soft rosy-purple. The lip is large, obovate and incurved at the sides;

the general colour is somewhat similar to that of the sepals, but there is a crimson-purple blotch in the centre, and the tip is deep purple, while there are many purple spots at the base. The species is now getting rather rare in a wild state. We noted it flowering in the gardens at Falkland Park, South Norwood Hill.

Cattleya labiata.

THE Cattleya house need hardly be dull at any time of the year with the numerous varieties of C. labiata, one or other of which may be in bloom at all times of the year. The typical old species is now very plentiful in every collection of any importance, making gay the dull autumn months. There are numerous pieces of it in the Orchid houses at Falkland Park, South Norwood Hill, and hardly two of them are exactly alike. One has short pseudo-bulbs with a dark cuneate blotch on the lip. Some of them smell deliciously of Tuberoses or something very similar. There are four fine flowers on a spike in one case, and they measure 7½ in. across the petals; the petals are 2½ in. across, while the width of the lip is 2 in. The sepals and petals are rosy mauve, and the lip which is similar has a small cuneate, rich-purple blotch on the lamina and a yellow blotch on each side of the throat. No doubt some would consider that if the dark terminal lobe of the lip of some of the other varieties were placed on this, it would make a grand thing. On the other hand if all were worked up to this standard there would he nothing left for variation. As it is we consider it distinct and well worthy of a place in the collection. The dark-lipped varieties, and the scented ones all serve to add interest to the whole.

Cypripedium Pitcherianum Williams var.

IN this fine variety we see the utility of using the best coloured forms as parents. It was raised from C. Harrisianum superbum crossed with the pollinia of C. Spicerianum. The upper sepal is very large, rolled back at the sides, ovate and white suffused with rose and light green at the base. The influence of C. Spicerianum is seen in the claret coloured midrih. The petals are also of large size resemhling those of C. Harrisianum, the upper longitudinal half being of a deep shining brown and the lower one yellowish. The lip is of a deep dull purple. The effect of the-pollen parent is also seen in the wavy upper edge of the petals. The variety was raised hy Messrs. B. S. Williams & Son, Upper Holloway, with whom a considerable numher of seedlings have been brought to the flowering stage, and all have proved to be identical in all respects. The first of them commenced to flower in four years from seed and are now five years old. A few plants have not yet reached the flowering stage, and may be different judging from their tardiness and slow progress. The reverse cross from the same parents shows by the much smaller size of the flowers, that the seed-parent has most potency in this respect.

Cypripedium vexillarium superbum.

THE original C. vexillarium has always been much admired on account of the strong resemblance it bears to the pollen-parent, C. Fairieanum. Judging from analogy with other hybrids, one would readily suspect that the latter species was the seed-parent. C. barbatum is, however, credited with that honour. The leaves of the variety under notice are oblong and tessellated with deep green. The one-flowered scape is about 12 in. high, and therefore robust compared with that of C. Fairieanum. The upper sepal is hroadly ovate and suffused with rose on a white ground, with numerous deep purple or vinous veins almost covering the central portion. The petals are strongly pendent or declinate, wavy on the edges, and rosy purple with a paler midrib. The lip is comparatively narrow and deep purple. The whole plant is neat and compact yet robust and easily grown. We noted it in the collection of Messrs. B. S. Williams & Son, Upper Holloway.

WHAT TO DO IN THE GARDEN.

Gardenias.—Cuttings for an early batch of plants may be taken off now and rooted. They will take longer time to emit roots than cuttings taken off in spring, but they will be better established before the fine weather sets in, and therefore ready to grow away rapidly. They will also flower earlier without hard forcing, so that where Gardenia flowers are much in request this batch will prove serviceable before the rest is ready.

Ardisias.—As a rule Ardisia crenulata, and occasionally its white fruiting variety, are all that are grown in gardens, but the numher of kinds might be increased to advantage. A. polycephala, with black fruit, and A. mamillata, with red fruit, are very suitable for cultivation in the stove, as are A. crenulata and its variety. On the other hand, the deep red or crimson fruited A. japonica will stand a lower temperature, and is therefore useful for the greenhouse, where it may be kept during the winter months while in fruit. All may be raised from seeds, which should be sown at once by those who want to add them to their stock or increase it.

Ruellia macrantha.—The few cultivators who have already made their acquaintance with this fine plant find it very useful at this time of the year in the decoration of the stove or warm conservatory. The flowers are several times larger than those of the other Ruellias in cultivation, and of a warm rose colour. The treatment it requires is similar to that of the other Ruellias, Eranthemums, and allied plants, and when well grown and bushy is an object of beauty during several of the autumn and winter months.

Carnations in pots.—To bring out the flowers in their best form, the plants must be kept in a house where a minimum night temperature of 50° is maintained, and kept as near the glass as possihle, giving judicious ventilation at all times when the weather is favourable. Too low a temperature cripples the flowers while expanding, but too much fire heat with a close atmosphere makes the flowers puny.

Chrysanthemums.—As the plants go out of flower the stems should be cut down, and the plants placed in a pit, where the young shoots will he encouraged to make sturdy growth. In taking cuttings for next year's stock, all plants that have heen highly fed should be avoided if possible; indeed, it would be a good plan to have a few young stools in the open ground of every variety required, to furnish the requisite stock for next year's work, as well as to plant out again for cuttings.

Vineries.—If the earliest house was closed about the beginning of last month, the buds of the Vines will now be commencing to push. In that case the minimum night temperature may gradually be increased to 60°, with a rise of 10° early in the day, so that every encouragement may be given the Vines to grow during daylight. Top air may be admitted on bright days to prevent the temperature from rising too high. Syringe the rods frequently with tepid water during the day to encourage growth. The evaporating pans should also be kept filled with diluted liquid manure. Artificial heat must he used to dispel damp in houses where Grapes are still hanging.

Figs on open walls.—In localities where protection is considered necessary for Figs, the work should be set about without further delay, as we cannot depend upon the weather remaining so mild as it has been for the past two months. Rampant suckers from the base of the tree should be cut away, unless they are required to fill certain bare portions of the wall. Cut away all those shoots which were shortened back in summer to encourage the development of the fruit they were carrying, provided always there is a good young shoot to take its place. Having thus reduced the bulk of the plants by the removal of the useless wood, the rest may be tied up in bundles for the winter and protected by matting or bracken.

Plums on walls.—On old trees, the spurs are liable to get crowded and too far removed from the wall. The duty then of the pruner is to remove the older and longest spurs so as to leave more space for those that remain. The greater amount of sunshine and air that can be given them in this way, the better the fruit will be. See that all the main branches are well secured and safe from being broken down in summer.

Peaches on walls.—It is a common practice to delay the pruning of Peaches and Nectarines till spring, but the advantage is a doubtful one. One great disadvantage is that other kinds of work become pressing as the season advances, and Peach trees if left untied or unnailed till then entail a great amount of work. The shoots that bore fruit last summer should be cut away to make room for the young wood that has been left for this purpose at the summer pruning. Well ripened shoots will require very little shortening so long as they do not interfere with the shoots next above them.

QUESTIONS AND ANSWERS.

HANDBOOK OF THE IRIDEÆ.—*J. W. G. Parnell*: This book has been written by Mr. J. G. Baker, of Kew, in exactly the same style as the *Handbook of the Amaryllideæ*, and both are published by Messrs. George Bell & Sons, York Street, Covent Garden, at 5s. each.

PRITCHARDIA GRANDIS.—*Young Irishman*: Another name for this plant is Licuala grandis, which is considered hy botanists to be the correct one. The original and large old plant in Europe was sent to the Royal Gardens, Kew, some ten years ago or thereby. Since it made its appearance at London, England, many young plants have heen raised by various leading nurserymen in London, and we believe also that the leading nurserymen on the continent of Europe have got it. We know that it was pretty plentiful with the London nurserymen a few years ago, and we do not think you would have any difficulty in getting it.

NAMES OF PLANTS.—*W. Davis*: Gomeza planifolia.—*A. White*: 1, Pyrus floribunda; 2, Retinospora plumosa; 3, Spiræa Douglasii; 4, Forsythia viridissima; 5, Fatsia japonica variegata, generally known as Aralia Sieboldi variegata; 6, Agave, species not recognised.—*J. W. G. Parnell*: 1, Aster Novi-Belgii angustifolius; 2, Solidago puherula; 3, Aster lævis (not the A. lævis of gardens, which is A. Novi-Belgii densus).—*J. M. K.*: 1, Franciscea calycina.

COMMUNICATIONS RECEIVED.—D. M.—J. R.—A. H.—W. O'N.—S. H. S.—J. O.—E. A.—G. S. A.—C. T.—S. & S.—J. B. S.—J. J.

LONDON SEED TRADE.

November 29th, 1892.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, E.C., report demand for Clover seeds slow. Prices of English and Foreign Red unchanged. White Clover steady. English Alsike offers more freely, values not established. Trefoils dearer.

COVENT GARDEN MARKET.

November 30th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Grapes..... per lb.	0 6	2 0	Pine apples.		
Kent Cobs...100 lb.	120 0	150 0	—St. Micbael's, each	2 6	6 0
Peacbes ... per dozen			Apples...per ½ sieve	1 0	3 6
Melons ... . eacb			Plums...per ½ sieve		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
ArticbokesGlobe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, Frencb, perlb.	1 0		Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per buncb	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per buncb	0 6	
Carrots ... per bunch	1 0		Radishes... per dozen	1 6	
Cauliflowers, Eng.dz.	3 0	5 0	Seakale .....per bkt	3 6	
Celery.....per bundle	2 6		Smallsalading,punnet	0 4	
Cucumbers .....each	0 3	0 6	Spinach ... per strike	1 6	
Endive. French, doz.	2 6	3 0	Tomatos..... per lb.	0 9	1 0
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

POTATOES.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Begonias ...per doz.	6 0	12 0	Chrysanthemum, doz.	4 0	9 0
Cyperus .....per doz.	4 0	12 0	— large, doz.....	12 0	30 0
Dracæna term., doz.	24 0	36 0	Heliotrope, per doz.	4 0	6 0
Dracæna viridis,doz.	9 0	18 0	Marguerites, per doz.	6 0	12 0
Erica Hymalis, doz.	12 0	18 0	Mignonette, per doz.	6 0	12 0
,, Gracilis, doz...	9 0	12 0	Palms in variety,eacb	2 6	10 0
Evergreens,invar.doz	6 0	24 0	Palms, Specimen ...	15 0	63 0
Ferns, invar.,per doz.	4 0	18 0	—scarlets.....per doz.	6 0	9 0
Ferns, small, per 100	6 0	10 0	Primula Sinensis per doz.	4 0	6 0
Foliage Plants, doz.	12 0	60 0	Solanums.....per doz.	9 0	12 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s d		s. d.	s. d
Arum Lilies, 12 blms.	3 0	6 0	Mignonette... 12 bun.	3 0	6 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, 12 sps.	0 9	1 0
Carnations, 12 blooms	1 0	3 0	—scarlet.....12 bcbs.	6 0	8 0
Cbrysanthemum,dz bn	4 0	9 0	Primula, double, bun.	0 6	0 9
— .....doz. blooms	1 0	6 0	Pyrethrum doz bnchs	2 0	4 0
Eucharis ...per doz.	3 0	6 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Gardenias 12 blooms	3 0	5 0	Roses, yellow, dozen	2 0	4 0
Heliotropes,12 sprays	0 6	0 9	— French, per bnch	3 0	6 0
Hyacinths Roman doz. sprays	0 6	1 0	— Frencb, 100 blms	6 0	12 0
Lilac, Wbite, French, per bunch...	5 0	6 0	— Red..... doz. blms.	1 0	2 0
Lilium Harrisii, doz. blooms	6 0	9 0	— Saffrano...per doz.	1 0	2 0
Liliums var., dz.blms.	2 0	4 0	— Tea ..... per dozen	1 0	3 0
Lily of the Valley dz.sps.	4 0	9 0	Stephanotis, dz. sps.	6 0	8 0
Maidenhair Fern,12bs.	4 0	6 0	Tuberoses, per doz	0 3	0 6
Marguerites, 12 bun.	1 0	3 0	Violets,Parme,French per buncb ..	3 0	4 0
Mimosa (Frencb)p.bh.	1 0	1 6	—Czar, French, bun.	2 0	2 6
			—Small ,, doz. bun.	1 6	2 0

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NORMAN DAVIS

Begs to intimate that he has among the New Chrysanthemums of the present season, several of exceptionally fine quality, including the two magnificent New Crimson Japanese

William Seward

AND

J. Shrimpton,

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Goliath, largest yellow ground, grand form, 5/- per pair.
Firefly, fancy scarlet maroon, 3/6 per pair.
Boadicea, H P.E., clear ground, 2/6 per pair.

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BEAUTY OF EXMOUTH (J. Godfrey), F.C.C. N.C.S. and R.H.S.

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THE COTTAGE, STANLEY ROAD, OXFORD.

For Index to Contents see page 233.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, Dec. 13th.—Royal Horticultural Society: Meeting of Committees at 12 o'clock.
National Amateur Gardeners' Association, Annual Dinner at the Holborn Restaurant, 7 p.m.
Sale of Orchids at Bageecha, Bath, by Protheroe & Morris.
Bulb Sale at Protheroe & Morris' Rooms.
WEDNESDAY, Dec. 14th.—Bulb Sale at Protheroe & Morris' Rooms.
THURSDAY, Dec. 15th.—Bulb Sale at Protheroe & Morris' Rooms.
FRIDAY, Dec. 16th.—Orchid Sale at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, DECEMBER 10th, 1892.

THE ROYAL HORTICULTURAL SOCIETY'S COMMITTEES.—The meetings of these bodies, which will be held in the Drill Hall, Westminster, on Tuesday next, will be the last of the year. Whilst the Fruit and Floral Committees will then have met some twenty-two times each at fixed dates, and some three or four times more at irregular intervals, the Orchid, Narcissus, and Scientific Committees will have met less often, but no doubt nearly one hundred meetings at least will have been held during the year. That should in any case exhibit good work. Very few persons have perhaps taken the trouble to ascertain that at least 188 names appear on the Society's Committee lists as being members of those bodies, and of these fully 180 are distinct personages, a large number to remind monthly of their obligations, and giving certainly a powerful force of knowledge and capacity placed at the disposal of the Society.

We could wish that the Council would now and then invite all this body to take part in some social function, just to recognise the value of the work performed. Obviously many members cannot make very regular attendances, as distance forms insurmountable barriers, and to many others the travelling expenses are a heavy tax. For that reason changes amongst country members are more frequent than they are amongst those residing nearer to London, who can put in a very good record. On the other hand, it is understood that some of the country selections of members from year to year must of necessity be complimentary, because of the distance

which prevents more than one or two attendances during the year. We should still like to see an extension of the present limited practice of inviting any eminent gardener or horticulturist whose name may not be on the Committee lists to sit with one or other Committee when they may attend meetings. Nothing but good can result to the Society from following this course.

It may not be generally known that at the last November meeting of the committees, the council invite the nomination of persons who it may be thought would be suitable members for the ensuing year to fill some inevitable vacancies. This has been previously done in December, but it was found that it made the publication of the society's arrangements for the ensuing year late, hence it is now done at an earlier meeting. The plan is a very good one, as it enables the names of persons to be mentioned who otherwise might be overlooked.

THE EARLIER OPENING OF KEW GARDENS.—Eminently unsatisfactory must be the term applied to Mr. Shaw Lefevre's reply to the Richmond Deputation which waited upon him with respect to the earlier opening of Kew Gardens. Whilst professing himself in sympathy with the objects of the deputation, he seems to have talked all the other way. Sympathy of that sort is not asked for. What is asked for is this—that those fine gardens are the property of the nation, just as much as Hyde Park is; that they are maintained for the benefit of the nation, and not for that of any little select scientific circle; that to enable the public who pay for the maintenance of the gardens to have the fullest value for their money, it is imperative that the gardens shall be open to all comers at a much earlier hour of the day, and that every facility shall be afforded by the highly paid garden staff, to let the public obtain at once all possible information and enjoyment. What puerile nonsense was it for Mr. Lefevre to talk about the opinion of Mr. Alfred R. Wallace, whom he in such a matter so irrelevantly referred to as a distinguished Land Nationalist. What on earth had Mr. Wallace's views on Land Nationalisation to do with the objects of the deputation. Nothing at all. But, they are paraded because selfish scientists like Mr. Wallace would shut out the public from getting into Kew Gardens earlier, because sometimes he wants to pursue his plant studies there. Good Heavens! what trashy argument is this. How often does Mr. A. R. Wallace spend his mornings at Kew pray, and how often do other selfish scientists. Really this is too absurd, and let us say we marvel to find such stuff put forth as argument by a commissioner of works who poses as an advanced political Liberal.

The question of increased expense is based entirely on a doctrine, which ought not to find a place in Mr. Lefevre's mind—it is distrust of the public. Because the people are to be admitted two or three hours earlier in the day to their own gardens, an army of uniformed guardians is to be found at a cost of some £1500 or £2000 a year. This is truly monstrous. There is to be found ample evidence that the public do visit far more better-kept gardens than Kew and do no harm. Why then this shameful distrust and suspicion of them.

JOHN DOWNIE.—Whilst elsewhere another pen notices the life and labours of our dear, dead old friend, and the warm friend of so many other horticulturists, we cannot withhold here a tribute of esteem and strong friendship. After all, and amidst the eternal clamouring which goes on in the world for honours and titles what earthly glamour could add honours to the plain, unpretentious, homely but so eminently suitable a designation for our departed friend, as that which heads this paragraph. Essentially John Downie was a plain unvarnished man, overflowing with kindly feeling and brimful of information. He was a horticulturist to the very bone, a capable and well informed tradesman, and essentially and almost primarily a florist.

It cannot be said that he was a representative of any past generation, although an old man. He was in all his garden knowledge, practice, and tasks literally up to date. It was his good fortune always to be about. A few years ago and John Downie was met with everywhere, and any important horticultural show or function seemed incomplete without his portly presence. To all whom he knew he ever gave a very hearty, indeed, a truly Scottish welcome. Those who came to him strange, he soon made at home. He was in that respect a thoroughly national as well as horticultural representative of bonnie Scotland. Few men have died as horticulturists who left behind a wider circle of friends to mourn his loss.

Even to much younger men these departures from life of old and warm friends come as profound warnings. They lead us to perceive only too vividly how rapidly is the area of our friendships narrowing. It is true that for a few years longer we may make other friends, but none that is new can ever replace those which have been almost life-long, and of the warmest and most intimate description. There are scores of southern horticulturists who, when next they visit Auld Reekie, will miss the kindly, genial presence and hearty welcome of good old John Downie.

THE PANSY.—At length a society for the encouragement of the Pansy has been formed in London. We presume, because of its simple metropolitan title—that of the London Pansy Society—that its operations are to be limited to the metropolitan district; at any rate its title justifies such an assumption. Were London omitted and "British" or "National" substituted we should then look for greater things. Still it may be, and perhaps not with laudable intent, the promoters of the Society, desiring to promote the culture and of course exhibition of the Pansy in and around London, would prefer not to be over-shadowed with exhibitors and flowers from other and more favoured districts.

The gain in such case is of course counterbalanced by the absence from an exhibition of the fine blooms which others may have, and which would if displayed do so much to stimulate metropolitan growers to have high aims and secure the finest varieties. We hope for the Pansy better things than has befallen the Pink. In spite of efforts made to popularise that favourite hardy flower, very little success seems to have resulted, only some half-dozen at the most seem to have taken to Pink culture, and the shows were poor indeed. The Pansy is a far more facile flower, and is most easily raised from seed; still it will not do for those who may contemplate entering the lists at some future Pansy Exhibition as competitors to depend upon seedlings to furnish them proper show flowers.

Seedlings will give myraids of showy border flowers, but relatively few that are fit to play a prominent part in a competition. There are literally hundreds of fine varieties in commerce. Happily, and doubtless it is the hope of the promoters of the Pansy Society that many of these beautiful varieties may find wider cultivation in the London district. The Society has much to do in this matter, for there is hardly any hardy flower that receives more indifferent attention all through the South of England than the Pansy. Something has to be overcome in the difficulty which seems to be experienced in inducing northern raised plants to take kindly to metropolitan soils and conditions; still there is no telling what may in time be accomplished. The new Pansy Society has our warmest good wishes, and we hope it may aid in the production of a national revival of love for the Heartsease.

Royal Botanic Society.—The following are the dates fixed for the exhibitions of this society during the ensuing year:—March 22, April 26, May 17; special floral fête, June 21, and evening fête, July 5.

Manchester Botanical and Horticultural Society.—The exhibitions of this society will take place next year on the following dates:—At the Town Hall on the 14th of March and the 25th of April; special grand exhibition of Orchids and artistic groups of plants, to open on May 19th at the Gardens, Old Trafford; Rose show at the Gardens, 22nd July; Chrysanthemum and Hardy Fruit Show, 21st and 22nd November. The National Tulip Society's show and the Carnation and Picotee and Pink Societies' exhibitions will also take place at the Gardens, Old Trafford. The dates will be fixed a little later.

Preservation of Linen Cloth and Cordage.—The *Revue de L'Horticulture Belge* records a method of preserving material of the above nature by immersing them in a basin of sulphate of copper. Another method of proceeding is to treat the tissues with the blue liquour ammoniacal solution of copper, known under the name of Schweitzer's reagent, obtained by causing ammonia repeatedly to pass over the surface of copper. When the operation is conducted with skill so as to prevent dissolution, the fibres become impermeable and not liable to rot.

Young Gardeners at Kew.—The young gardeners now serving at Kew, and many who have left it have resolved to form themselves into a Guild, for the purpose of printing and publishing an annual report, which practically will consist of a list of the Kew gardeners, past and present whose addresses can be obtained. The object of this is to bring all into communication with one another—an advantage that has never hitherto existed. Two prize essays besides, interesting communications from old Kewites all over the world, will also be included in the report. To pay the expenses of printing this, it is expected that most or all past and present gardeners would contribute the modest sum of one shilling. Mr. W. Watson, the secretary, will be pleased to receive communications from old Kew men, giving their addresses and the positions they hold in the profession.

The Gardeners' Royal Benevolent Institution.—A general meeting of the members of this institution will be held at Simpson's, 101, Strand, on Tuesday, the 20th inst., at 3 p.m., for the purpose of passing a special resolution to change the original name of the institution from "The Benevolent Institution, for the Relief of Aged and Indigent Gardeners and their Widows," to that of "The Gardeners' Royal Benevolent Institution," by which it is now generally known, for the purpose of registration. And also to consider and adopt alterations and additions to the rules of the institution, recommended by the committee of management.

Birmingham Gardeners' Association—At the last meeting of this association, Mr. W. Crump, The Gardens, Madresfield Court, Malvern, read a paper on the Apple, its Varieties, and Culture, and brought with him samples of 100 varieties selected from a collection of 250 kinds, grown in the experimental garden at Madresfield. Peasgoods Nonsuch, Blenheim Orange, Golden Noble, Cox's Orange Pippin, American Mother, Ribston Pippin, Worcester Pearmain, Lane's Prince Albert, Saltmarsh's Queen, and a lot of others were excellent samples. From three to four acres have been devoted to the testing of sorts and for affording information in the district

as to which sorts do best and are the most desirable to plant. Much practical information was given as to planting, treatment, pruning, and especially root pruning, an excess of which Mr. Crump condemned, and recommended instead that in transplanting the large roots should be placed near to the surface and encouraged to form young roots.

Mushrooms in Winter—The great building known in the neighbourhood of Birmingham as the Mosely College is built to a great extent on arched cellars, affording an immense space for the cultivation of Mushrooms, which is now being carried on on an extensive scale, a large number of beds having been made during July and August, and others are being laid down as manure can be obtained. Shallow beds are made, and spawned as they are ready, with a thin covering of earth, and no other material is placed on the beds. As the cellars are not much influenced by the outside air and atmosphere, watering in the autumn and winter months is not required. Mushroom culture will go on here throughout the year, as even in very severe frost the beds would not get frozen. It is another example of the ease with which Mushrooms can be grown in cellars and outhouses; and as indicating the demand there is for fine Mushrooms it may be noted that the very large quantities grown here are all ordered to be sent as ready, and realise good prices. The college grounds, which are extensive, are now known as the Mosely Botanical Gardens, and flower shows are held there in the summer.

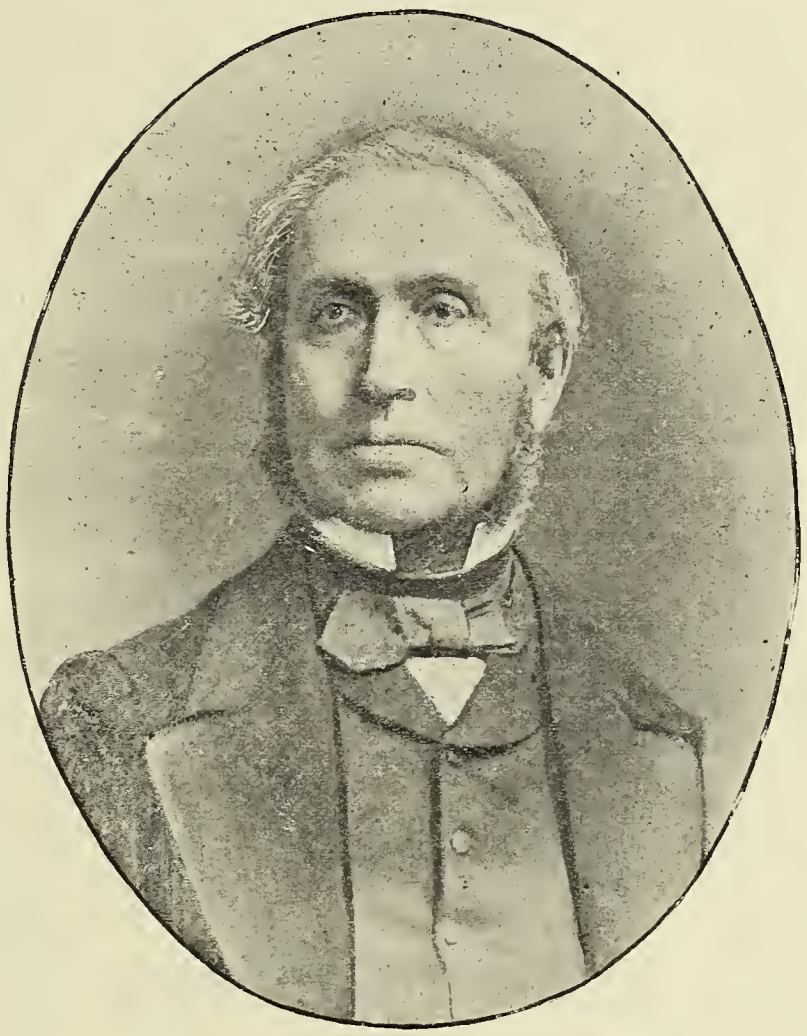
Presentation of Flowers at Liverpool—By permission of the Mayor, R. D. Holt, Esq., Mr. John Cowan, manager of the Liverpool Horticultural Company, presented Mrs. Gladstone and the Mayoress with bouquets of choice Orchids as they passed through the hall of the hotel on their way to St. George's Hall, on Saturday last, when Mr. Gladstone was presented with the Freedom of the City of Liverpool. The bouquets were handed to these ladies by Mr. Cowan's little daughter, Miss Charlotte A. Cowan, aged nine, and consisted of flowers of the beautiful Cattleya labiata autumnalis, which has created so much interest among Orchid growers for the past twelve months, also the flowers of Lælia anceps, Lælia autumnalis, Odontoglossums, Oncidiums, etc. They were arranged in the most artistic style. Mrs. Gladstone kissed the young lady, who was beautifully attired in cream-coloured silk, and made some kindly enquiries about her. Mr. Cowan was also introduced to the Premier.

Chrysanthemum Blooms in America.—"One who was there," writing about the Chrysanthemum show held last month in the Maddison Square Gardens, New York, remarks that the Americans object to flowers with short stems, hence most of the blooms were shown with stems 18 in. long, and arranged in vases with from a dozen to two dozen flowers in a vase, and all of one colour. Roses are also shown in the same way, and so arranged produce a grand effect. Being asked several times in the show, "How do we compare with English shows?" I gave them the point as regards arrangement, but in quality of bloom or specimen plants they could not hold their own at the Aquarium or at Kingston; indeed, at none of the best shows in England would they be in the running at all. None of the blooms are dressed, hence many of them show the eyes, and in every way they lack the style and finish of English blooms.

Gardeners' Orphan Fund.—At a meeting of the Committee held on the 2nd inst., the Honorary Secretary announced special receipts during the previous month, amounting to some £31, and including £21 5s. from the Chiswick Gardeners' Improvement Society; £6 from the Woolton Gardeners' Improvement Society, per Mr. G. Waterman; Bristol Chrysanthemum Society £1 10s. 8d.; Mr. R. Scott, Manningham, Bradford, 19s.; Mr. W. Pouport, Twickenham, £2; Mr. W. Marshall, £1 7s. 3d. &c. It was resolved, after considering ways and means, that an election for eight children shall take place at the annual meeting in February, and particulars with regard thereto will be found in our advertising columns.

THE LATE MR. JOHN DOWNIE.

The death of Mr. John Downie, of Murrayfield, Edinburgh, at a ripe old age leaves a blank in the ranks of the Scotch florists which will require time to fill. For years he had been a foremost figure in Scottish floriculture, and of all those who had taken leading positions among Scotch florists he was perhaps the best known in the South, as he came frequently to London, and for years acted as one of the judges at the exhibition of the National Dahlia Society at the Crystal Palace, making at the same time a round of the leading southern nurseries, and so keeping himself well posted up in new florists' flowers.



The Late Mr John Downie.

The father of John Downie—a gardener, like his distinguished son—died in 1832. At that time the son was about twenty years of age, and in a situation as a journeyman gardener at a place in the neighbourhood of Glasgow. On the death of his father an offer was made to John Downie to succeed him; and though shrinking to some extent from the responsibility of such a charge on account of his youth, he, considering his mother had been left with a family of seven children, all younger than himself, and to a great extent dependent upon his exertions, he accepted the situation, and brought up his brothers and sisters until they were able to do for themselves.

In 1833 John Downie commenced the culture of the Pansy, a flower at that time beginning to be much improved and popular; also Phloxes—always a favourite flower with the Scotch florists—and Dahlias, and met with considerable success as a competitor at exhibitions. About 1837 he commenced the culture of Hollyhocks. At that time it was thought that they could not be grown to anything like perfection in Scotland unless it was against a wall, though there was this advantage attending the method that better seed was obtained than from plants in the open. In 1839 some well-ripened seed was secured, and from these John Downie raised over a thousand seedlings, which he planted out in the open, and when they bloomed their beauty, and the marked improvement in quality, astonished every one who saw them, and so double were some that a selection was made from them, named, and eventually distributed; and so John Downie earned the distinction of having sent out the first batch of named Hollyhocks raised in Scotland. Many of the varieties passed into the hands of Messrs. Dickson & Co., and the following year another batch into the hands of Messrs. James Dickson & Sons, both known nursery firms in Edinburgh, by whom they were widely distributed. Each succeeding year brought John Downie improvements in the Hollyhock as well as in the Phlox and Pansy, and he went on raising until 1848, when he went into business as a nurseryman.

Retracing my steps a little, I may state that in 1834 John Downie took up the culture of the Ranunculus and also the Gold-laced Polyanthus, meeting with fair success, and had several prizes awarded to him for specimens in and around Edinburgh.

The growth of the firm of Messrs. Downie & Laird, who entered upon business as florists and nurserymen, is well known. I had the pleasure of making John Downie's acquaintance in the fifties' while at the Royal Nursery, Slough, when he used to come south in search of novelties. Later on, Mr. John Laing was taken into partnership, and a branch nursery was formed at Forest Hill. Pansies became one of the leading flowers cultivated by the firm, and especially the fancy section. The first types of these the late Mr. John Salter brought from France when he left Versailles, in 1848, and established himself in business at Hammersmith—some seed of striped and blotched Pansies—and from the seed raised a number of striking varieties. Some of these appear to have found their way into Scotland, and Mr. John Laing, then at Dysart Gardens, was the first to take up their culture. But the more modern improvement in the fancy Pansy appears to have come from the fine varieties raised in 1856 and 1857 by M. Miellez, Lille, France; and which, finding their way into this country, were cultivated and greatly improved, especially by my brother William, then in business at Shipley, Yorkshire.

John Downie's services were much in request as a judge of florists' flowers. For years I used to meet him at Bishop Auckland, when that once famous exhibition was in the height of its success, and elsewhere, and also at the Dahlia shows at the Crystal Palace until increasing age compelled him to relinquish his southern journey at that season of the year. He was for many years a member of the council of the Royal Caledonian Horticultural Society, and filled the office of president of the Scottish Horticultural Association in the early days of that flourishing society. He was also some years ago awarded the Neill Prize for the distinguished services he had rendered to horticulture. Mr. Downie leaves a widow and

three children to mourn his loss, and I understand that on their behalf his extensive nursery and seed business will be carried on by the able heads of departments who for several years loyally served the old floricultural chief.—*R. D.* [Our portrait of Mr. Downie was prepared from a photograph taken several years ago.—Ed.]

THE CYCLAMEN AND BOUVARDIA.

"The Cyclamen and the Bouvardia: Their culture and value as decorative plants," was the subject of a paper read at the last meeting of the Devon and Exeter Gardeners' Association by Mr. Mayne, of Bicton. Treating first of the Cyclamen, which was introduced to this country from the island of Cyprus in 1731, he claimed for it that it was one of the finest decorative plants for the greenhouse, the conservatory, or for house decoration, and on account of its free-flowering habit, its pretty foliage, and its gay flowers, was particularly serviceable in the winter months. In growing it he counselled sowing a fresh batch every year in the month of August. The seed should be sown in pans well-drained and filled to within an inch from the top with finely sifted loam, leaf soil, and a little coarse silver sand, pressing the soil rather firmly in the pan. Before sowing the seed, water the soil and let it settle for an hour. Place in a temperature of about 55° and put a little moss or a piece of slate over the pan to shade it and hasten germination. When the plants are large enough to handle, prick them off into 4½-in. pots, six in a pot, in the same kind of soil and temperature. In the winter months the plants should only be dewed" with a fine syringe, morning and afternoon.

Towards the end of December the seedlings should then be big enough to pot off singly; and when, in March, the sun gets stronger, they should be partially shaded else they are apt to droop. A check of this kind throws them a long way back. In June give the plants another and final shift into their flowering pots (4½-in.) Let the corm or bulb be a little above the soil, and for manure mix a little well-rotted cow-dung with the soil, in which there may be mixed a little road-scrapings. A little soot at the bottom deters the ingress of worms. In growing Cyclamens in frames they ought, by means of shingle or coal ashes, to be raised to near the glass to keep them dwarf and strong. This is an important matter in growing them well. The ideal house for growing the Cyclamen in is a span-roofed one with the path in the centre. Care must be taken not to let the plants get a chill through a sudden frost coming on. Cyclamen can be grown on a second year, but unless it is well done it is better to start afresh every year. In picking the blooms, they should be pulled right up, as, if the part of the stalk remaining rots down, it is apt, by contagion, to damage the incipient buds. Cyclamen come pretty true from seed. If large flowers are wanted, grow the giganteum variety; but if abundance of bloom is preferred, grow the ordinary Persian kind.

The Bouvardia, though now so popular, was only introduced from Mexico about 50 years ago. Now every florist's shop is bright with its gorgeous blooms. For wearing at a dance or an evening party there are few flowers more graceful for ladies to wear, for it is always neat and graceful, and the dark varieties are very striking in lamplight as well as they are by day. The same kind of soil and temperature that suits the Cyclamen will do for the Bouvardia, which makes a good companion to it. The Bouvardia is best propagated by cuttings in spring, although division of the root is practised by some gardeners. When the cuttings are taken off they ought to be plunged in a bottom heat of about 75°, and kept shaded until they strike. When growing their straggling points should be taken off. The flowering-pot should be a 5½ in., which is large enough for the first season. When in the frames they should be shaded, but bye-and-bye when the warm weather sets in they should be stood right out in the open—in cocoanut-fibre if possible, as that keeps an even temperature about the roots.

Upon no account must they suffer then from want of water, and a little help in the way of liquid manure will not be lost upon them. Early in September they ought to be taken into a cool house and brought on to the flowering state. In placing them out of doors in summer they must not be exposed to a blazing sun, as that would scorch them. A north wall is more favourable. Red spider is apt to effect them if the plants are not kept clean, but that can be got rid of by some of the insecticides sold by the seedsmen. Gardeners who have Cyclamen and Bouvardias to cut from need never be at a loss when asked to make up a spray for a lady to wear in her dress or in her hair, nor for a button-hole bouquet for a gentleman. As decorative plants their value is still greater. Several beautiful specimens of the Cyclamen and the Bouvardia were lent by Messrs. Veitch & Son. A long discussion subsequently took place, in which Messrs. Osmond, Lansdale, Carlile, Crabb, Webber, Rowland, Weeks, Bartlette, Mackay, Triscott, and Sparkes joined.

THE AMERICAN GLADIOLI TRADE.

Visiting the nursery of Mr. C. H. Allen, at Floral Park the other day, I was much struck with the busy scene which the packing shed presented and the admirable order and regularity with which the work was being carried on. Some idea of the magnitude of Mr. Allen's trade in bulbs may be gathered from the fact that already this season 1,000,000 Gladioli roots have been shipped to customers in various parts of the world, as well as some 300,000 Lily bulbs of such sorts as L. auratum, L. speciosum, L. elegans, L. tigrinum, and native American species. Mr. Allen is now doing a large trade with Europe, and one order alone, in process of collecting, sorting, and packing, was for 50,000 roots for an English seed firm.

It may perhaps interest some of your readers to know how this enormous quantity of bulbs and corms is stored. The store-house and packing shed is a three-storey building, 75 ft. by 25 ft., and when the roots are brought in from the fields, minus the foliage, they are stored away in racks divided off into compartments, 3 ft. by 2 ft., and 10 in. deep, with an open space of 4 in. in the front of each compartment, to admit air to the roots and facilitate inspection and other details of manipulation. From these racks the corms are taken and hand-cleaned, one handy-man accustomed to the work being able to pass through his hands as many as from 8,000 to 10,000 per day. They are then counted and packed into barrels ready for shipping. Mr. Allen finds that fine smooth shavings make the best packing material for his purpose.

The corms are unusually fine this season, very bright in appearance, and well plumped up in the crown of the corm. Some of the corms of John Bull, a white variety with crimson blotches, measured 3 in. to 4 in. in diameter, and those of Shakespeare ran from 3 in. to 5 in. Mr. Allen also grows immense stocks of Cannas and Dahlias.—*Am. Cor.*

THE VEGETABLE GARDEN.

General Work.

All such work as manuring, trenching, and digging must be pushed on vigorously this month, as when we get into the new year it is surprising how soon the work increases. Take care to keep putting in further supplies of Seakale and Rhubarb, and keep the forcing house moist, and as even in temperature as possible, to ensure a regular growth of these vegetables. Look to the supplies of Mustard and Cress, and Chicory, and Dandelion for salads, and see that enough of such roots as Parsnips, Carrots, Beet, etc., are put under cover to provide needful supplies should frost set in so that the pits cannot be opened.

The fruit room will also require attention. All the fruit must be looked over and the rotten ones removed or mischief will result. The Onion and seed Potato stores will also require attention occasionally. The young Cauliflower plants in frames must be kept as hardy as possible, taking the lights right off when the weather is mild. Now that we have so many varieties of good early Cauliflowers, very little, if anything, is to be gained by using autumn plants.—*G. H. S.*

The Seed Order.

One of the most important duties of a gardener during the month of December is to make out his seed order after well considering his requirements and the means at his disposal. During the next three weeks we shall have numbers of catalogues pouring in upon us from which to make our selections, and notes will have to be looked up, as to what has been seen and fancied at the different shows and in private gardens during the season. A few of the very best varieties of each vegetable should be selected for growing next season. It is a bad plan to grow too many varieties, and it is as well to seriously consider when looking at a new sort that may take one's fancy, whether it is really an improvement on old and reliable varieties. It is best in all cases to order the seeds early, as it enables the seedsmen, who have a very busy time just at this season of the year, to get out the orders by the time they are wanted, and so makes the transaction more satisfactory to them and the gardener.—*G. H. S.*

FRUIT CULTURE IN RELATION TO THE ALLOTMENT SYSTEM.*

(*Concluded from p.* 211.)

The allotment system itself will throw out thousands as unworthy to touch the soil, which has appropriated to its most useful purposes. Let us look at the chief agent which it embraces—vegetation. It is stirring either in a right or a wrong direction every hour of our life. Of what use, therefore, would sluggards prove in directing such a power; or stupefied drunkards far away in the alehouse; or the various other inert classes who hate to work, and who would rather let their crops rot in the fields than answer the demands upon them for exertion? In truth, no system will save such men, and at last if at all, they are fit only to be servants of others, their best master being anyone save themselves. Various have been the opinions expressed, both in and out of Parliament, respecting the benefits to be derived by the poor man from these allotments, and naturally so, for there will be different degrees of success according to the systems adopted by the respective landlords, as well as according to the attention paid to them by both parties; and this, I need hardly say, brings us face to face with a most important feature of this subject, a subject brought forward at our Fruit Conference last year, I mean the uncertain security of tenants. What is wanted is that those who engage in the cultivation of fruit upon land which does not belong to them should have greater security for their outlay than exists at the present time. Lord Derby said on this subject, "I am quite sure that when disputes occur between landlord and tenant, they arise in nine cases out of ten not out of a wish on either side to overreach the other, but from the easy rural fashion of letting things go on without distinct and definite agreement as to the rights of both parties, but on the basis of some vague understanding which is apt to end in misunderstanding." It seems to me only fair and just that tenants should be able to secure adequate compensation for unexhausted improvements or security of tenure. That the subject is a difficult one there can be no doubt. I have often thought that if the middle-men were out of the way, and landlord and tenant brought face to face with each other, that we should not have so much heartburning in connection with the matter. I mean by the middle-men the political agitator and the landlord's agent. The former often persuades the tenant to pay no rent, even when he can afford to do so; the latter very often deals with the tenant in a most harsh and arbitrary way, the result being in both instances most unsatisfactory.

Though everyone will admit that the agricultural labourer, generally considered, is at the present time in an unfortunate position, it may be of use to take a rapid glance of his condition in past times. For a considerable time after the conquest the working population of England was divided into two classes, the larger class being agricultural, depressed by severe servitude, yet permitted in some instances to rent small farms sufficient to support themselves and families; the other class consisted of slaves or thralls, employed in domestic offices, fed by the lords, and regularly disposed of as articles of merchandise.

History is almost silent as to what domestic comforts were enjoyed by this class of people, and from the fact of there having been no legislative provision for them, it has been thought by some that, though poor, they were in the enjoyment of the necessaries of life. At any rate, it appears that during the reign of Edward the First, the condition of the poor people become so far ameliorated as to enable a great proportion of them to hold a tenure in lands, a privilege

which hitherto formed the exception rather than the rule. Even this privilege was so far restricted as to involve the services of the poor at certain seasons of the year in sowing and reaping the lord's Corn, felling and carting timber, and prosecuting improvements around the mansion. During those seasons the labourers were fed by the landowner in whose work they were engaged, and in many respects their situation resembled that of the cottar population a few years since in the counties of Ross, Inverness, and Sutherland in Scotland. Aided by the impulse of commerce and the humanizing tendency of Christianity, the reigns of Edward III. and Richard II. were distinguished by a loosening of the grasp of feudal masters, so that the labouring classes might at this period be considered as fast emerging from a state of compulsory servitude. The progress of manufactures at this time had also the salutary effect of changing the manner of living indulged in by the chief landowners; riotous and extravagant hospitality ceased in a great measure, the number of useless retainers which went to keep up a sort of barbaric splendour was curtailed, and the funds which they absorbed were spent in purchasing the productions of art.

As might naturally be expected, the consequences were two-fold—a greater freedom bestowed on the cottar, politically considered, and a more certain course pursued by him in cultivating the land. But though productive of good in the respects alluded to, the manufactures of this early period led to similar results as have been witnessed half a century ago on the Sutherland estates in the northern districts of Scotland. Spots of land which had hitherto smiled under the minute care of the labouring man were obliterated; the little seats of husbandry, with all their interesting associations, were broken up and presided over in one continuous tract by the shepherd or herdsman. Such was the consequence of a demand for wool to supply the new manufactures. A general impression exists that the condition of the labouring poor was aggravated by the dissolution of the monastic institutions of this country. Sir F. Eden gives it as his opinion that the abbeys distributed of their substance amongst the rich rather than the poor. There is, however, little risk in waiving any claims which those wealthy bodies might have had in relieving the masses of needy labourers. The system, moreover, was more apt to foster a habit of indolence and contentment, rather than excite the laudable spirit which should ever be set before the peasantry of a country—a reasonable hope of independence through industry and foresight. On the effects which the important Act of Elizabeth had upon the agricultural population it is not necessary to dwell. Under the administration of this Act up to the year 1709, our rural population appear to have been enjoying all the immunities which they had temporarily lost during an earlier period, and, indeed, it may be safely asserted that their extended and uninterrupted privileges during this period indicate one of the happiest eras in their history. From this time, however, must be dated a series of the most disastrous changes in their condition, arising from the inclosing and consolidating of lands which had become the joint inheritance of the poor. Had the lands apportioned in lieu of those taken from he poor been protected from subsequent alienation, the rural population of our country would have been at this moment in a much better position than we find them now occupying. Time will not allow me to point the various and many ways in which our agricultural peasantry have lost their allotments.

Anyone turning over the parochial returns presented to the House of Commons on the education of the poor will meet with cases in almost every page in which alienation of small allotments are detailed. By such and similar means has been wrought out that picture of distress which has so often existed amongst the agricultural labourers of this country; the helpless classes losing hold of their small plot of land, and the merging of it into that of their more powerful neighbours. Without attempting to attach to this change an importance which it does not warrant, it may not be considered out of place to refer to the breaking up of the minute system of agriculture practised by the early Romans. In consequence of this Pliny clearly foresaw the ruin of the Imperial city. The farms of Britain, it is true, are not equal in extent to those which were to be seen in Italy previous to the fall of the Roman Empire Shut out from their rights, the labourers of Italy became little better than slaves. They had no tie of interest; none of affection. God forbid that the same effects should ever be traced in this country as were realised from similar causes in the Roman Empire. A great change has come about in recent years. It is well known that our principal industry, that of agriculture, has for a long time been under a cloud; land is in many districts almost unsaleable, and there can be no doubt but that landlords will be glad for their own sakes to encourage an industry which will increase the demand for it.

That the subject with which we are dealing is one of the most vital import is clearly proved by the public press. Almost every morning when you open the newspapers you read long reports of meetings taking place in various parts of the country as to the depression in the agricultural world. The position of many farmers is most deplorable, and the wretched climatic conditions through which we have recently passed have tended very much to intensify this lamentable state of things. The question is, what is the remedy? or is there a remedy?

In his address at the Fruit Conference, Sir James Whitehead said that "those who engage in the cultivation of fruit upon land which does not belong to them should have greater security for their outlay than exists at the present time. If a tenant quits his holding before ten years have expired from the time of the planting of the fruit trees, the cost of the trees and the tending to them for five years should be a permanent improvement under the Agricultural Holdings Act; or the trees should be taken at a valuation, either by the landlord or by the incoming tenant."

I have very great hope indeed that the allotment system will have a most salutary effect upon our rural population when it gets into full swing. It will inspire hope in the breast of the labouring man. The only hope worthy of encouragement arises from the labours of the man himself, and inspires him in every industrial art, in digging, sowing, reaping, and in all other services whether performed for himself or his employer, because he knows that in either case they invariably carry their reward with them. They also call into exercise the virtue of prudence. Where no gain can be made the labourer is too apt to settle down into a state of indifference.

Is it likely that a man will care much about being industrious when no one by his industry can avoid being a pauper? Once enable a man to save a few shillings, and a love of independence takes possession of him, and with that an incitement to sober habits. Considered as a moral agent, the allotment system is active and powerful. To have an industrious, contented, and happy population is even more than can at all times be expected in our present state. This, however, the allotment system, when properly conducted, will, I think, go far to ensure.

Speaking not so long ago on the moral effects of the system on the labouring classes, the Rev. E. J. Howman said: "I have not been brought so immediately in contact with the system as I was before, but you will see that my opinion in its favour has not dimished when I tell you that I hope very soon to have twenty allotment tenants of my own. At the same time I must say the more I see and understand of it the more firmly is the opinion which I have held from the first of my turning my attention to it rooted in my mind, that in order to be of any utility it must be purely and entirely voluntary; that it must form a connecting link of kindness between the landowner and the labourer, and that any attempt to meddle with it by legislative enactment will lead to utter failure. With regard to the system in general, I believe it to be a most valuable means of bettering the condition of the poor." With all due deference to this reverend gentleman, it seems to me that, under certain circumstances, it is the duty of Government to step in to protect the poor; or, to put it in another way, it does seem that in dealing with a subject of this kind, under certain circumstances, the law of kindness ought to take the place of legislative enactment, not exercised as a mere piece of charity, but as a moral duty, in the same way that a father provides for and cares for his children. The fate of Greece and Rome and other nations of antiquity is leading some to do something in the way of bettering the condition of our labouring classes, and it is to be hoped that in so acting they will learn to see that their efforts are demanded by every principle of justice. Compulsory beneficence is at best a very questionable act, and loses what should form its chief beauty and effect by the manner in which it is administered.—*Bruce Findlay.*

Gleanings from the World of Science.

Influence of Electricity on Plants.—At a recent special meeting of the Manchester Association of Engineers, to discuss a paper read a short time time previously by Mr. B. H. Thwaite, an interesting experiment was performed at the end of the discussion by Mr. Thwaite himself. A great many of the Acacias, particularly those with fully developed leaves, are known to be highly sensitive to light or its absence, the latter causing the leaves to close, producing the phenomenon familiarly termed sleep. He had previously provided himself with a specimen of Acacia lophantha, which was kept in a dark box till the demonstration took place. When taken from the box the leaves were closed in sleep, and in order to show the influence of the actinic or chemically active and refrangible rays emitted from the arc electric light upon them, he exposed the plant to a 350 candle power arc light, and in a short time the leaves commenced to open as if by magic. The lower ones near the root were said to respond first to the awakening influence of the light. As a rule the younger leaves are the first to be affected because the most actively motile and the most sensitive. The old leaves respond more slowly in proportion as their vital energy has wasted or left them. The very youngest ones on the contrary would also be somewhat tardy because their most active stage of life has not been reached. The temperature of the room in which the experiment was performed must also have been sufficiently high, otherwise light alone would not have caused the leaves to open.

Facts concerning Peach Yellows.—Some experiments have been carried on by the Chief of the Division of Vegetable Pathology in the United States, to determine whether the disease known as Peach Yellows is contagious, and the results are published in the *Report for* 1891. This states that—"The disease is contagious, and may be conveyed by healthy-looking buds when these are taken from partly diseased trees. Only a small amount of infectious matter is necessary to produce the disease, provided it is in the form of living cells which can be induced to unite with the actively growing tissues of the innoculated tree. In some cases the disease has a period of incubation extending over two years, and the probabilities are that additional experiments will demonstrate in some cases a still longer period. Many hundred experiments have proved these conclusions to be correct. The life of innoculated trees varies from one and a-half to four and a-half years. In orchards the death of the entire tree occurs in from one to six years. In a majority of cases the disease is chronic, and some part of the tree may live for a long time."

Peach Mildew.—The mildew of the Peach is caused by the same fungus that attacks several other Rosaceous plants both in the Old and New Worlds. It consists of grey coloured or whitish hyphæ or mycelial threads that form a rambling and interlacing mass on the surface of the leaves, into which they send haustoria or suckers that draw food materials from the leaves and young shoots of the host plant on which the parasite lives. The life cycle of this fungus does not as yet seem to have been traced out, so that its real affinities cannot at present be determined. It is known as Sphærotheca pannosa, and has only been known to produce one kind of spore. There is every reason therefore to believe that some of the hyphæ or threads are perennial and live through the winter in or upon some part of the host plant. This is corroborated to some extent by the fact that trees seen to be affected one year show the same disease, to a greater or less extent, during the next and succeeding years. Gardeners in such cases describe the malady as constitutional. Some varieties of Peach trees bear glands on their leaves and others do not; and a curious coincidence as to their liability to attack by mildew or otherwise has been related by Mr. Erwin F. Smith in the American *Journal of Micology*. In the examination of 150 cases of attack he found that all the trees with one exception had no glands on their leaves, and the exceptional tree attacked was not badly effected. On the contrary trees bearing glands on the leaves were free from disease with the exception mentioned.

FLORICULTURE.

Violas in Pots for Winter Decoration.

I HAVE frequently felt that these charming plants are too much overlooked as indoor decorative plants, but that some growers might be induced to use them if attention was drawn to them. I saw two or three dozen plants in pots last spring in a neighbouring garden, and was much struck with their very pleasing appearance, and in a letter from Rothesay, Messrs. Dobbie & Co. inform me that they bloomed a quantity of plants in pots last spring, and they were very much admired as greenhouse decorative plants. We now have a great diversity of colours. The plants begin blooming early in the year and are profuse bloomers, and many of them are deliciously fragrant. The necessary treatment is very simple, taking a 5-in. pot and placing one or two strong plants in it as soon as it can be done, and keeping them in a cold frame until the end of February, then removing to a cool house to get them into flower by the end of March or even earlier. After blooming the plants can be planted out on a shady border, pegged down and top-dressed.

As cut flowers for indoor decoration Violas are truly valuable—as the shoot or branch in a cut state keeps so long and well in water—and are so pretty for table or room decoration, their lovely tints of colour and their fragrance adding so much to their value.—*W. Dean.*

CHRYSANTHEMUMS AS HUMAN FOOD.

CHRYSANTHEMUMS are already put to a good many uses, but chiefly if not solely for decorative purposes in this country. At p. 213 we made allusion to the use of Chrysanthemums for flavouring soup at a dinner party in America. It is also pretty well known amongst "Chrysanthemophiles" in this country that the flowers of Chrysanthemums are served up and eaten as a salad by the Japanese, who prefer the white and yellow varieties for the purpose, but for what reason they confine themselves to those colours is not evident. By a process of reasoning one can understand that yellow and white sorts would present a cleaner appearance, and be in fact more like blanched Endive, Dandelion or Lettuce, &c., than the more highly coloured sorts, which when cut or chopped up and served with salad oil, pepper or other condiments, might present a livid and uninviting appearance. But then we use Beetroot, which is not particularly inviting to the uninitiated.

There is a considerable depth of meaning in the last word, for we know that many things are eaten with great relish after the initial acquaintance is got over and the taste for them has been acquired. Familiar instances might be mentioned in Tomatos Cucumbers and even Potatos. All underwent a struggle before they became generally acceptable to the masses. Amongst foreign fruits, the Durian is very repugnant and objectionable to European palates, but it is eaten with great relish after a time. Even in the case of tea, it may be remembered what blunders were made with it when the first arrivals reached this country. The leaves were first boiled, and in a second experiment fried, with equally unfavourable results. The leaves in both cases were bitter and unpalatable—our ancestors never dreaming that the fragrant brown liquid which they threw away was the only part they should have utilised if prepared in the proper way.

As in the case of tea so it may be found with the Chrysanthemum at least in this country, that a liquid prepared from the flowers will be the most acceptable form in which the average Briton may utilise it as an adjunct to, or in the preparation of food An infusion of Chamomile flowers was more or less extensively used by our forefathers as a tonic, why not of Chrysanthemum flowers by us, seeing that their most pronounced flavour and smell is that of Chamomile.

The use of the Chrysanthemum as food in Japan, is in the form of salad; in America the florets of choice varieties were chopped up and used as a flavouring for soup. In the latter case, the soup was probably only a tentative experiment, but both host and guest declared the soup to be good. A well-known "Chrysanthemophile" recently related in our office his experiments in the use of Chrysanthemums as food. He first tried them by boiling a quantity of white flowers, serving them up both hot and cold. But after giving them a fair trial himself, he gave up the mess in despair as too pronounced in flavour to stimulate his appetite. It was however very provocative of wry faces and mirth-producing grimaces. Some of the Chrysanthemum salad which he handed to a girl of eleven years old, was eaten with apparent relish, and the plate held out for a further supply. As a salad our friend found Chrysanthemum flowers more to his taste. He also felt inclined to fry them; but after what he has written below, we scarcely think he will.

"CHRYSANTHEMUM SOUP."

THE little paragraph in last week's GARDENING WORLD about "Chrysanthemum Soup," reminds me that my experience may be interesting to enthusiasts who are desirous of imitating the Japanese custom. Mr. John Thorpe is such a well-known American devotee of the "Mum" that I am surprised he somewhat timorously tackled it by having the flowers finely chopped up in a soup. This seems to me only a half-and-half kind of way, but perhaps he wishes to educate his taste gradually, whereas I plunged at once by eating the flower boiled and also raw as a salad, and not as a mere flavouring to a soup. A fortnight ago I determined to make the attempt, and as my wife seemed to enter into the proposed experiment with a desire to do justice to the cause, I wrote to my friend Jones—the only Jones in the "Mum" world—to send me a box of nice fresh blooms for eating. They duly arrived with a short note to say "Warranted all fresh," just as if they were a barrel of oysters, and a quiet, almost cynical, request to let him know how they agreed with me. Ah! that Jones! I owe him one, as you will see later on, for there was a hidden depth of meaning in his short espistle.

The first consideration was how to proceed, and we agreed to boil some of the finest just as they were. All the blooms were pure white varieties, as I believe it is only white and yellow ones that they eat in Japan. Accordingly the saucepan was got ready and the blooms put into hot water with a few cloves à la Japonaise, but a difference of opinion arose between us as to the time required to cook them properly. It was settled, I blush to say, by the somewhat gruff rejoinder on my part that as I was the person who was going to eat them I ought to know, and my wife dutifully consented without raising another query on the point. They were in due time dished up, strained through a colander—and a nasty-looking mess it was. They had boiled down to a wonderfully smaller quantity, and the smell—well, it wasn't exactly like violets, but rather nearer rank cabbage water. The kitchenmaid standing by while all this folly was going on every now and then looked rather scrutinizingly at the master as if she thought he was qualifying for detention in the nearest lunatic asylum, and I felt bound to say apologetically "It's all right, Mary, we are only making an interesting experiment."

The ugly mess, for the petals had now assumed a dirty brown colour with streaks of greenish tinge, was put upon a plate and with a fork arranged as temptingly as was possible, my wife expectantly awaited the commencement of the novel meal. After several undecided looks I said I thought it would be nicer cold, and so the plateful of boiled Queen of Autumn was relegated to the pantry until evening. It was Sunday, and we indulge in the old-fashioned meal called supper. The two eldest children usually sit up to partake of it after going to church, and my new dish was brought out again, cold and nastier looking than before, for it had become almost entirely of a dirty pale green, and looked sloppy and repulsive. When the cheese came on I thought we might perhaps do better by serving some up as a salad raw and leave the boiled ones for the *bonne bouche* So a handful of nice pure white flowers was brought forth, the florets plucked from the stalks, and the whole carefully mixed with salad oil, vinegar, salt, and pepper. We all had a help, a small one of course, but curiously enough my eldest girl, whose appetite is one usually described by the household expression "finicking" passed up her plate for a second portion. The flavour raw is, in spite of a plentiful supply of condiments, bitter, pungent, and of a distinctly Chamomile-like nature. The florets are as crisp as Lettuce, having a decided tendency to repeat, and eaten in this way, although a doubtful delicacy, may be got down and probably kept down if the eater has a fairly strong stomach.

I am quite of opinion that Tomatos require to have the taste educated up to them, so too does Chrysanthemum salad. The boiled ones next demanded our attention, but it required more effort than the raw ones; the taste was very similar, but with a peculiar sweetness wanting in the other dish. Dried and used like Mint or other herbs in soup, the bitterness is very marked, and this way is of course less unpalatable than the two preceding. We had determined to have some petals fried in butter, to carry out the experiment more fully; but oh, horror! we discovered when too late that those Lewisham mums that were left were infested deep down in the florets with an abundance of green fly, which we—in happy ignorance—had not attempted to look for in those we had eaten. I used to be able to devour cheesemites, but chrysanthemites I cannot bring my mind to.

Kind friends will please refrain from making inquiries as to further experiments, because for the remainder of the season "I am not taking any."—*C. Harman Payne.*

CALANTHES AT BICTON.

THE beauties of this estate have so often been told that little need be said of the glorious avenue of Araucaria imbricata—noble trees of some 40 to 50 ft. high, many having the branches sweeping the grass underneath. Nor is it necessary to speak of the fine specimen conifers in other parts of the grounds, the Bamboos, and Dracænas, etc., that in the month of December appear in all their freshness and beauty. Under glass the Pines are good, Palms, Musa, Camellias, etc., in other structures; but what struck me most, when calling there a day or two ago. was the exceeding brightness of a good-sized house devoted to stove plants. Here Mr. Mayne had gathered as nice a lot of foliage and flower as it has been my good fortune to see for many a day. Not but what other establishments may have, even now, good displays; but here, immediately on entering, was a bank of Calanthe Veitchi superba with flowers of intense colour and fine substance. The spikes averaged 4 ft. in length, and on many we counted twenty-four open flowers, perfectly fresh, with a quantity still further to expand. A large plant of Adiantum Farleyense full of dark green fronds was suspended over the Calanthes, a combination not often noticed. Along the whole bed of the stove were Calanthes equally good, the C. vestita rosea and lutea being well represented, but not so numerously, and a grand lot of Crotons, Dracænas, rich in colour, with good plants of the scarlet-bracted Poinsettia, Begonia semperflorens rosea, Euphorbia Jacquinæflora, and a large piece of Anthurium Scherzerianum with a quantity of its scarlet and showy spathes. The whole combined to make a display that struck me as being most praiseworthy on the part of the grower and pleasing to the beholder.—*W. Swan, Bystock, Exmouth.*

THE DOUBLE CHINESE PRIMULA.

NONE of the varieties of the Chinese Primula have ever attained such popularity as the old double white. Many strictly double varieties have been raised, but their existence at the present day is merely nominal. They must have exceptionally fine qualities to encourage growers to preserve them by annual propagation in order to keep up a stock of good, healthy plants. Primula sinensis alba plena is like Camellia japonica alba or Azalea indica alba in this respect, but the two shrubby species do not require the annual propagation that the first-named entails. In speaking of the popularity of a variety of Chinese Primula, the single and semidouble sorts that can be raised from seeds with facility and tolerable certainty need not be taken into account, because they can be perpetuated with comparatively little trouble. Many of them are undoubtably popular, we know, but if they had to be perpetuated by annual propagation from cuttings or division we doubt much whether they would be grown to any extent, or retained in cultivation for many years. The purity of the flowers of the old double white, the quantity of flowers a well-grown plant will produce, and their utility for decorative purposes, either on the plants or in a cut state, will ensure the perpetuation of the variety for many years to come. The illustration accompanying this will show the general contour and aspect of a plant that is so familiar to many. It was prepared from a photograph sent us by Mr. H. Dyer, the able grower to Messrs. Jefferies & Son, of Cirencester. The old double white Chinese Primula is one of the specialities of this firm, and Mr. Dyer succeeds admirably in its cultivation.

BUSH HILL PARK, ENFIELD.

Those who have been to the nurseries of Messrs. Hugh Low & Co., Upper Clapton, are familiar with the enormous area of ground covered with low span-roofed houses for the cultivation of Orchids, stove and greenhouse plants, but more especially the first-named. The same class of houses is repeated at Bush Hill Park, Enfield, where stove and greenhouse as well as hardy plants are grown in enormous quantities to supply the home nurseries with stock that does better in the clearer atmosphere of Enfield. There are also extensive grounds for the cultivation of Roses, fruit trees, and other subjects for which the heavy clay soil is well adapted.

Stove Plants.

As might naturally be expected, Palms are a strong feature of a nursery intended to supply the million with popular decorative subjects of the day. Numerous houses, each 80 ft. to 100 ft. long, are devoted to them, and some of the most useful kinds have one or more houses entirely filled with a single kind. Kentia Forsteriana, K. Belmoreana, Cocos Weddeliana, Corypha australis, Latania borbonica, and Areca lutescens are to be counted by thousands, in various sizes from one to three feet high. The specimens of Latania ranging from 2 ft. to 3 ft. high are specially noticeable for their quality and good condition. Seaforthia elegans, Phœnix rupicola, Areca Baueri, and A. sapida are also grown in greater or less quantity. The side stages of several houses are occupied by healthy and attractive specimens of Asplenium bulbiferum, A. b. Collensoi, A. b. Fabianum, Lomaria Gibba, and others, all in 48-size pots.

Several houses are devoted to Gardenias in various stages of advancement as to size and time of flowering. The variety intermedia is considered the best, and is grown to the exclusion of the others. Numerous pieces of Allamanda in 32-size pots still show a determination to bloom, even with such restricted root room and stems only 2 ft. long. Useful foliage plants are Dracæna gracilis and Pandanus Veitchi. The dark bronzy green leaves of Ficus elastica show that the treatment they receive is congenial to their welfare. The same may be said of the variegated variety which occupies an entire house 90 ft. long and is highly effective.

Greenhouse Plants.

One of the most striking features of this nursery is the great quantities of the more useful and popular subjects grown. For instance, there are eight houses, each 80 ft. to 90 ft. long, devoted to Cyclamens in 32 and 48 size pots. Some of the more forward of them are placed in a slightly warmer house so as to bring them forward and thus prolong the season. The leathery foliage is ample, covering the pots and literally hiding hundreds of flower buds pushing up beneath it. The marbled markings are often very effective. Some of the white flowers had the rich purple colouring of the mouth extending a long way down the segments. There are also eight to ten houses of Indian Azaleas in different stages, recently imported and otherwise. A houseful of A. narcissiflora, Deutsche Perle and others are coming into bloom for early work, while others will keep up the supply for months. Another largely grown plant is the common berried Solanum, so much used for decorative work in winter. Of this there were eight or ten houses in the beginning of the season, but they have now been considerably reduced.

Heaths are extensively grown both here and at Clapton. Thousands of Erica hyemalis are now in bloom in 48-size pots, and good stuff too. A long house is entirely filled with Aspidistra lurida and A. l. variegata in fine condition. Cytisus racemosus, here known as Genista fragrans, and G. atleana are grown in quantity in frames. Being in small pots they form dwarf bushy plants suitable for conservatory work or for dwelling rooms. The popular Asparagus plumosus and A. p. nanus, but particularly the latter, are largely grown in 48-size pots. Crassula jasminea with fragrant, Jasmine like flowers has more recently come into popularity and is here grown by the thousand in small pots. Camellias in 48 and 32 size pots are well furnished with flower buds and will be a fine sight presently. The quantities of Araucaria excelsa and A. e. albo-spica are also notable for their attractive appearance. Some very large plants of Lapageria in pots have found their way here. Owing to the miserable state of the weather and the muddy state of the ground we did not inspect the Roses in the open ground, but we noted some fine pot specimens. All the leading kinds of Tea and Noisette Roses are represented, including Maréchal Niel, Gloire de Dijon, Reine Marie Henriette, Celine Forestier, Francisca Kruger, Catherine Mermet, Madame Lambard, Jean Ducher, Niphetos and others.

Primula sinensis alba plena.

This nursery is also notable for the large numbers and great variety of hard-wooded plants, generally known as new Holland plants, so beautiful in spring and the earlier part of summer, but greatly and undeservedly neglected in most gardens at the present day. A somewhat novel feature here is that many of the kinds are grown not only in the bush form, but also as standards, with stems varying from 1 ft. to 3 ft. high according to the size and nature of the species. When to be treated in this way they are allowed to run up with a single stem, and topped only when the required height is attained. They then form a bushy head on the top of their own stems. Amongst the plants treated in this way are Acacia Drummondi, grown in great quantity and having stems 2½ ft. high, also Epacris Eclipse about the same height, Acacia undulata, Grevillea Preisii, and Polygala Dalmaisiana, all of which look fine, especially when in bloom. They are useful for forming a background to banks or groups, or to break the monotony of plants of uniform height.

The varieties of Correa are not often grown at the present day, yet here we noted a fine batch in eight varieties at least, including C. speciosa major; C. ventricosa, red; C. bicolor, pink and creamy at the tips; C. picta superba, rose and green tips; C. curiosa, red and green tips; and C. brilliant, deep red with green tips. Very distinct is C. magnifica with creamy yellow flowers, and likewise C. cardinalis, with scarlet flowers and small dark green leaves. All are dwarf, slow-growing plants, that flourish well in a cool greenhouse. Several fine species of Pimelea are grown, including P. spectabilis, P. Hendersoni, and P. Neippergiana. The last-named, having white flowers, has already commenced blooming, the others being well furnished with buds. The species of Eriostemon, having orange-like blossoms, are far too seldom seen in private conservatories at the present day. Large quantities of E. buxifolius, E. linifolius, E. myoporoides, and E. scaber in 48-size pots are now laden with flower buds that will soon commence to expand. The same may be said of Leucopogon Reichei with panicles of small white flowers, and the well-known Genetyllis tulipifera, well furnished with bloom.

Chorizemas are well represented, as might be expected, in Chorizema ilicifolia, C. cordata, C. splendens, and C. elegans. We more particularly noted C. Lowii because it has already commenced to bloom. It seems to be a variety or a hybrid of C. ilicifolia judging by its dark spiny leaves. The flowers, however, are of a dark orange with deep purple wings. Metrosideros floribunda in large quantities, is showing freely for bloom. A number of species of Acacia is grown in greater or less quantity according to their value for decorative purposes in a small state. Some of these are A. ovata, A. Riceana, A. platyptera, and A. cordifolia, the latter being grown in quantity upon trial. All are well set with bloom and promise to be very interesting. Chironia exifera and Crowea atifolia are herbaceous in character, producing rose coloured flowers, and growing about a foot in height. In the frames close by are large quantities of the variegated Euonymus, particularly the broad-leaved kinds, golden and silver leaved, as well as some of the Conifers. Eleagnus aurea marginata is also hardy, but is grown as pot plants in the houses. Altogether the collection is very interesting to those who like New Holland plants, as they may be seen by hundreds, and sometimes by thousands, in various stages of growth—the young stocks in 60-size pots showing how these plants should be treated. This is particularly the case with Boronia megastigma, many of the plants even in 60-size pots being treated to form standards. B. elatior and B. heterophylla are also abundantly in evidence and in fine form.

Dieffenbachia eburnea.—The oblong-ovate leaves of this Dieffenbachia are of a rich dark green, and closely marbled or blotched with oval or oblong white blotches arranged in ascending lines between the principal lateral veins, except towards the margins. The petioles are upright, so that the plant occupies but little space. Plants about 18 in. high have relatively short stems, and in that stage are very useful for enlivening the stove during the winter months.

THE FRUIT GARDEN.

Cutting Back Raspberry Rods.

I should be very pleased if "W. N." would specify the special reasons he may have for advising that the tops of Raspberry canes be not shortened back till the spring. I do not contest the fact that he may have good reasons for what he advises, but I point out that it is not in accord with common practice. It is the almost universal rule to cut back the tops of the canes in the winter when the thinning and tying is done, and if I fail to see any reason why the shortening back should not then be done, it is because I have never found any harm resulting.

So far from that being the case, I should even suggest that the shortening might be done with advantage in the autumn, so as to induce the swelling up of lateral buds. But we have cut back our Raspberry canes so long in the winter, and generally with such excellent results, that it is natural when another course is advised, explanations should be asked for. The usual course of culture of the Raspberry is to remove early in the summer all superflous suckers, and to retain only the strongest and as few as needful. After the fruit is gathered to remove then all the old fruiting canes, and that allows ample light and air to penetrate and ripen the new canes. Then after the leaves have fallen to shorten back and tie up those reserved canes. Give the ground about them a dressing of manure, aud fork it in very lightly.

If the Raspberry canes be secured to wires no stakes are needed, but generally it is needful to furnish fresh stakes each year. That is one of the weak features of Raspberry culture. The growers in the open fields for market are independent of supports, as they cut their canes back to about 3 ft. in height, and leave them to sustain tbemselves. That hard cutting is always done in the winter, and generally too when the weather is frosty. Weather of tbat description seems to be always the most suitable for the pruning of hardy plants or trees, and Raspberries seem to be of the hardiest.—*A. D.*

THE FLOWERS OF SCILLY.

The splendid weather with which the islands of Scilly have been favoured has had the effect of giving the spring flowers, and especially the Narcissus crop, a splendid opportunity to develop, and it need be no surprise to learn, therefore, that both the Anemone and the Narcissus are to be found in bloom and many choice samples will in a few days be despatched to London. This is different to what has taken place during the last three or four years, when Christmas has passed before anything like blooms have been gatbered. Residence in Scilly just now must bear a striking atmospherical difference to that of the great metropolis, and much to be desired.

Speaking of the Scilly Isles, it would not be uninteresting to quote from the remarks of the Lord Proprietor, Mr. T. A. Dorrien Smith, as to what is being done there. At a recent audit he said:—"There is one thing to be thankful for. That is, while agricultural interests have throughout the country been at a great discount, I think the florists and others in Scilly have had a fair share of success. That success has been caused in a great measure by the pluck and energy of the gardeners and tillers of the soil, for the cultivation of flowers is now the only industry we have to rely upon. I cannot but look with pleasure on the number of glass houses that have been created during the last three or four years. It is a sign of keeping pace with the times, and I hope they will prove a source of profit to flower-growers. There is the question of getting flowers into the hands of the dealers, and I may say that after communications the Post Office officials have promised to do their utmost to get an extra service and greater facilities during the flower season. Respecting the railway companies who refused compensation for non-delivery of flowers sent to London, I wrote them on the matter and pointed out the unreasonableness of their excuse, as they might take the flowers away and sell them on their own account. I would therefore advise claims from the gardeners to be sent in. It is gratifying to know that the flower culture has so increased the demand for labour that there are none who are willing to work but may find employment at liberal wages."

This speaks well for the condition of the floral world in the west. But this is not all, there are earnest efforts being put forth for the cultivation of fruits—specially Apples, in Cornwall, and capital is forthcoming to help on the new procedure.—*X.*

A NEW ORCHID POT.

A friend has sent us a sample of a new patent pot, not specially as an Orchid pot, but which, to our mind, is a grand acquisition for these plants, and upon seeing it one is led to wonder that pot-makers have never thought of it before. There is nothing objectionable in its appearance. The pot is made of the same material as other pots; the difference lies only in the bottom, which is turned up into a cone like a port wine bottle, and this is cut into narrow slits, so that the water has full egress and is carried away, leaving nothing behind to cause a stale or soured state, which is so injurious to Orchid life, or, indeed, to any other kind of plant.

We do not know if any particular name has been given to the pot, but we shall doubtless know more of it later on. There is one thing about it and its system of drainage—it will entirely obviate the necessity of smaller pots being turned upside down on the inside of the pot which is to contain the plant, and hence the extra weight is entirely done away with, there being nothing further to do but to fill in all round the inverted cone with ballast or burnt earth. This is said to be a first-class drainage material to use for the purpose, inasmuch as it absorbs a great quantity of moisture, and it gives it off to the roots in a gradual manner. We would recommend this material to any one useing the ordinary pots. This new pot has been sent to us by a friend, not simply for Orchids, but for use in the ordinary greenhouse, and we have but little doubt that we shall find it answer in a marked degree. As an Orcbid pot, however, we think it will excell anything we have ever seen, and we heartily commend it to tbe notice of all interested in growing Orchids.—*W. H. G., in the Orchid Album.*

A NOVEL CHRISTMAS TREE.

Anyone who has bad long and intimate dealings with our furred and feathered brothers and sisters, must, if he speak the plain unvarnished truth, confess that, in one respect at least, they are our superiors. The proverb that, "Virtue is its own reward" is in nine cases out of ten bitterly true, in the sense that, from man at any rate, virtue gets no other. And although Wordsworth speaks with incredulity of the

"hearts unkind, kind deeds
With coldness still returning;"

the majority of us are forced, unwillingly, to allow that the poet's experience was exceptional, and that tbe excess of man's gratitude has not often "left *us* mourning."

But with the furred and feathered creation tbe case is quite different. Not even a kind word is allowed to pass unacknowledged, and by a very small expenditure of time or money it is quite possible to win the gratitude and confidence of a whole tribe.

Last winter we added to the small and select company of feathered friends who each winter haunt our grounds, many who are "worth knowing," according to *Punch's* definition (*i.e.*, those who, hitherto, have not wished to know us), by the present of a Christmas-tree; and their delight and gratitude knew no bounds.

The big French windows of our dining-room look south, and open into a wide verandah. Not more than 4 ft. from the window stands a pot, in which is a small Spruce Fir between 4 ft. to 5 ft. high. This Fir is ornamented with all kinds of dainties calculated to win the hearts of the feathered tribe—a Cocoa Nut sawn in two and pierced with holes to enable us to wire the halves firmly on to the tree, Brazil Nuts cracked and half peeled, lumps of suet and dried Figs: and twice a day a miscellaneous meal of scraps is strewn on the ground beneath the tree. To this feast of good things come various guests. The great tits—of which we have at least two pairs—are hardly ever absent from the tree for more than a couple of minutes together. A pair of marsh-tits are constant visitors, and are second in beauty to none, with their black satin caps, pulled down well over their eyes, and their rusty-grey waistcoats. The nuthatches come two and three at a time. The tom-tits and cole-tits are numerous, and there is always a crowd of better-known birds pecking at the scraps on the ground. Here come the greedy blackbirds, and in the presence of so much in which their souls delight, the "rollicking tenors of the shrubberies" become mere pugnacious gluttons, chasing one another round and away from the much-prized morsels—which are meanwhile snatched up wholesale by the harmful, unnecessary, and always vulgar sparrows, who arrive in flocks, like ghouls, at the mere hint of a meal. The thrushes—both the common kind and their somewhat overbearing relations, the storm-cocks—hop in suddenly amongst the crowd, pounce on a morsel, and are off with it at once. One thrush—with a curious crest of white feathers—has been a pensioner of ours for nearly five years now.

The whole tribe are now so tame that we can stand at the window to watch them without disturbing them at all. Occasionally, if we come to the window suddenly, or make an unexpected noise, a feeding tit will screw his head backward over his shoulder to look at us as he hangs upside down to a Brazil nut. Sometimes too, under similar circumstances, a nuthatch will pause in the act of letting himself slip down into his coconut, to look reproachfully at us as if to say, "Don't do that again; I'm easily frightened." But no one moves away for us, and the re-decorating of the Christmas-tree is always watched from the Cedar and an old Apple-tree in the field below by an excited crowd, who swarm back almost before the window is shut, chirping and chattering, raising their crests, and looking at the window with bobs and jerks, as if in gratitude for the replenished feast.

To those who are tired of racking their brains and emptying their purses in the vain attempt to give pleasure to satiated human senses and stomachs, I would say—if you live in the country, try the experiment of entertaining guests from the waysides and hedges. You will not meet with sneering depreciation of your hospitality from the feathered bipeds, and the Toms will not be offended at being asked to meet the Coles. Indeed, their gratitude to you will be out of all proportion to your expenditure of tbought and money. Half-a-crown will buy a Spruce Fir; spend another half-a-crown on Suet, Brazil and Coconuts, and then enjoy the unfeigned delight and gratitude of Nature's great operatic company over their Christmas-tree.—*Ella F. Conybeare, in Nature Notes.*

NATIONAL CHRYSANTHEMUM SOCIETY.

The annual dinner of this society took place at Anderton's Hotel on the 30th ult., wben some 150 members and friends sat down; the chairman (Sir Edwin Saunders) being supported by Sir John T. D. Llewelyn, Bart., Sir Henry Doulton, Dr. Gervis, Dr. Walker, Mr. R. Ballantine, Mr. E. C. Jukes, Mr. J. R. Starling, Mr. F. Clarke, Mr. H. Clarke, Mr. W. H. Fowler, Mr. C. C. Payne, Mr. W. Seward, Mr. A. Veitch, Mr. Ingram, Mr. H. Cannell, Mr. Ratchelous (St. Neots), Mr. Drover, Mr. H. J. Jones, Mr. C. Hicks (E. D. Shuttleworth & Co.), Mr. Head, Mr. J. W. Wilkinson, Royal Aquarium, Mr. Gordon, etc. The proceedings were of a most social and enjoyable character, and the after-dinner speeches excellent. The principal speakers all bore testimony to the value of the work done by the society in promoting the culture of the Chrysanthemum, and to the healthy, vigorous manner in which the operations of the society are carried on. It was stated by the chairman that there are now 760 members, 65 of whom are Fellows, and 26 foreign members, and 90 affiliated societies. During the evening the Challenge Shield, won by the St. Neot's Chrysanthemum Society, the Holmes Memorial Cups, and the medals awarded at the November show were presented to the respective winners. The musical programme was in the capable hands of Mr. Sam Payne, and the general arrangements made by Mr. Dean left nothing to be desired.

Florida Oranges.—A Florida Orange grower states that a capitalist interested in that country has chartered a special fruit steamer which sailed direct from Fernandino to England on the 15th ult. Hitherto the Oranges from Florida have been sent to England in the ordinary Atlantic liners—swift but not fitted for carrying quantities of fruit. The new servicewil save the disastrous re-shipment in New York, and avoid the high freights and losses from rotting in transit.

GARDENING MISCELLANY.

CORNISH BROCCOLI.

It has not unfrequently occurred that, whilst the market gardeners of the North have been deluged with rain this year, those in West Cornwall were complaining of drought, and many acres of freshly planted Broccoli were only kept alive by diligent and careful hand-watering. The field and garden hands were kept busy at their work of making a hollow round the "davered" plant by the vivifying water, and their industry has been rewarded, for "spring" broccoli, fine and well-flavoured, are now in the market. What a harvest could be reaped if Cornish broccoli could be preserved in some way to enable them to be sent to Chicago, where the crop is said this year to be an entire failure, and the retail price is to rise from 2½d. to 1s. this season! It is just worth the consideration and trouble of the Cornish gardeners to see what can be done to meet such a want.—*X.*

NEW VARIETIES OF COLEUS BLUMEI.

About the beginning of this year, seeds of a beautiful species of Coleus collected in Chili were sent to Messrs. Linden, L'Horticulture Internationale, Brussels. Some of them were sent to different correspondents, and amongst others to the School of Horticulture of the State at Ghent. Here the seeds germinated abundantly and grew vigorously. The colours of the leaves were most varied, and after considerable sifting out of worthless kinds, eighty were retained, all absolutely different from one another. These were potted on, and grown under the influence of all the light possible. They were very vigorous, producing leaves for the most part over a foot in length and 5 in. in width. Four of the varieties are illustrated by a coloured plate in *L'Illustration Horticole*, pl. 164. The leaves of Docteur Alphonse Willems vary considerably, but generally are of a bronzy green in the lower part, and lively rose in the upper part, blotched with white and emerald in patches of varying size. In our opinion Paul Rodigas is the finest and richest in colour. The leaves are of a beautiful rich mulberry-purple, except the base of the mid-rib and primary lateral veins, which have an irregular whitish yellow band on each side of the ribs themselves, which are of a clear reddish purple. The margins of the leaves of Mademoiselle Alice Vanden Berghe are inflexed; the centre and base are green, while the apex and outer margin are of a dark brownish purple. Those of Mademoiselle Yvonne Linden are smaller and white with a little of a yellow tint, and marbled round the margin with deep green blotches.

DRACÆNA ALEXANDER LAING.

For table decoration the narrow-leaved varieties of Dracæna, as well as Crotons, are the most popular because they are light and graceful. The aim of hybridists in recent years has therefore been to secure plants of this habit. The leaves of the variety under notice are lanceolate, narrowed to a sort of sheathing petiole at the base, and of a deep bronzy green with a narrow red edge. This margin seems to increase in width as the leaves get older, but more especially on the upper leaves of the plant. No part of the plant is bulky, and it can in fact be grown sufficiently large in 48-size pots for decorative work of various kinds. It is as a table plant, however, that it is best suited, and a supply of it for use all the year round can be kept up by propagating a few batches at different times of the year so as to be coming on in succession. The top when taken off and rooted will form a plant at once, while the small side shoots produced later on will give a quantity of small plants for succession. We noted the variety in the nursery of Messrs. B S. Williams & Son, Upper Holloway.

NEPENTHES RAJAH.

Relatively little progress seems to be made in the cultivation of this magnificent but intractable Nepenthes. In its native habitat of Bornea the pitchers attain a length of 12 in. or more, but hitherto in this country a few pitchers 1 in to 2 in. long is all that the plant can be induced to make. The body of the pitcher is short relatively to its width, and of a deep crimson-red. The annulus, or collar, is of a bright brownish crimson, and sharply toothed on its inner edge, and wavy on the outer edge. The leaves are thick and leathery, and the mid-rib runs off into the stalk bearing the pitcher some distance below the apex of the blade. This is quite an unusual feature amongst the Nepenthes. A high temperature with a close atmosphere has frequently been given it as well as other treatment, but all to no purpose. We have seen it in more than one establishment, but in that of Messrs. J. Veitch & Sons, Chelsea, who originally introduced it in 1881, it seems to do as well as anywhere.

A VARIEGATED NIDULARIUM.

As a rule when the species of Nidularium exhibit any other colour than green, it is some shade of red confined mostly to the large bracts surrounding the spike of flowers. In the case of Nidularium stratum the leaves are of a bright light green, with a broad, pale yellow band running along the centre of each, and this band is itself more or less striated with narrow green lines. Something similar is met with in Cryptanthus vittatus, but here the plant is altogether of dwarfer habit and not so effective for decorative purposes as Nidularium striatum. The latter is about 8 in. to 10 in. high, and does well for decorative purposes at any time, whether in flower or not, whereas the other species are most useful when they have arrived at the flowering stage. It may be seen in the nursery of Messrs. B. S. Williams & Son, Upper Holloway.

THE SHROPSHIRE HORTICULTURAL SOCIETY.

We understand that this most flourishing provincial society, which during the seventeen years of its existence has contributed from its accumulated funds an average yearly sum of nearly £400 to various purposes of public utility in the town of Shrewsbury, has now under consideration a proposal to purchase for the sum of £3,150 the Crescent Fields, comprising some 14 acres of rich meadow land, lying between the Town Walls and the river Severn, and in close proximity to the beautiful Quarry in which the society's shows are held. If the scheme is carried through, as we sincerely hope it will be, it is the intention of the society to lay out the ground on lines that will embody ornamental and recreative features, for which the site is admirably adapted.

NEPENTHES DICKSONIANA.

As far as size is concerned, one of the luckiest hits that have been made in the raising of hybrid Nepenthes was that of N. Dicksoniana. The pitcher is oblong or cylindrical, not much narrowed upwards, and variously splashed with light crimson on a pale green ground. It measures 9 in. to 12 in. long without the lid, and holds over a pint of water, thus rivalling in dimensions the notable N. Rajah, so much reputed for its carnivorous propensities in the wild state, and on the other hand so untractable under cultivation. N. Dicksoniana is now in splendid condition in the nursery of Messrs. J. Veitch & Sons, Chelsea.

NEPENTHES KENNEDYANA.

The pitchers of this variety are of good average size and neat in form, cylindrical, and contracted in the middle. The lower portion is green, while the upper one is more or less splashed with red, and the lid is also of the same hue. The wings, sometimes a very conspicuous feature of the pitcher, is here of minor importance, being narrow and fringed only in the upper part. The plant is easily grown when suspended from the roof of the house in a basket. Numerous plants of it so treated may be seen in the nursery of Messrs. B. S. Williams & Son, Upper Holloway.

BEGONIA MARIE LOUISE.

Of the numerous forms or varieties of Begonia Rex to be met with in gardens, one of the most pleasing is that named Marie Louise. The leaves are of good average size, obliquely heart-shaped, and dark olive-green traversed in the middle by a broad, lighter green zone; in addition to this the whole surface is marked all over by silvery white blotches of oval or orbicular outline. The under surface is more or less suffused with red, as in the case of so many other varieties of Begonia. A fine lot of small plants may be seen in the nursery of Messrs. J. Veitch & Sons at Chelsea.

ALOCASIA LINDENI.

Many of the species of Alocasia taken in hand by gardeners are modelled more or less upon the same plan, but that under notice is entirely different. The leaves are heart-shaped, broad at the base, drawn out to a point at the apex, and of a soft leathery character. The upper surface is of a rich dark green, with pale yellow lines radiating from the base along the midrib and the principal nerves. The petioles are relatively long, smooth, and almost white. The metallic character associated with so many species is here entirely absent, and the pliable nature of the leaves enables them to be readily sponged without injury. Owing to their smooth and glossy surface they seldom, however, look dirty. It may be seen, in association with numerous other and better known kinds, in the nursery of Messrs. B. S. Williams & Son, Upper Holloway.

ANTHURIUM ANDREANUM WAMBEKEANUM.

A white variety of the old A. Andreanum has at last made its appearance, and should find favour with those who admire those stately Aroids, but particularly by those who take pleasure in making collections of them. There are several white Anthuriums already in cultivation, but that under notice preserves its own characteristic resemblance to A. Andreanum, except in colour. The spathes are broadly heart-shaped, suddenly narrowed to a point, and undulated or sunk into shallow cavities all over the surface. The cylindrical and slightly curved spadix is wholly of a clear yellow. The variety originated with M. Charles van Wambeke, a well-known amateur of the town of Brussels. A beautifully coloured illustration of it is given in *L'Illustration Horticole, pl.* 163.

A VARIEGATED MAIDENHAIR FERN.

We have now several variegated Ferns, but they are mostly species and varieties of Pteris. There is now a form of Adiantum cuneatum, named A. c. foliis argenteis variegatis, in which the pinnules are variegated with silvery white blotches. We noted it recently in the nursery of Messrs. Pitcher & Manda, Hextable, Swanley, who have proved that it can be raised true to character from spores. If it is easily grown and managed it will no doubt find admirers when it comes to be better known.

ABELIA FLORIBUNDA.

At a short distance off this beautiful plant is strongly suggestive of a Fuchsia in the way of F. dependens or even of Cantua dependens, only the flowers are shorter and more richly coloured than those of the latter. The leaves are small, oval or elliptic, leathery and evergreen, which is not the case with A. rupestris, the only other species grown to any extent in this country. That under notice is the least hardy of the two, as it comes from Mexico and requires greenhouse treatment. The evergreen leaves, and the fact that it flowers early in the year, would prevent it from being so hardy as A. rupestris, which drops it leaves in winter and flowers in summer. The flowers of A. floribunda are produced rather closely together in the axils of the upper leaves of the shoots, and, being pendent, resemble a drooping raceme at a short distance. They are long, tubular, with a slightly bent tube and a five-lobed lamina, all deep rose-purple with some white markings in the throat. The usual season of flowering is March, but some plants have been flowering for some considerable time in the nursery of Messrs. H. Low & Co., at Bush Hill Park, Enfield. So showy is it that cultivators might well add it to their collection, especially in face of the fact that it can be grown and flowered in 48-size pots.

ALOCASIA EDWARDI.

Numerous species of Alocasia have been introduced to cultivation within relatively a few years past. That under notice was collected by Mr. Boxall for Messrs. H. Low & Co., Clapton. Although very robust it is nevertheless dwarf on account of the shortness of its petioles. The real stem at present hardly rises above the surface of the pots. The leaves are broadly sagittate, of a deep metallic green with a glaucous or grey hue on the upper surface and of a uniform soft purple beneath. The lamina alone measures 12 in. long, by 8 in. wide, while the petioles are 8 in. or 9 in., glaucous, spotted with black, with a few scattered markings of a similar hue. The young leaves are rolled up, showing the under surface, which even at this stage is of a reddish purple.

ANTHURIUM LONDINENSE.

As MIGHT be implied from the name, this is of garden origin and a hybrid much in the same way as A. ferrierense that first made its appearance in British gardens some years ago. The spathe is broadly heart-shaped, suddenly narrowed to a point, smooth like that of the last-named hybrid, and of a bright red, almost scarlet colour. The leaves are very much of the same shape as the spathe, but more elongated at the apex, leathery, and of a rich dark green colour. Judging from the specimens in the nursery of Messrs. B. S. Williams & Son, Upper Holloway, the plant is vigorous, of easy cultivation, and lasts a long time in perfection. Flowers of any kind are welcome in the stove at this dull period of the year.

CARNATION MADAME ERNEST BERGMAN.

THE flowers of this tree and winter-flowering variety are of moderately large size, and delicate pink after the style of Miss Joliffe, but paler. A batch of plants 12 in. to 16 in. high is to be seen in the nursery of Messrs. B. S. Williams & Son, Upper Holloway. The stems branch freely, making compact habited little bushes. The leaves are narrow and glaucous. The petals are broad, very slightly toothed at the apex, and not too crowded, so that they expand freely. Carnations are never more esteemed than in winter, and then judging from the market standpoint as to the likings of the British public, the light-coloured varieties are most in favour.

ARAUCARIA COOKSONI.

THE commonest species of Araucaria to be seen in greenhouses during the winter, or indeed at any time is A. excelsa. That under notice is a comparatively unknown plant amongst British gardeners. It may, however, be grown under the same conditions as A. excelsa as to temperature and otherwise. The branches spread horizontally, are ovate in outline and flattened, that is having all the side branches on the same level. The leaves are very numerous, ascending, incurved, and densely clothe the twigs. They feel soft to the touch, in fact, more so than those of A. Rulei or A. excelsa itself. The habit of the plant is similar, but it is slightly more heavily built, and therefore differing somewhat in effect when used for decorative purposes. We noted all of the above in the nursery of Messrs. B. S. Williams & Son, Upper Holloway.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

EAST INDIA HOUSE.—The Calanthes will soon be making a good show in this house, and as these are more or less deciduous when flowering, they are shown off to better advantage when arranged together at one end with a few small Palms and Ferns among them. The early-flowering Phalænopsis, such as Amabilis, will soon be in bloom, and where spiked are large and have many branches, it will be all the better for the plant if some of them are removed, and the flowers that are left to develop will also be much larger. The spikes should be cut as soon as all the flowers have expanded, if the plants are to retain their vigour. The atmosphere of this division must not now be over-charged with moisture or spotting of the foliage will ensue, and especially so will this be the case if by chance the temperature should fall very low, as it will do sometimes no matter how careful we may be. Not much harm, however, will be done if the atmosphere is dry, and the temperature is got up to the required height as soon as possible in the morning. Where Phalænopsis are grown in cylinders, the base of which have been standing in flower saucers of water (a bad practice) during summer, I would advise that the use of them be discontinued.

CATTLEYA HOUSE.—This structure is now gay with some fine forms of the best of all winter-flowering Cattleyas, C. labiata. Side by side with it is Cattleya Warocqueana, which of course is only a geographical form of the old C. labiata. It certainly is not so rich in the colouring of the labellum as in the case with those brought to this country by other firms. The shape of the whole flower too is quite different. The petals are narrower whilst the lip lacks size. The plants bought under the name of C. l. gloriosa are precisely the same, and in this case there is certainly not much in a name. Of course they may improve under cultivation somewhat, but no amount of good cultivation will make a bad variety into a good one. As the plants have hardly become established they will be much better if relieved of their spikes as soon as the flowers are fully developed.

DENDROBIUM WARDIANUM coming into bloom should be so placed as that the young growths do not get damaged, some of ours are already 6 in. high; they will not, however, receive much water yet or they will rot off; they will get sufficient from the old bulbs to keep them going until the little rootlets appear from the base of the new growths.

THE MOISTURE of this house should be gradually reduced. Of course some houses dry up quicker than others, so that the cultivators must bring common sense to bear when damping down or giving air. Our houses dry up very quick, necessitating damping down twice a day even in winter, and pouring water on the floors at night to counteract the harsh heat caused by the strong firing in consequence of our having too little piping for the size of the house. Odontoglossum citrosmum has now completed its growths and will be benefited by a good season of rest, or the plants will fail to flower satisfactorily.—*C.*

Angræcum Ellisii.

THE most of the species of Angræcum are very easily accommodated, because they can be grown in small baskets, and suspended from the roof of the Orchid house, with exception perhaps of A. sesquipedale. That under notice is a native of Madagascar, from whence it was introduced in 1879. The flowers are of medium size, pure white, and deliciously fragrant, like several others of the smaller flowered species. What the individual flowers lack in size they make up in numbers, as they are produced on an arching raceme 12 in. long. The spur of the lip in this species is very moderate in length compared with that of many of its congeners. The stems of a good sized plant are about 6 in. high, and bear ligulate, unequally bifid leaves. A great many of the species flower during winter and spring in this country, and are very welcome when Orchids are by no means over plentiful. That under notice is flowering with Messrs. Charlesworth, Shuttleworth, & Co., Park Road, Clapham.

Sarcochilus borneensis.

A VERY curious species of Sarcochilus was recently introduced from Borneo by Messrs. Linden, of L'Horticulture Internationale, Brussels, and flowered for the first time in Europe in their collection in 1890. In general appearance the flowers resemble those of an Angræcum, while the elongated leafy stems remind us of a Sarcanthus or Aërides. The oblong, emarginate leaves are spotted with brown on both surfaces. Several peduncles arise from the axils of the leaves bearing short spikes of yellow flowers. The sepals and petals are linear, and spread out spider-like. The three-lobed lip has the pouch or sac marked with numerous red spots. The flowers are produced in succession from the axils of bracts, and are very interesting if not very showy. There is a coloured plate of it in *L'Illustration Horticole*, pl. 161.

Phalænopsis Schilleriana vestalis.

As the name would imply the flowers of this beautiful variety are white. There are very few specimens of it in cultivation, and in fact it is a very rare plant. Even the roots and leaves give indication that it is different from the type. The tips of the young roots are green, whereas those of P. Schilleriana are red. The leaves are oblong or oval, very broad and of a deep green above, slightly marbled or banded with grey, while the under surface is green. The under surface of the leaves of the type is purple, and the upper surface is generally much more heavily banded. The flowers are white with yellow spots at the base of the lip instead of red ones. The variety is therefore a true albino from which the purple colour, both of the leaves and flowers, has been washed out. There is a healthy and growing piece of it in the nursery of Messrs. Hugh Low & Co., Clapton. Although a very a small piece when first detected in an importation, it has now made sufficient growth to throw up a flower scape, and flowers will appear in due time.

Catasetum longifolium.

USUALLY we see Catasetums grown in pots or baskets, but there is an illustration of a flowering specimen of C. longifolium in the *Orchid Album, pl.* 456, represented as growing upon a block of wood suspended in such a way that the pseudo-bulbs, leaves, and flowers hang downwards. The pseudo-bulbs are fusiform, and bear about three linear, channelled leaves even while in flower. As a rule the leaves drop by that time. The form of the flowers relagate the genus to the section Monocanthus. They are borne in a drooping raceme of a dozen or more, and are moderate in size. The sepals are all directed behind the broader petals, and both sets are greenish-yellow tipped with crimson. The curious lip takes the form of a pouch or helmet with its mouth upwards, and the small side and terminal lobes are fringed and edged with a deep lake colour. The pouch, both externally and internally, is of a rich yellow or orange colour, the outer surface showing an inclination to become spotted. The species is a native of Demerara, where it grows upon the stems of the Mauritia Palm (Mauritia flexuosa).

Stanhopea Lowii.

NEW Stanhopeas are not of very frequent occurrence, and seldom exhibit the distinctness of that which we noted in flower last week in the nursery of Messrs. Hugh Low & Co., Clapton. It was introduced from the United States of Colombia, but unfortunately at present it appears rare, as only two pieces have been obtained, and one of them is not likely to get established. The other one is now flowering for the first time, and the flowers had been in perfect condition for three days before we saw them. This is unusual for a Stanhopea, as the flowers as a rule are short lived. The season may have something to do with it. The broad sepals are straw coloured. The petals are of course much narrower and similarly coloured, but in addition are marked with small purple dots in the centre. The lip is the most distinct and well marked organ, and is of a waxy, shining white, and very fleshy. The lower portion or hypochile is globose, greatly inflated, with an incurved yellow tooth on each lateral margin, and striped with purple and brown internally. On each side of the middle portion or messochile are two lobes parallel with it and obliquely rounded away, instead of forming the two falcate horns so characteristic of most other species in cultivation. The epichile is ovate, obtuse, convex, and like the other parts of a waxy white. The flowers also emit the agreeable odour of Hyacinths, so that altogether it is a very desirable species. The column has a broad membranous, transparent margin.

Dendrobium aqueum.

IN gardens the species is better known under the name of D. album, so named from the flowers, which are white. The flowers of different individuals vary somewhat in purity, and there is a very good one at Falkland Park, South Norwood Hill, in the collection of J. McMeekin, Esq. The flowers are borne in pairs from the axils of the leaves, which lend an additional interest to the plant. The stems, it may be stated, are about 18 in. long. The sepals and petals are ovate, and the lip three-lobed, with the lateral lobes folded round the column. The lateral lobes, as well as the terminal one, are finely toothed or fringed on the edges. The base is drawn out into a short spur, and there is a similar but smaller concave process in the middle, an unusual circumstance in the genus. The interior of this little pouch is pale yellow—the only bit of colouring that mars the purity of the flowers.

SOCIETIES.

Tunbridge Wells Gardeners' Association.—The Committee of this flourishing society recently organised a special show and competition, at which members of the Sevenoaks, Tonbridge, Edenbridge, and Pembury Gardeners' Societies were invited to compete for money prizes. The meeting, which was held in the large room of the Friendly Societies' Institute, was well attended, and the competition in most of the classes was very keen. In Class 1, for six dishes of Potatos, Mr. W. Johnstone, gardener to the Marquis Camden, Bayham Abbey, was an easy first; Mr. F. Galloway, Cross Keys, Sevenoaks (a cottager), being second; and Mr. J. G. Wulff, Nevill Park, Tunbridge Wells, third. In Class 2, for three dishes, Mr. R. Bovington, Nevill Park Lodge, led, followed by Mr. T. Verrall, St. Andrews, Southborough, and Mr. G. Allen, Tunbridge Wells. In the class for one dish, Mr. H. J. Hall, of Southborough, came in first, Mr. W. Collyer second, and Mr. D. Cornwell third.

Kitchen Apples were well shown by Mr. W. Johnstone and Mr. W. Berwick, who were respectively first and second for four dishes. Mr. J. Buckland, Sevenoaks, had the best two dishes of kitchen Apples; Mr. C. Booth, gardener to G. Drew, Esq., Culverden Castle, coming in second; and Mr. T. Cavie, third. For four dishes of dessert Apples Mr. Berwick again led, Mr. W. Austin being second, and Mr. M. May third. For two dishes Mr. W. A. Searing, Sevenoaks, was first; second, Mr. Austin; third, Mr. J. Buckland. In class eight for twelve cut blooms of Chrysanthemums (Japs.), Mr. W. A. Searing, Sevenoaks, was easily first, Mr. H. Ware coming in second, and Mr. A. Farmer, Sevenoaks, third. For twelve incurved, Mr. Searing was again well to the front; showing excellently finished blooms. He had also the best single bloom, a fine one of Empress of India.

A First-class Certificate was awarded to Mr. Berwick for forty-five dishes of Apples. Mr. A. Waine exhibited some well-grown Grapes, which were highly commended. Messrs. Bunyard & Frost, of Maidstone, sent collections of fruit, and Mr. H. Ware, a stand of Chrysanthemums. The arrangements were well carried out by Mr. D. Cornwell, the genial secretary.

WHAT TO DO IN THE GARDEN.

Gloxinias.—A batch of tubers may be placed in heat, and given sufficient water to enable them to swell up and commence growing. After the first watering the soil may be kept sufficiently moist by occasionally sprinkling the surface with the syringe. After the young shoots are above the soil, the corms may be turned out and repotted in fresh material, placing them in smaller pots so as to leave room for shifting them on. Seeds sown now will give nice young stuff to succeed the old plants in flowering.

Begonias.—Seeds of the tuberous varieties may be sown now if it is desired to have them in bloom as early as possible. Growth is very slow in the early stages, owing to the small size of the seeds from which the plants originate. As soon as the seedlings are well up showing the small cotyledons, place the pots or pans containing them in a well lighted position near the glass, so as to prevent the plants from getting drawn. The propagating pit or some similar place will be best for them till the temperature outside rises in spring, when they may be relegated to cooler quarters after being potted separately and again partly established.

Ixoras.—Plants that are grown for cut flowers and which were cut back in the autumn may now be repotted. A compost of peat with a little leaf soil and plenty of sand will suit them admirably. Use it in a rough and lumpy condition, and give plenty of drainage, that is, let it be as perfect as possible, because a considerable amount of water is necessary during the growing season.

Aralia gracillima and A. Veltchi.—As these attain size they gradually loose the light and elegant character of small plants, by the production of larger and coarser leaves. If cut down the old plants will occasionally throw side shoots and be fit for further use. If the cultivator is fortunate in possessing some small plants of Aralia reticulata, he can graft the tops of A. gracillima and A. Veitchi upon them. Rooting them as cuttings is very uncertain or impossible.

Cyperus and Pandanus.—Plants of Cyperus alternifolius variegatus and Pandanus Veitchi when growing vigorously are very liable to produce green shoots. In selecting suckers of the latter for propagation the strong and green ones should be avoided if possible; and in dividing the former so as to increase stock, the green portions may be thrown away if not desired, as they seldom regain their variegation when they have lost it.

Peaches.—A little heat may be given the earliest house during the day time, turning it off again in the afternoon unless there is evidence of a frosty night. So long as the weather remains as it has been for some time past no artificial heat will be required during the night. Late houses, in which the wood is well ripened and the leaves have fallen, should be kept as cool as possible; but if the leaves are still green a little assistance with artificial heat may be given.

Figs in pots.—If the house containing pot plants for early forcing was closed about the middle of last month the fermenting material will have shrunk considerably, and the heat declined. It may be trodden down and a fresh layer of good depth added to keep up the declining temperature. A minimum night temperature of 50° to 55° in the body of the house will be quite sufficient for the present, provided it is raised to 65° during the day by means of hotwater pipes if necessary. This will be sufficiently high to allow of the necessary syringing and damping. Brown Turkey, White Marseilles, and Negro Largo, are the best kinds for early forcing.

Cucumbers.—A relatively small amount of fire heat will be necessary to keep up the desired temperature in mild weather, and this being so it will be desirable to limit the amount of moisture in the house, otherwise the plants may get mildew. Flour of sulphur will check mildew; and should the plants be troubled with aphis, the foliage should be dusted with tobacco powder while wet. Maintain a bottom heat of 75° to 85° and give plentiful supplies of water and liguid manure of the same temperature as the house.

Planting Fruit Trees.—Every advantage should be taken of the present condition of the weather to get all planting carried on with as much expedition as possible consistent with the thoroughness of the work accomplished. The soil is in that workable condition which enables it to be properly worked in about the roots and trodden. The work of planting should therefore have precedence over every other. October and November are the best months for planting, but owing to the amount required to be done, and the unfavourable and wet nature of those months, it was impossible to accomplish the work.

Roses.—Even in this case much planting will have to be done in December. As soon as the plants arrive from the nursery, they should be heeled in so as to prevent the roots from getting dried up, that is, assuming that they cannot be planted in their permanent positions at once. When the final planting has been made, the ground over the roots should be mulched with short stable manure, leaving it as tidy as possible.

QUESTIONS AND ANSWERS.

Yellow Ground Carnation.—*J. Dalton*: It is too late in the season to judge of the merits of your seedling; you should have sent in the summer. In its present condition it has not much to recommend it.

Judging Chrysanthemums.—*William Earley, Liverpool*: Your letter is not quite clear, but if we understand you correctly, that in a class for thirty-six blooms, twelve each of incurved, Japanese, and reflexed varieties, at the late Liverpool show, Charles Delmas was shown by an exhibitor as a reflexed variety, the exhibitor should certainly have been disqualified, because that variety is, and always has been, classed as a Jap.

Names of Fruits.—*J. F., Wimbledon*; The largest fruit is Wadhurst Pippin, and the smaller one Burchard's Seedling.—*W. B.*: 1, Northern Greening; 2, Not recognised.

Peach Shoots Injured.—*J. C.*: You do not give the particulars which we should most have desired. We believe your trees have been tied to galvanised wires, which often result in great harm to the young shoots similar to those you send us, and which is termed scorching or burning by gardeners. If this is the case with your trees we should advise you to untie the trees, and paint the wires with some paint ordinarily used either for wood or iron. This will prevent the burning of the young shoots another year. You cannot expect much good from those that are already badly injured, but the trees should greatly recruit themselves when they make fresh growth. You may force the trees if desirable, but you may expect some of the more injured shoots to fail.

Potting Cypripedium Insignis.—*Young Irishman*: This may be potted at various times of the year, except when in bloom, but the best time is undoubtably when it commences to make fresh growth. This you can determine by the buds commencing to swell up and expand or by the development of young roots. The potting should be accomplished at the earliest stages of growth possible, or even a little before it commences, for then you can avoid injuring the roots. Some of the Cypripediums, such as C. caudatum, are occasionally potted in sphagnum alone; but the most common compost consists of fibrous peat and sphagnum in about equal proportions. The pots should be half or two-thirds filled with clean crocks, according to the size of the plant and the bulk of the roots. Press all down very firmly. Some cultivators add a little fibrous loam to the compost used for C. insigne and other vigorous grown kinds, as well as a small quantity of half-inch bones amongst the crocks. When properly managed they do well in such a compost.

Apple Dumelow's Seedling.—*R. W.*: The original name of this Apple was Dumelow's Crab. It was raised by a farmer of the name of Dumeller, pronounced Dumelow, who lived not far from Ashby-de-la-Zouch. The name Wellington, by which it is now generally known in the London markets, originated in the same neighbourhood, and the variety was put into commerce under that name by Mr. Williams, of the Turnham Green Nursery, London.

Names of Plants.—*A. White*: 1, Thuya orientalis; 2, Ceanothus Gloire de Versailles; 3, Piptanthus nepalensis; 4, Spiræa sorbifolia; 5, Vitis tricuspidata, generally known as Ampelopsis Veitchi; 6, Magnolia sp., not recognised from a bud; please send leaf and flower in spring.

Communications Received.—E. F. M. B.—J. W.—R. D.—W. M.—H. C.—W. C.—L. E.—L. L.—W. R.—D. L.

LONDON SEED TRADE.

December 7th, 1892.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a moderate enquiry for White Clover and Trefoil. Red Clover steady. The supplies of New English Cowgrass show medium quality and do not find buyers at present. Ryegrasses unchanged. Mustard scare and dearer.

COVENT GARDEN MARKET.

December 7th.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Grapes..... per lb.	0 6	2 0	Pine apples.		
Kent Cobs...100 lb.	120 0	150 0	—St. Michael's, each	2 6	6 0
Peaches ... per dozen			Apples...per ½ sieve	1 0	3 6
Melons ... . each			Plums...per ½ sieve		

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
ArticbokesGlobe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, Frencb, perlb.	1 0		Musbrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per buncb	0 6	
Carrots ... per bunch	1 0		Radishes... per dozen	1 6	
Cauliflowers, Eng.dz.	3 0	5 0	Seakale .....per bkt	3 6	
Celery.....per bundle	2 6		Smallsalading,punnet	0 4	
Cucumbers .....eacb	0 3	0 6	Spinach ... per strike	1 6	
Endive. Frencb, doz.	2 6	3 0	Tomatos..... per lb.	0 9	1 0
Herbs .....per buncb	0 2	0 6	Turnips ..... per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Begonias ...per doz.	6 0	12 0	Chrysanthemum, doz.	4 0	9 0
Cyperus .....per doz.	4 0	12 0	— large, doz.....	12 0	30 0
Dracæna term., doz.	24 0	36 0	Marguerites, perdoz.	6 0	12 0
Dracæna viridis,doz.	9 0	18 0	Mignonette, per doz.	6 0	12 0
Erica Hyemalis, doz.	12 0	18 0	Palms in variety,each	2 6	10 0
,, Gracilis, doz...	9 0	12 0	Palms, Specimen ...	15 0	63 0
Evergreens,invar.doz	6 0	24 0	Primula. Sinensis		
Ferns, invar.,per doz.	4 0	18 0	per doz.	4 0	6 0
Ferns, small, per 100	6 0	10 0	—scarlets.....per doz.	6 0	9 0
Foliage Plants, doz.	12 0	60 0	Solanums.....per doz.	9 0	12 0

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	4 0	6 0	Mignonette... 12 bun.	3 0	6 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, 12 sps.	0 9	1 0
Carnations. 12 blooms	1 0	3 0	—scarlet.....12 bchs.	6 0	8 0
Chrysanthemum,dz bn	4 0	9 0	Primula, double, bun.	0 6	0 9
— .....doz. blooms	1 0	6 0	Pyrethrum,doz bnchs	2 0	4 0
Eucharis ...per doz.	4 0	6 0	Orchid Bloom in var.		
Gardenias 12 blooms	3 0	5 0	per bloom, from	0 3	1 0
Heliotropes.12 sprays	0 6	0 9	Roses, yellow, dozen	2 0	4 0
Hyacinths Roman			— French, per bnch	1 6	4 0
doz. sprays	0 6	1 0	— French, 100 blms	6 0	12 0
Lilac, White, French,			— Red..... doz. blms.	1 0	2 0
per bunch...	5 0	6 0	— Saffrano...per doz.	1 0	2 0
Lilium Harrisii,			— Tea ..... per dozen	1 0	3 0
doz. blooms	6 0	9 0	Stephanotis, dz. sps.	9 0	12 0
Liliums var., dz.blms.	2 0	4 0	Tuberoses, per doz	0 3	0 6
Lily of the Valley dz.sps.	3 0	9 0	Violets,Parma,Frencb		
MaidenhairFern,12bs.	4 0	6 0	per buncb ..	3 0	5 0
Marguerites, 12 bun.	1 0	3 0	—Czar, French, bun.	2 0	2 6
Mimosa (French)p.bh.	1 0	1 6	—Small ,, doz. bun.	1 6	2 0

Holly and Mistletoe, very good.

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VI.—Heating of Vineries
VII.—Planting Vines: when and how to do it.
VIII.—The General Management of Vineries.
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X.—Disbudding and Stopping the Shoots.
XI.—Setting the Fruit.
XII.—Thinning the Fruit.
XIII.—Keeping the Fruit.
XIV.—Packing Grapes.
XV.—Pot Culture of Vines.
XVI.—Fruiting Vines in Pots.
XVII.—Pot Vines as Decorative Table Plants.
XVIII.—Ground Vineries.
XIX.—The Great Grape Conservatory at Chiswick.
XX.—Vines on Open Walls.
XXI.—Commercial Grape Culture.
XXII.—Diseases and other Injuries.
XXIII.—Noxious Insects.
XXIV.—Selections of Grapes for Special Purposes.
XXV.—The Classification of Grape Vines.
XXVI.—The Varieties of European Grapes.
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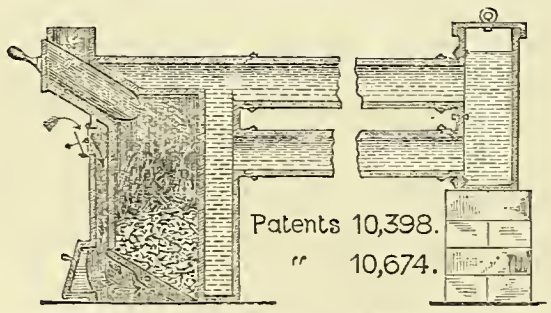

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All communications should be addressed—The Editor of the "Orchid Review," 46, *Lawn Crescent, Kew. Cheques and Postal Orders, payable to* Frank Leslie, *should be crossed* "& Co."

THE ROYAL CALEDONIAN HORTICULTURAL SOCIETY.—The Flower Shows of this Society for 1893 will be held in the Waverley Market Edinburgh on 5th and 6th April, 12th and 13th July, and 13th and 14th September.—CHAS. STEWART, Hon. Sec.

For Index to Contents see page 249.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

NEXT WEEK'S ENGAGEMENTS.

Monday, Dec. 19th.—Sale of the late Duke of Marlborough's Orchids at Blenheim, by Protheroe & Morris (and four following days).
Sale of Plants and Bulbs at Protheroe & Morris' Rooms.

Tuesday, Dec. 20th.—Gardeners' Royal Benevolent Institution, General Meeting of the subscribers at Simpson's at 3 p.m.
Sale of Orchids at Protheroe & Morris Rooms.

Wednesday, Dec. 21st.—Sale of Lily Bulbs at Protheroe & Morris' Rooms.

Thursday, Dec. 22nd.—Sale of Plants from Belgium at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, DECEMBER 17th, 1892.

The Blenheim Orchids.—When referring recently to Blenheim we little thought that the dispersal of the splendid collection of Orchids which the late Duke of Marlborough had accumulated at considerable expense would have come so speedily. Next week, however, the thousands of plants that have made the Blenheim collection one of the finest in the kingdom will be sold and go hither and thither, no one at present can say where. We deeply regret this because there can be no question that only persons of considerable means can form these extensive Orchid gatherings, or keep them at their needed condition of excellence. Plenty of persons of moderate means may have their smaller collections of a few hundreds, but it is only the wealthy who can maintain the thousands.

It is true that the collection formed at Blenheim has not been conducted on purely private lines. That there was in the collection much of the trade element there can be no doubt, and when we hear of 15,000 Odontoglossums for instance, it is not difficult to determine how far these may have been grown for sale, rather than for personal gratification; of course we have a strong preference for those collections that are essentially outside of trade associations. Still trading enters so largely into almost everything grown in private gardens now, that it is hardly to be expected that Orchids would be exempt from the com-

mercial element. Even these considerations, however, do not prevent us from regretting that the Blenheim collection is to be dispersed. After all, of our wealthy ones, very few have Orchidaceous tastes. Preferences rather run on pictures, yachts, or racehorses, or other costly and, as a rule, not too profitable luxuries.

Orchids somehow generally pay in the end, for they will if well cared for grow into value, although in the present case it may prove that a big sale in the end of December can hardly be so profitable as if it were held some two or three months later. That the sale will be both largely attended and watched with great interest there can be no doubt. It is one of the Horticultural events of the year, and perhaps of all things was the one which but just a few weeks ago was the least expected.

VARIEGATED-LEAVED PELARGONIUMS.—The death a few weeks ago, at Southampton, of an aged lady named Sophia Dumaresque recalls the fact that a once well-known variegated silver tricolor Pelargonium enjoyed that appellation. There may still be some yet in existence, but there was so much of similarity in many of that section of bedding plants, that very likely not a few once regarded as distinct now have one common title, and of these again very few are cultivated. There is one grower of this class of plants for the market at Brentford, Middlesex, who still caters largely through the market for such as may desire to possess them, but the old silver tricolors form a very inconsiderable part out of the number.

It must be said that these were never a very useful strain. They were too delicate or miffy for outdoor culture, and too troublesome in pots under glass; their loss is of no moment, neither is that of many of the golden tricolors, of which we once had so many and now so few. Nay it is a remarkable fact that of all the number none remained in common use so long as has the popular Mrs. Pollock, for that is grown largely yet for bedding purposes. Another of the golden bicolor section, Crystal Palace Gem, still remains very popular also, indeed will not be dispensed with so long as the present system of bedding out in the summer with tender plants exists; and of all the silver bicolors the pretty Flower of Spring still seems to have their place.

What sensation did some of these create in the early days of their production, but whilst so few have continued to exist scores have gone from gardening for good. In the golden zonal section McMahon and Black Douglas may still be found employed, and perhaps a few others here and there of minor note. It seems very likely that the Begonia will soon give the final extinction to many bedding Pelargoniums.

THE POTATO TRADE.—The extraordinary abundance of this year's Potato crop is of course the chief cause of the present exceedingly low prices which prevail, but we may take it for granted that the low price of Corn has some connection with it. Still we have such an abundance of Potatos that only by offering at low prices under any conditions could stocks be consumed. It is thus very instructive to note that whilst farmers who find that Corn has touched the low water mark of the past fifty years, attribute all their troubles to Free Trade, we find Potatos in precisely the same boat, and yet in relation to all our chief crops of these tubers, we have literally no form of foreign competition to contend with, we are in fact exporters to a considerable extent.

True, early in the year we import from various parts of South Europe large quantities of early Potatos, but these do not materially compete with our late crops, and certainly are not competing now, yet we see Potatos of all the best field varieties quoted in the markets at an average price of 60s. per ton, or 1s. 6d. per bushel, and there can be no doubt that thousands of tons could be bought from the pits or clamps at 50s. per ton. Now to what particular cause are we to attribute this very low figure; we had a very considerable quantity of disease in the crops during the autumn, and from some places very distressing accounts were furnished of the effects of the Phytophthora on the tubers. Assuming that these statements were true, then taking the country throughout some ten to fifteen per cent. of the crop was rendered valueless. Had this portion been sound, what a tremendous crop we should have had!

Looking at the existing great abundance, which is chiefly attributed to the numerous disease resisting varieties we have in cultivation, what wonder is it that after all disease remedies, whether Bouillie Bordelaise or anything else, attract very little notice. Whilst the farmer may attribute all his misfortunes to the low price of Corn, he is little better than a simpleton if he ignores the importance of such a factor as Potatos in our present food stocks. Things are very different now to what they were twenty or thirty years ago, and if Corn was to go up in price largely the public would respond by trebling the growth and consumption of Potatos.

EDIBLE CHRYSANTHEMUMS.—We feel sure our readers will heartily commend Mr. Harman Payne for the complete *coup de grâce* which he gave in our last issue to the new notion as to the fitness of Chrysanthemum flowers for human food. If the petals of the Chrysanthemums, why not those of Dahlias, or Roses, or Sunflowers, or myriads of other popular flowers not omitting the common Marigold, which our grandmothers frequently used for flavouring soups, but which is seldom now so employed. It will be a misfortune if any fad, fancy or fashion should ever result in the conversion of beautiful flowers into a cooked product or a salad. No element in our friend's experience seemed to tickle our fancy or probably that of our readers so much as the presence of green-fly in his compound of floral petals. Very likely these aphides in proper quantity would add a special piquancy and flavour to salads, and in a cooked dish add an entomological interest that is usually lacking in other dishes. But the presence of a few caterpillars amongst our cooked Cabbage or Cauliflowers is not esteemed appetising, and aphis would hardly prove more attractive; in any case the difficulty would seem to be to determine the proper quantity.

After all, in what way as a cooked dish can even the most beautiful Chrysanthemum flowers compare with good Cauliflowers, Brussels Sprouts, or Spinach, or as salads with well blanched curled Endive or Mustard and Cress. English tastes in relation to diet differ happily, at least according to our opinion, from those which prevail either in America or so near at home as France. Possibly we do neglect some good things, but on the whole whilst our ordinary diet covers a very wide range of subjects, most of them being of a very wholesome kind, we are open to receive from elsewhere any good thing that is worth having, and certainly Chrysanthemum flowers can hardly be so included.

Without referring to not a few products which have from time to time been recommended as edible and have been quickly rejected there have been found some notable accessions, of which perhaps the most popular is the Tomato, and we may yet find others in due course as acceptable. But whether of fruits or vegetables, the existing varieties that home and abroad furnish to us are indeed wonderful, and in many cases truly delicious. Even in canned or tinned products there is a wondrous wealth, so that there is little fear with all the world to supply us, we shall ever be lacking suitable food elements.

Mr. Grayer, formerly gardener to the late Duke of Sutherland, at The Willows, Windsor, has been engaged as gardener to H.S.H. Prince Christian, at Cumberland Lodge.

Mr. W. Bennett, lately gardener at Bagheeca Park, near Bath, has been engaged to succeed the late Mr. Wright as gardener to T. G. Clark, Esq., Tal-y-garn, Llantressant, Glamorganshire.

The Royal Caledonian Horticultural Society's Exhibitions for 1893 are announced to be held on April 5th and 6th, July 12th and 13th, and September 13th and 14th.

A Baronetcy for Baron Schroder.—The *Gazette* of the 9th inst. states that the Queen has directed letters patent to be passed under the Great Seal granting the dignity of a Baronet of the United Kingdom unto Mr. John Henry William Schroder, of The Dell, Old Windsor, Berkshire, and to the heirs male of his body lawfully begotten.

The Reaumur Thermometer in Russia.—The Fahrenheit thermometer has long been known to be based on a scientific error, and with the New Year Russia will discard the Reaumur, only officially recognizing that known as the Centrigrade. Its adoption in this country may possibly follow, in which case an impetus will be given not only to trade, but to "weather" conversation.

Rabbit-proof Conifers.—An Orleans correspondent of the *Field* states that he has from long experience found the Corsican Fir to be an excellent rabbit-proof Conifer. The Messrs. Transon made an experiment with Pinus sylvestris, native, black Austrian, and other Pines by planting them in one row, and always the Corsican Fir was the only tree untouched by rabbits.

Gaultheria Shallon, the Partridge Berry, is also strongly recommended in the same journal as an excellent, hardy, free-growing plant for covert. It is a plant of much beauty of leaf, flower, and berry, and sometimes attains a height of 6 ft. or more.

The Botanical and Horticultural Society of Northumberland, Durham, and Newcastle-upon-Tyne, at its annual meeting held last week, decided to hold the society's spring show on April 19 and 20, and the summer show in July instead of August. Mr. Gillespie, who has very ably discharged the duties of secretary to the society during the past fifteen years, has been compelled to resign his office, but has joined the council. Owing to wet weather at the spring show, and the contested election in August, the surplus funds of the society were somewhat reduced this year.

The Weather in Cornwall has this week (writes a correspondent) been something to be thankful for, and of such a character as to cheer the hearts of the market gardeners, whose early spring vegetables are making such healthy progress with the promise of an abundant harvest. Outdoor work in the gardens, too, is very forward in the county, and many of the gardens are showing up this year particularly well in winter flowers, whilst the nurseries perhaps never looked better for days before Christmas. Altogether the industry in the far West of England looms with a brightness that is likely to have a contrary effect to that of agriculture; and as fruit growing is to be largely cherished in the near future—preparations being already made to no meagre extent—Cornwall will be looked forward to with greater interest than has hitherto been the case. It may also be remarked, in passing, that the railway companies have been approached with some degree of satisfaction as to the reduction of rates for carriage between that county, London, and the Midlands.

Effect of Exposure on Coal.—Coal loses considerably both in weight and quality by exposure to the weather. According to a German experimenter, anthracite and cannel suffer least, but ordinary bituminous coal depreciates nearly one-third in weight and nearly one-half in gas-making quality after a long exposure. Weather waste of soft coal is always taken into account in a careful establishment where much coal is used. The loss appears to come from a slow oxidation that takes place, and the result is the practical burning of a portion of the coal in the pile. All this results in the pile having a lessened heating capacity.

Edinburgh Horticultural Association.—The monthly meeting of the Edinburgh Horticultural Association was held on the 6th inst. at 14, South Street, Andrew Street—Mr. M. Todd presiding. Mr. John Methven read an interesting paper on "The Dukeries of Nottinghamshire and Sherwood Forest," in the course of which he gave a description of the ducal and other mansions in these places inspected during their excursion some years ago by the Scottish Arboricultural Society. The lecture was fully illustrated by photographic views. On the motion of Councillor Mackenzie, Mr. Methven was awarded a cordial vote of thanks for his lecture. The treasurer stated that the prospective total income from the late Chrysanthemum show was £1,048, of which £973 was taken at the doors. The expenditure he estimated at £973, including the £281 for prizes and medals. Mr. Todd proposed that the Chrysanthemum show should be held next year on the same lines as before. Mr. Mackenzie in supporting the motion, eulogized on the good the shows had done for Scotland in perfecting the cultivation of the Chrysanthemum. The motion was unanimously agreed to. Mr. Mackenzie gave notice of the following motion for next meetings. "That the council be empowered to pay a part of their surplus funds to the widows and children of Scottish gardeners." Mr. Mackenzie moved "that the secretary be instructed to send a letter of condolence to Mrs. Downie and family. Mr. Greive (of Dickson & Co.) seconded, and it was agreed to. An exhibit of splendid blooms of Louis Bœhmer, and exceptionally fine flowers of Souvenir de la Malmaison, from the gardener, Aithery Castle, near Stirling, were much admired, and the secretary was asked to thank the exhibitor.

National Amateur Gardeners' Association.—The second annual dinner and presentation of prizes of this young association of *bona fide* amateur gardeners took place at the Holborn Restaurant on Tuesday night, when over one hundred ladies and gentlemen enjoyed a very pleasant evening. The president of the association, Mr. T. W. Saunders, occupied the chair, and, in proposing the toast of "Continued Success and Prosperity to the Association," congratulated the members on the large accession of strength which had accrued during the year from the additions to the membership roll, and on the record of good work which had been accomplished so far. Their progress had indeed been remarkable, they had now 408 members on their books, and many of those members resided far beyond the bounds of London. They had one member in Italy, another in North Japan, and several in America. Their Liverpool branch now numbered over 100 members, and was in a flourishing condition. The number of affiliated societies was increasing, and he sincerely hoped that each member would endeavour to induce a friend to join, and so double their number during the ensuing year. Their subscription was a small one, only half-a-crown, and it was desirable in every way that their receipts should be increased. Their monthly meetings had been well attended, the number of exhibits had been largely increased, and the standard of quality had been very appreciably raised. Their diplomas were very much coveted by the members, but it was not to the interest of the association that they should be awarded too freely, and that had not been done. They had also during the year had a special medal struck for the Association. The toast was royally received, and then the distribution of Medals, Certificates, and other prizes took place, and the toasts which followed were the "President," and "Executive," acknowledged by Mr. Saunders; the Secretary, Mr. D. B. Crane; and the Treasurer, Mr. H. A. Needs; "The Ladies," "The Visitors," and the "The Press."

THE NURSERY AND SEED TRADE ASSOCIATION.

The annual general meeting of the members of this association was held on the 9th inst., at the offices, 30, Wood Street, Cheapside, E.C., Mr. N. N. Sherwood presiding, there being also present, Mr. H. J. Veitch, Mr. W. Paul, Mr. W. J. Nutting, Mr. H. Turner, the solicitor, Mr. C. Butcher, the secretary, Mr. George Worrell, and others. Some routine business having been disposed of, Mr. Sherwood was again unanimously re-elected President, and Mr. W. J. Nutting, Treasurer. The Trustees, Messrs. H. J. Veitch, T. A. Dickson, and J. Hayes, the Solicitor and the Secretary were also unanimously re-elected; and Mr. Herbert J. Cutbush and Mr. Henry Williams were appointed auditors. Mr. Francis Fell was elected a member of the committee in the place of Mr. T. S. Ware, as also were Mr. W. Y. Baker (Thames Bank Iron Co) and Mr. B. Wynne in the places of Mr. Sherwood and Mr. Nutting, who are members *ex officio*. The meeting was then adjourned to Wednesday, January 11th, at 6 p.m.

At the conclusion of the business meeting a number of the members and a few friends dined together at the Guildhall Tavern, Mr. Sherwood again taking the chair, and Mr. Nutting the vice-chair. In proposing the toast of "Continued success to the Association" the Chairman considered that they might all congratulate themselves on the substantial progress they were making, if not with regard to increasing the membership roll, at least as regarded the carrying out of the objects for which they were banded together. These objects were:—(1) To protect and promote the trade and business of Nurserymen, Florists and Seedsmen in the United Kingdom and abroad. (2) To collect and disseminate information calculated to protect the members of the association (as Nurserymen, Florists, Seedsmen, and others interested in Horticulture) from fraud. (3) To arrange for the speedy and economical collection of debts due to members. (4) The establishment of unity amongst those interested in the welfare of the Nursery and Seed Trades. (5) The encouragement of the interchange of opinions on questions of importance relating to such trades. (6) The doing of all such things as may be incidental or conducive to the attainment of the above objects, and all such objects as may from time to time be determined by the Association. These objects if well and systematically carried out could not be other than beneficial to the nursery and seed trade, and he could wish that the members of the trade supported the association in greater numbers than they did. The association was valuable as a means of interchanging opinions on matters affecting them all as traders, and it was to be regretted that they did not meet oftener, for a general comparison of notes, and the discussion of any matters which may arise in the conduct of business. Such meetings he felt sure would be highly conducive to the welfare of the trade in general. It had occurred to him that as they never had a large attendance at their meeting in the Cattle Show week, it might be desirable to try at some other time or season to get their friends together, and he would suggest the period in September when so many provincial nurserymen were in town attending the autumn plant sales, as a suitable one for trying the experiment. He felt certain that if they could meet together one evening about that time it would be to the advantage of them all.

Mr. Veitch, in responding to the toast, referred to the valuable services which had been rendered to the association by Mr. William Paul. Mr. Paul had taken a great interest in its management since the association was established some 15 years ago, and whatever success had accrued was largely due to his efforts in promoting its welfare. He agreed with the principle of having meetings of the trade in London, believing that an interchange of ideas would be most advisable and salutary, but there were difficulties in the way would occur to them all. The association was a thoroughly honest and sound concern, and he hoped the present members would do all they could in inducing their trade friends to join them.

Mr. William Paul gave "The Trustees and Treasurer," to which Mr. Nutting responded. The chairman proposed "The health of the Visitors," which was acknowledged by Mr. Cattrel, an agricultural seed merchant from Lancashire, who in the course of a vigorous and sensible speech remarked that the agricultural seed trade was suffering less from depression in the north than in the south. Mr. W. Y. Baker proposed "The Solicitor and Secretary," Mr. Todman, "The Horticultural Press," and the chairman "The health of Mr. D. Fairly and his musical friends," and thanks to them for their excellent musical entertainment. The health of "The Chairman," proposed in complimentary terms by Mr. Nutting, and received by the company with musical honours, brought a pleasant evening to a close.

NOTES FROM OAKWOOD.

Lilies.

It may save repetition in my annual note on our Lilies of the past season, to confine it as much as possible to facts which seemed to be at all remarkable.

Lilium auratum rubrovittatum and L. Krameri, of very many shades of colour, growing among Rhododendrons in a mixture of vegetable soil and light loam, continued to flower well, as did L. Leichtlinii in light loam on the "mountain" side.

Having a large bed of L. auratum planted in 1887, where the plants were too crowded, we took up a number of bulbs and came upon eight stems very near together, they all came from one bulb which could be separated into seven good bulbs, and afterwards when moving a quantity of Lilies to new beds where they would be more in view, we found a bulb of L. speciosum rubrum with eleven stems, which divided into nine flowering bulbs, this had been undisturbed since 1885. From the same place we took two bulbs of L. Szowitzianum, each weighing one pound ten ounces, one of them being solid the other nearly divided into two.

Our tallest stem of L. giganteum was 8 ft. 9 in., and had thirteen flowers, this is only a moderate growth, but L. cordifolium with eight flowers, and stems 5 ft. 8 in., was I think exceptionally fine. Our tallest L. superbum was 10 ft., and L. pardalinum 9 ft. 6 in.

Our pot Lilies in the conservatory here, both the different varieties of L. auratum and of L. speciosum, were unusually fine, and on repotting were found to have increased their bulbs both in size and in number; their soil was old top spit turf in lumps and leaf soil.

Our Lilies here in the open, in sunk casks with the bottoms out, proved more than ever the advantage of this mode of cultivation; in one cask we had twenty-one stems of L. tigrinum Fortunei, the tallest 8 ft. 6 in. high. Grown as close as this of course the top soil should be renewed every year, especially with soil-exhausting Lilies like Tigers.

The tops of the casks should not be sunk much below the surface of the surrounding soil; where this was so, we found some shrub roots had come in over the top of the cask.—*George F. Wilson, Heatherbank, Weybridge Heath.*

THE MISTLETO BOUGH.

At the meeting last week of the Manchester Field Naturalists and Archæologists' Society, the president, Mr. Charles Bailey, F.L.S., gave an address entitled as above. Mr. Bailey exhibited specimens of the common Mistleto from various parts of the world; a yellow-berried Mistleto, parasitic upon Pines and Spruce, from Spain, Saxony, Austria, and Italy, and a red-berried Mistleto, on Olives, from Nablous, Syria. He referred at some length to the association of the Mistleto with the ceremonies of the ancient Druids, and proceeded to give a minute description of the plant and its mode of growth. The trees affected by the Mistleto, he said, vary with the country in which they grow. In this country its favourite "host" (the tree to which it attaches itself) is the Apple tree, and in the county of Hereford, Dr. Bull found, on a careful census of individual trees, that two trees in every five had Mistleto growing upon them. Another observer taking a wider area than a single county, found thirty-four per cent. of the Apple trees bearing the parasite. Next to the Apple it likes some of the Poplars, but the Pear tree rarely suffers from it. On the Continent large districts of Pine forests are frequently found infested with it. Its occurrence on the Oak is extremely rare, and there are probably not a score of Mistleto-bearing Oaks in the British Islands on which the plant has been sown other than by the hand of man.

DYSON'S LANE NURSERY.

It is now well known that Ferns constitute the leading feature at the Dyson's Lane Nurseries of Mr. H. B. May, at Upper Edmonton. Year by year, however, the nurseries keep extending; house after house is added to those already existing, and fresh features in the way of plants are added to the general stock or old ones extended. Amongst these certain classes of flowering plants and fine foliaged subjects not only receive attention, but are grown to the best advantage. Plants merely of scientific interest find no house-room here.

Fine Foliaged Plants.

Not far from the entrance of the oldest branch of the nursery is a houseful of Crotons of all the leading varieties and in excellent condition. The same is repeated in another house, and batches may be seen distributed in other houses. We can only note a few of the finest of them here. The graceful character of Johannis is well shown by being suspended in pots from the roof of the house. The long narrow leaves are of a deep green with a broad golden yellow midrib generally otherwise blotched with yellow, and occasionally the whole leaf is yellow. Majesticum has leaves 12 in. to 16 in. long, of a deep bronzy olive green with a crimson midrib banded on either side with yellow. The leaves of Musaicum are more nearly of the width of those of Veitchi, and of a deep green with much yellow suffused with red and having a bright red midrib and secondary nerves Those of Weismanni are linear, 12 in. to 16 in. long. A sport from it has a broad yellow band along the centre, with a narrow white midrib, netted with yellow on a deep green ground and having red petioles. The leaves of Massangeana are 12 in. to 14 in. long, creamy yellow, blotched with green and having a red midrib and lateral nerves. A handsome variety is Etna, with narrowly obovate leaves richly netted with crimson veins and marbled with olive green, and often showing a mixture of yellow and salmon along the nerves. The leaves of Rex are about a foot long, ascending or slightly arching with a red midrib, netted with yellow and bronzy red beneath. Baron James de Rothschild is well known for its broad, obovate crimson leaves blotched with a deep bronzy green. Voluta is notable for its short leaves curled backwards forming a ring, and yellow with oblong green blotches between the ribs. Another old but very handsome kind is Undulatum, much marked with bronzy crimson. The number of really fine kinds might easily be doubled, but the above furnishes a great amount of variety both as to form and colour.

Palms are also very extensively grown, and, although the species are not numerous, the quantity of a kind is considerable. Some of the Kentias are amongst the most popular of Palms at the present day, and K. Forsteriana and K. Belmoreana receive a large share of attention. We noted four houses at least in which those two were very conspicuous. Latania borbonica, Corypha australis, and others of that class were also well cared for. Cocos Wedelliana may be noted, of various sizes from the seedling stage onwards. Ficus elastica is grown in great quantity, but we were particularly struck with a lot of the variegated variety in fine condition, and occupying a house 100 ft. long. We have never seen Reineckea carnea variegata more finely coloured. The same may be said of Cyperus alternifolius variegatus. In the same house are many finely-coloured plants of Maranta arundinacea variegata, also known as Phrynium variegatum. A graceful, grass-like plant is Carex japonica variegata.

Ferns.

These are as a matter of fact fine-foliaged plants, as in the case of the foregoing, but they are so extensively and so well grown here as to call for special notice. Fern-lovers make many a pilgrimage to this collection. The more useful decorative varieties are grown in great numbers, sometimes by the houseful, while the number of species is very considerable. We can only give but a cursory glance at the more prominent in this notice. The new variegated varieties of Pteris are particularly noteworthy. They have mostly been raised from Victoriæ, having a silvery mid-rib to the pinnæ, with branches of the same colour running half-way to the margin. It varies somewhat from spores, by which it can be raised in quantity. P. regina cristata has silvery pinnæ, with green forking veins running to the margin, and terminating in green crests. It is graceful and handsome. In the case of P. nivalis, the green is mostly confined to the margin, the rest being silvery white. Large numbers of them are still in a small state. Another very pretty Fern is P. tremula variegata, with a silvery white mid-rib and branches running almost to the margin. The old Pteris argyreia is also grown in quantity, and in fine form. There is a houseful of P. cretica and P. c. cristata, both very bold and effective plants, and also very durable when placed in a dry atmosphere. A finer and more interesting feature, however, is presented by two or three houses fully occupied by the bushy, erect, compact, and bold-looking P. c. nobilis. The varieties of P. serrulata, especially P. s. compacta, are grown extensively in 48 and 32-size pots.

As might naturally be expected much space is devoted to Adiantum cuneatum and its varieties in a number of houses running parallel with one another in such a way as to resemble a single house with numerous span ridges. A uniform temperature is thereby secured, and the field of finely cut foliage that can be seen at once is very pleasing. Some of the finer varieties of the species are A. cuneatum gracillima, A. c. Weigandi, A. c. Pacotti, and others. Here too are A. rubellum, A. Capillus-Veneris Mariesi, having bold foliage, but perhaps surpassed in this respect by A. Fergusoni, the fronds of which are so massive at the ends of the pinnæ as almost to appear tasselled. A. amabile is another good sort, and the list might be considerably extended. Numerous species and varieties of Nephrolepis are also conspicuous features in some of the houses, including N. rufescens tripinnatifida, N. cordifolia compacta, N. Duffii, N. recurvata, N. davallioides, and several fine varieties such as N. d. furcans, N. d. multiceps, and N. d. plumosa, of which we must say something on a future occasion, as space forbids a description of their beautiful forms here.

Goniophlebium subauriculatum is grown to great advantage as a basket plant. The same may be said of the numerous Davallias grown here, including such fine subjects as D. Tyermanni, D. Griffithi, D. elegans, and its remarkable variety D. e. polydactyla. The Stag's Horn, Platycerium alcicorne, also P. grande, and the Elk's Horn, P. Stemmaria, with its remarkable barren fronds, are grown in cork baskets or pockets, suspended from the pillars of the house. Aspleniums in numerous species are scattered through several houses in quantity. Pretty and varied are A. erectum, A. alatum, A. Baptisti, A. cicutarium, and A. Hemionitis, with its palmate and leathery leaves. Closely similar in general appearance to the last named is Doryopteris ludens. Asplenium Baptisti is notable for its great amount of variation. Acrostichum drynarioides and Aglaomorpha Meyenianum are also bold and characteristic looking Ferns.

Flowering Plants.

More than one house is occupied with winter-flowering Carnations. At the entrance of one of them is a fine lot of Winter Cheer, dwarf, bushy, and full of buds and scarlet flowers. Miss Jolliffe, being a well-known and popular sort, is grown in quantity. Alegatiere is one of the best scarlet dwarf-habited sorts. The pure white flowers of La Neige are very choice at this season of the year. A free-flowering, crimson and sweet-scented variety is Mrs. A. Hemsley. A houseful of Camellias, planted out some years ago, has done remarkably well. The variety grown is the old Alba plena, mostly planted in brick built boxes above the level of the ground. The plants are laden with flowers and buds. Another house is filled with white-flowered Indian Azaleas, chiefly Fielder's White. Poinsettias, including the type and also the white-bracted variety, together with a fine lot of Euphorbia jacquiniæflora, make a grand display in another house. Near by this is a houseful of double Chinese Primulas in several varieties, all in excellent form, either in full bloom or approaching that stage. As might be expected, the old Alba plena is well represented, and A. p. grandiflora in smaller quantity. The latter is distinguished by its larger flowers, also pure white. Several other varieties are also white at this season of the year, but in spring, when the light is stronger, they may be more or less tinted with pink and lightly streaked with a darker hue. They are Marchioness of Exeter, Mrs. Barron, White Lady, and Princess, all with larger flowers than Alba plena.

Close by this house are several new ones which have recently been built and filled. They are heated by the patent horizontal tubular boiler of the Thames Bank Iron Company, as are several other ranges; and Mr. May intends to use it on all future occasions when putting in fresh boilers or renewing old ones. With his extensive experience Mr. May should now be well able to judge of the heating powers of a boiler.

ON PLANTING WOODS.

People who care for planting should be busy now. It may perhaps be the best time to say a few words about that interesting, but not always successful, work. We do not mean nurserymen's planting in the garden, as that may be anything. Shrub planting is generally as bad as it can be from a garden or any other point of view; and Conifers stuck about like children's toy trees we may pass by for the present. This note refers only to forest trees, mostly the coniferous trees which attract us by their beauty or usefulness, and the ever useful Larch. In many districts Oak and Ash, and what are called hardwood trees, are plentiful enough, and so the question resolves itself to the planting of the hardier Pines and Larch. There are, of course, various ways of doing this, but as it is a costly matter, and the result is one we have to wait long for, it is most important it should be done with economy and knowledge, and a few things steered clear of.

It is impossible to teach this sort of thing unless it is gone into with some interest, but a few simple rules may be laid down. The first is, never to plant in a hurry, as due preparation will save time. If we were now going to plant a Larch wood, we should gain time by furrowing the ground and planting it next autumn, rather than in a hurry now, and on the grass. We should plough up the field when we could, and move it about in the summer, fence it with close wire rather early in autumn, and when all was ready write for the trees in November. We feel sure that we should gain a year in this way, and have no blanks to speak of.

The second point is never to plant large seedlings. A great many English nurserymen are apt to send out the trees too big, and with a good deal more top than root. The man who sends large tops and small roots should be avoided. Whether we plant from our own home nursery or buy, it is much better to begin with trees not over a foot high, and often less than that. This week we planted a thousand Cedars of Lebanon, with shoots 6 in. high, and we have no doubt that they will take well, and in the end be finer and cleaner trees than if we had put them out at 6 ft. instead of 6 in.. When little trees begin to grow, the growth is clean, and the roots take hold of the ground in a healthy and natural way. Before we had much experience in this way the handsome topped young Scotch often took us in, and there were many deaths.

Another excellent rule is never to order trees or disturb them till the field is ready and fenced. As many people buy in nurseries, they have to face the accidents of drying winds, long railway journeys, and if they are not ready when the trees come, and the trees have to be put in stock until the ground is ready to receive them, the chances of failure are increased. We have seen this year many thousand Larch lost, mainly from these causes. Have the field ready, and in the South of England generally, or any gamey or rabbity district, it is absolutely necessary to wire. This is best done in late summer or early autumn, so that we have only to telegraph or write for the plants if we have not them already in our place, and it is then a pleasure to get all hands and put them in at once. A field so treated will not have many failures. We have seen some plantations of Larch made, within the past five years, in this way at Shrubland Park, and also Clouds, in Wiltshire, which were pleasant to see in their rapidity and vigour of growth, some of them growing a yard a year after the first few years.

Another excellent rule is never to plant a tree you do not know to be hardy in your district. We are not speaking of experiments of ones or twos, or a few trees in the ugly rings one sees so often in English country places, but of regular plantations. There are so many novelties offered amongst conifers that it is well to be careful not to plant unless we know the thing will do, and not merely do, but endure our hardest winters. It would, for instance, be wasting

money to plant Wellingtonias, and there are a good many other conifers of doubtful hardiness and utility. We were surprised to hear that the Corsican Fir had been lost in northern and central France, where we thought it was one of the hardiest, but we trust it will endure in Britain. We have a variety of precious trees if we take the trouble to find out the best. Beyond the common Pine, so often planted in England, and the Spruce, Scotch, and Silver Firs, there are some kinds that deserve to be more planted, such as the Weymouth Pine, the Riga Pine, the Calabrian Pine—if one could get it—the Crimean Fir, and the Cedar of Lebanon. This last, which is mostly put out in pleasure gardens by itself as a beautiful specimen, we think should be oftener planted in the natural and true way as a wood. By planting it entirely separate we get a fine specimen, and the tree develops large branches at the side, whereas in a wood it grows more erect and pine-like, and is, we think, quite as beautiful, developing a bold, but beautiful, plumy head. Planted in this way it is also lighter and more pointed in the head, and there is no danger from the snow, which so often destroys the tree when it is a spreading specimen on the lawn or near the house. One of the most beautiful things we know of is a wood of the Cedar of Lebanon; that is to say, grown in the way it generally congregates on the mountains, and the way all Pines grow. We have proved its hardiness for some generations in England, which cannot be said of many Pines.—*The Field.*

THE CHICAGO EXHIBITION.

Mr. James Dredge, a member of the Royal British Commission for the World's Columbian Exposition of next year, in a paper read on the 9th inst. at a meeting of the Society of Arts, said with reference to the horticultural building:—The ground occupied by the horticultural building is nearly six acres. Its design is admirable, and on a scale harmonising with the rest of the exhibition. The great constructive feature is the central dome, 180 ft. in diameter, and about 140 ft. in height. This dome occupies the centre, and is surrounded by a square court, roofed, and about 30 ft. in height. The main entrance to the building is in the centre of this court, and on each side within it is a wide circular staircase, lighted from a small dome that forms a conspicuous feature in the design. To the right and left of the central court run two galleries: one in the front is 69 ft. wide, and 272 ft. in length; at the rear is a second gallery, which passes behind, but adjoins the central court, it is about 750 ft. long, and 50 ft. wide. The latter gallery will thus form a continuous series of glass houses, maintained at different temperatures for varying floricultural exhibits. A clear space, 89 ft. wide and 272 ft. long, separates the front and rear galleries on each side of the dome, and forms two large open courts that will be utilised for horticultural displays. Each court is inclosed at the outer end by a spacious wing 118 ft. wide and 250 ft. long. Thus the whole building consists of the central dome and its surrounding covered court; of two spacious end wings, connected with the central court by a gallery in front and one at the rear, these galleries being spaced far enough apart to inclose two extensive open courts.

A few words may be added about the constructive features. The dome is carried by a number of curved ribs, built of steel of very light dimensions, and of the same general character as has been already referred to. The foundations are of timber, similar to those of which a type has been already described. The ribs supporting the dome are not curved from the floor line, but rise vertically, like a great circle of stanchions within the inclosing court, as far as the level of the gallery running round the dome, 22 ft. above the floor; above this the curving is commenced, and the ribs, converging almost in a semicircle, meet overhead against a ring to which they are riveted. The height of this ring above the floor is about 120 ft. There are twenty of these great ribs in all; they are connected together in various ways, besides the central ring at the top. At a height of 22 ft. above the floor, and again at 37 ft., a series of light girders connects each rib around the circle. Between the upper row of these girders and the crown of the dome, ten rings of purlins, made of angle-iron and lattice like the ribs, only lighter and not so deep, are riveted to the ribs. Thus the whole surface of the dome is divided into panels, and every panel is braced by diagonal tie-roads.

Midway between each pair of ribs, a secondary rafter, curved to the same form as the ribs, is riveted to the purlin, thus further dividing the panels and affording means for attaching the minor framing and sash bars. The front gallery is wholly of wood and glass. The roof trusses are peculiar in consisting of eighteen boards 12 in. wide by 1 in. thick, bent into a circular form and lightly braced. The span is 69 ft., and the height to centre is 38 ft. These trusses are placed about 25 ft. apart. The rear gallery, which is much narrower than the front one, is covered with a light pitched roof, and the construction of the wings calls for no particular notice. These wings are not intended for the display of plants in growth, so much as for horticultural and other exhibitions. Glass does not, therefore, enter so largely into the contruction of these wings as in those of the other parts of the building.

DOUBLE CHINESE PRIMULAS.

Whilst I do not for one moment dispute the fact that the old double white Primula is by far the most widely grown, I do not admit that it is the best of its kind. Doubtless it is easily cultivated, and because of that is so much more commonly grown than others, but as compared with White Lady and Marchioness of Exeter, it is not in it for a moment. I have seen good plants of these from time to time, and "W. D." could, I know, give very glowing accounts of the noble plants of these and other doubles shown and grown at or about Birmingham. Here in southern districts we have never attained to the fine character and dimensions Birmingham Primulas, both single and double, have reached, but still some good ones are seen at times. When at the Leatherhead Chrysanthemum Show last month, I was particularly struck with a table of very fine double Primulas, a special class separate from the singles, which seem to be grown in that neighbourhood exceedingly well.

White Lady was the chief variety as the purest white, but Marchioness of Exeter was the finest bloom, some 1½ in. or over, and first-rate gathered and wired for buttonholes or bouquets. Annie Hillier, pink, and The Baron, carmine, were also excellent. The best plants were carrying from fifty to sixty fully expanded blooms on some eight or nine trusses, with many others to follow. The plants were about 7 in. to 8 in. in height, and 18 in. across; they were also restricted to 6-in. pots. This will show that, if understood, it is very easy to grow these finer sorts of double Primulas, and if on a show table the old double white is not in it for a moment with the sorts mentioned, it also shows that the others are far the best for all ordinary decorative purposes. Whilst the old double figures in bouquets effectively only when full trusses are employed, the fine blooms of White Lady, etc., are most attractive wired separately. Why, except that there is a special class for doubles at the local show, these double Primulas should be so well done at Leatherhead, I do not know.—*A. D.*

THE VEGETABLE GARDEN.

Winter Cucumbers.

Those who are far enough from the London fogs to be able to grow Cucumbers through the winter must be very careful with them at this season. The growths must be kept thin so as to give plenty of light between each, and all the fruits must be cut off the plants the day they are large enough for use, as at this season they are a great strain on the plants. Those who do not require the Cucumbers at this time, but only keep the autumn plants to supply a few very early in the spring, will do well to keep all the flowers picked off until the days begin to lengthen. Be careful with the water, but do not allow them to get too dry or the minimum temperature to fall below 65°, with a rise of 10° in the day; and keep up a good bottom heat. Keep a sharp watch for insects, and fumigate if necessary. Sow some seeds about New Year's Day to supply plants to follow those which have been fruiting through the winter.—*G. H. S.*

Gleanings from the World of Science.

The influence of Light on the Weather Plant.—When this plant (Abrus precatorius) has been kept in darkness for some time, the leaflets drop down perpendicularly with their backs to one another, assuming that attitude which is popularly termed sleep. They are sensitive to light and the absence of the latter causes this downward movement. One fairly bright autumn day after having kept the plant for some time in darkness it was brought out and placed in a window exposed to the sun. This was at 1.40 p.m. when most of the leaflets were perpendicular and closed. At 2 8 p.m. the leaflets had risen from the perpendicular to an angle of 35° and to 40° in the case of a leaf on the sunny side. At 2.15 p.m. they had arisen to an angle of 55°, and at 2.20 p.m. to 70°; at 2.25 p.m. they had risen to 80° and at 2.30 p.m. they were quite horizontal, having thus performed a movement through an angle of 90° in 50 minutes. Quite young leaves are very tardy in their movements if they respond to the influence of sunlight at all, but those that are fully developed respond readily, and after becoming horizontal they twist in such a way as to follow the sun as it passes from the south towards the west. The leaflets on the side of the petiole next the sun sink downwards while those on the opposite side rise up above the horizonal; in both cases this is done with the object of placing the upper surface of the leaf as nearly as possible perpendicular to the rays of the sun This continued till past 3.40 p.m., but at 4 p.m. the leaflets began to drop downwards rather quickly, especially on the shaded side of the plant. The reason of this was because the sun was getting very much obscured and darkened by clouds. The temperature in the window at this time was 72°, so that the falling of the leaves could not be ascribed to a low temperature, but to the waning light.—*J. F.*

Circulation of Protoplasm.—Teachers and instructors in botany, when speaking of the movements of protoplasm, refer their students to certain plants mentioned in books, where they may see the movements in question for themselves. The hairs on the filaments of Tradescantia are nearly always referred to. Nine times out of ten there is a great difficulty in getting flowers of a Tradescantia when wanted. Pansies are more commonly cultivated, and specimens for study could easily be obtained at any time from early spring till late in autumn, and sometimes even in winter. At the base of the two lateral or middle petals is a brush of papillæ or hairs, which may conveniently be termed eyebrows. Being transparent their contents can easily be studied in the live state by picking them off with a needle or small knife, and placing them under the microscope. A youngish flower should be selected for the purpose. The protoplasm may be seen forming bridles from the side walls to a central nucleus, and along these bridles or strands the protoplasm keeps streaming rapidly in various directions, as may be seen by the small bodies carried along in the currents. The protoplasm in a young cell is very active, forming numerous, slender, longitudinal, oblique, or transverse streams, ever shifting their course, anon amalgamating and forming as it were flood tides, sometimes suddenly altering their course; or a current from another quarter runs into the first, and the whole stream runs off in different directions. Sometimes the small bodies in the protoplasm form an orbicular mass and roll along the cell in a body; anon the mass becomes elongated, or assumes different shapes and runs off in an opposite direction or in two different directions. At other times streams of protoplasm coalesce or run into one another, forming an eddy or whirlpool, and again form strong currents running along the cell in the direction of its length. All these movements have a strong resemblance to the circulation of the blood corpuscles in a tadpole. The great size of the cell and its transparency enables the movements to be easily seen. Only a small portion of it, however, can be seen at any one time under a high power.—*J. F.*

The Farmer and Country Gentleman's Almanac for 1893, published by the *Farmer and Stockbreeder* (325, Strand), is a capital sixpennyworth of useful information on all subjects of interest to those connected with agriculture.

FLORICULTURE.

The London Pansy Society.

We are indebted to the courtesy of Mr. George McLeod, the honorary secretary of this new society, concerning which we offered a few comments in our last issue, for an opportunity of looking over the rules of the society and the list of prizes which will be offered for competition at its first exhibition, which is fixed to take place at the Drill Hall, Westminster, on June 6th next.

The special object of the society is stated to be "encouraging the cultivation and exhibition of the Pansy and Viola," and the annual subscription of members is fixed at the small sum of 5s. Donors of 2s. 6d. and upwards will have the privilege of attending the society's exhibitions, but competitors must be members of the society, and membership is open to all residents in the United Kingdom. The society is to be governed by a committee of twelve members, with a president, vice-presidents, a treasurer, and honorary secretary. All members will be at liberty to compete in the open classes, but in competitions restricted to amateurs, no member will be considered eligible who disposes of plants, flowers, or seeds, or trades in garden produce for profit, or is employed as a gardener. Gentlemen who engage professional aid are also debarred from competing as an amateur, but occasional help from a labourer in doing the rough work of a garden is allowed to all amateurs.

Brief but workable rules are also provided for managing the exhibitions, and amongst them we note that all Pansy blooms must be shown on trays painted green, and the use of paper collars will involve disqualification. Viola blooms must be shown in sprays with Viola foliage, according to the classes in the schedule, the form and colour of the stand being left to the option of the exhibitor. All blooms must be correctly and legibly named, and any neglect of this rule may be punished by the judges with disqualification. Certificates of Merit will be awarded for seedling Pansies if deemed worthy, and not less than three blooms must be shown together. Violas for Certificates must be shown in pots, whether grown in pots or lifted from the open ground. All seedlings must be named or they will be passed over; and those submitted for the opinion of the judges must be shown by themselves.

With one exception all the classes at the show to be held on June 6th are open to members residing in the United Kingdom, the exception being an amateurs' class for twelve sprays of Violas, six blooms of one variety in each, open only to residents in England, the prizes in which case are Gold and Silver Medals, and two money awards. The amateurs' classes altogether number twenty-eight, and are diversified enough to meet all capacities and tastes. The open classes are thirteen in number, and Gold, Silver, and Bronze Medals are offered for the best trade exhibits of Pansies and Violas.

We are informed that the membership role is growing apace, and many amateurs who have been growers in the north have sent in their names, including Mr. John Allison, late of Darlington, a most successful exhibitor, who has come south on account of his health. As some of our readers may be disposed to help in the movement, we may add that the secretary's address is 9, Buxton Road, Chingford, Essex.

Violas in Pots for Winter Decoration.

I have a decided opinion that with very little trouble blooms from these plants may be obtained throughout the winter. In October last, noticing clumps of Lady Dundonald, Bullion, and Abercorn Beauty showing several buds, I lifted them carefully from the border, and potted them in sufficiently large pots to do so without disturbing the roots. These were placed in a cold frame, exposed to plenty of air by day, and protected with a mat on frosty nights; and as a proof of the success of this trial, on Dec. 6th, I exhibited blooms of each kind at the monthly meeting of the National Amateur Gardeners' Association, and an award of fourteen points was made them (sixteen being the maximum, which carries with it the association's diploma). One plant of Lady Dundonald had over a dozen blooms, quite a picture in itself. A note has been made to give this a more extensive trial next year. No doubt there are other kinds that would be equally suitable for the purpose, and by cutting back and a little judicious husbanding of their resources a most useful addition to our winter bloom should be obtained.—*A. J. R.*

With reference to Mr. W. Dean's note in your last issue on Violas in pots for winter decoration, I may say that seed of Dr. Stuart's hybrid Viola, Violetta, sown in June or July, and the plants potted up in October, would in heated frames, or in a greenhouse if kept near the glass, bloom all through the winter months. This is the finest type of Viola I have yet seen, and it is just a matter of time until it becomes as popular as our winter-flowering Violets.—*Geo. McLeod, Chingford.*

GUILD OF KEW GARDENERS.

We are asked to publish the following with reference to the paragraph which appeared in our last issue:—The gardeners of Kew, past and present, are desirous of forming themselves into a Guild, and propose to publish annually a journal in which will be recorded —(1) the present Kew staff from the director to the gardeners; (2) a list of all old Kewites, with the date of their leaving Kew, and their positions and addresses; (3) brief notices of distinguished past Kewites; (4) Kew notes; (5) interesting correspondence from old Kewites; (6) the proceedings of the Mutual Improvement Society and the prize essays of the year; (7) the proceedings of the Kew British Botany Club; (8) the report of the Cricket Club. Frontispiece, portrait of a distinguished Kewite. The journal will consist of about fifty pages, royal 8vo, to cover the cost of which, with postage, an annual subscription of one shilling will be necessary. It will be published on May 1st. Will all old Kewites, *i.e.*, men who have at any time worked as gardeners at Kew, kindly send their names, date of leaving Kew, with present position and address to the secretary for publication in the journal? It is anticipated that every Kewite will gladly become a subscribing member of the Guild, and also communicate any interesting professional information for publication in the journal. It will be seen that the aim and object of the Guild is the very laudable one of uniting all Kew men in a bond of fellowship by means of a journal which will convey to them news of interest, and enable them to communicate with each other. There are probably 500 Kewites distributed all over the world, but of the whereabouts of all except a small proportion there is at present no record. The committee to carry out this scheme is composed of Messrs. W. Watson, W. J. Bean, G. H. Krumbiegel, J. Browne, H. Pettigrew, and J. Aikman. All communications should be addressed to the Secretary, J. Aikman, Whitestile Road, Brentford. It would save correspondence if members would enclose their subscriptions when they write to the secretary.

NEW CHRYSANTHEMUMS.

New Chrysanthemums were not so plentiful at the Floral Committee meeting of the National Chrysanthemum Society on the 7th inst. as at previous meetings; but as the season for all practical purposes may now be considered over, a large display could not have been expected. Enterprise is an Anemone-flowered variety of large size and pleasingly distinct. The numerous ray florets are quilled, of a deep rosy pink, and more or less reflexed. The disc is very prominent, or raised in a hemispherical manner, and of a pale yellow. It is likely to make its appearance in future years upon the show-boards. New varieties of this class have not been very plentiful this year. Enterprise was shown by Mr. Robert Owen, Castle Hill, Maidenhead, and was awarded a First-class Certificate.

Some varieties were commended, namely, Rose Wynne and W. H. Lincoln Improved. The former is an incurved Japanese variety, with broad, grooved, incurved florets of a pure white or slightly flushed, and is very promising. The other is perhaps better known in collections under the name of Thomas Selwood. It differs from W. H. Lincoln in the florets being incurved, making the whole flower neater in form. Both were shown by Mr. R. Owen. Several varieties the committee wished to see again, including another Japanese incurved named Mrs. Lay, shaded with white and rose. Something in the way of Shasta is Mademoiselle Marie Recoura, with long, quilled white florets. Mrs. A. Rogers is also a Japanese variety, with somewhat fringed, pale yellow florets. An incurved variety named C. B. Withnall had purple florets.

BLENHEIM.

Of the magnificence of Blenheim Palace and Park —one of the most stately of "the stately homes of England"—it would be considered rather late in the day to write now for the gardening community; but of the gardens at Blenheim, so much improved by the late Duke of Marlborough, it may not be inopportune just now, in view of the great sale of Orchids which is to take place there next week, if we jot down a few particulars gleaned on the spot when we recently visited the place for the purpose of seeing the magnificent collection of Orchids formed by the late Duke with so much care and judgment, before it is broken up and dispersed over the face of Europe under that hammer of Mr. Protheroe's, which has been associated with the fate of so many hundreds of thousands of plants.

Well, the gardens at Blenheim cover an area of some twelve acres, ten within walls and two without, and the glass department, with which we are now more immediately concerned, is both extensive in quantity and of the very best quality, and, with the exception of one range of Vineries, may be said to be entirely new, having been built from designs by the late Duke since he entered into the enjoyment of the estate. The Orchid houses are eight in number, and all large, roomy, span-roofed structures but one, which is a north house and filled with Odontoglossums. The Cattleya house, the largest of all, is 100 ft. long and 24 ft. wide, with a lantern roof, side and centre stages, and side ventilation under the stages. Four of the others are 70 ft. long and 24 ft. wide, and two are the same length, but only 18 ft. wide. These are all built and designed in the very best style for the growth of Orchids, amply heated and fitted with screw ventilating gearing. They are also fitted with a damping down apparatus, similar to the system introduced by Mr. C. Winn, by means of which, by simply turning a tap, the paths and stages are sprayed in a very efficient manner, and in a short space of time. The side stages are covered with coke breeze to stand the plants upon, and the same material forms the beds under the raised central stages.

That the houses answer the purpose for which they were intended, is amply testified to by the perfect health of the plants themselves, and here we may say as a word of praise, richly deserved by Mr. Whillans, the gardener, that a more healthy, vigorously grown, and perfectly cleanly collection of such large extent we have never before seen. The condition of the plants is indeed deserving of the highest praise, and it is but justice to Mr. Whillans and his assistants that so much should be said. The collection cannot be said to be rich in rarities, because scarce species and varieties were not specially favoured by their late owner. He may be said to have loved a good, showy, and attractive species, and plenty of it, and by constant weeding, retaining only the best forms, he secured the best types only for his personal delectation. Hence we were not surprised to find all the leading species represented by a large number of specimens of each.

The popular species of Cattleyas, Cypripediums, and Dendrobes are represented by hundreds of plants, large and small, and of large ones especially in such order as is not often seen. Splendid pieces of C. Mendelii, Skinneri, Trianæ, Mossiæ, and Gaskelliana meet the eye at every turn, and hundreds of sheaths are visible in all directions. Here also may be seen in passing through the houses splendid masses of Ada aurantiaca, and grand pieces of such Cypripediums as Stonei, Lawrenceana, lævigata, Sanderiana, barbatum superbum grandiflorum, and cordatum, etc.; Epidendrum prismatocarpum, and a splendid variety in flower of Epidendrum rhizophorum. The Phalænopsis are a fine lot, thrifty, and well developed, and such species as Schilleriana and Sanderiana, etc., are represented in considerable numbers. Two low span-roofed pits contain some 8,000 Odontoglossums planted out, the principal species so treated being crispum, triumphans odoratum, blandum, Pescatorei, and Cirrhosum, and the north house before referred to contains some 6,000 more plants in pots, and in a thriving healthy condition. Space does not permit us to enumerate a tithe of the fine and interesting Orchids to be seen, nor is it necessary, as so many growers next week will doubtless see them for themselves.

Besides, Orchids are not the only things which Mr. Whillans does well in these fine gardens. The

collection of Tree Carnations is a most extensive one and splendidly grown and flowered, as may be noted from the accompanying illustration of one of the houses of Malmaisons which are a specialty. The plants here represented are two years old, and it is not often that such a superb lot are seen. The varieties grown are the pink, pale rose, and scarlet, and Mr. Whillans' mode of treatment may be summed up in a few words. He layers in July, and these give him healthy, stocky plants which flower the following May, and being potted on into large deep pots, a specialty of Messrs. Sankey's manufacture, they flower through the following winter and spring. About thirty other sorts are also grown in splendid style, and the dense, bushy plants of Germannia and exceedingly pretty examples of the crimson Winter Cheer specially took our fancy.

In a block of seven span-roofed houses, 118 ft. long, with glass corridors at both ends, we observed some well-grown Mignonette, fine healthy batches of Gardenias, Pancratiums, Eucharis, Anthurium, Andreanum, Asparagus plumosus, Pandanus Veitchi, a pretty lot of Acalypha tricolor, some immense specimens of Anthurium Schertzerianum Veitchi with grandly developed foliage; a capital lot of Ferns, including fine masses of Davallia Mooreana, and a nice batch of Myrsiphyllum asparagoides. Small Palms for decoration are grown by hundreds, and one house contains some 1,500 pot Roses—all Teas, and mostly on their own roots and just starting into growth. Large plants of the double Ivy-leaved Pelargonium Madame Crousse, and some finely developed bracts of Poinsettia pulcherrima also attract attention. A couple of smaller houses are filled with double-flowered Chinese Primroses and Cyclamens, and both are beautifully done. Of the former, the old double white and A. F. Barron are the favourites, and the plants are models of good cultivation. A house of F. V. Raspail Pelargoniums also yields a great amount of material for cutting; and another house of Ferns and Selaginellas, the nucleus of a good collection, contains some hanging masses of Selaginella in ordinary Orchid baskets, which are worth seeing by any gardener.

The ranges of Vineries and Peach houses are not of much interest just now, but a house of Winter Cucumbers and French Beans was found a very enjoyable place for a brief rest on a cold day. Mr. Whillans' admirable stone built cottage, the bothy for the large staff of young men, the long range of offices, fruit rooms, and sheds are all matters of interest to the practical visitor, for all are on a large and admirable scale; and so also are the stokeholes, which contain eight Trentham boilers of powerful dimensions, which provide all the heat that is required. Neatness and perfect good order allied to high-class cultivation is the distinguishing feature of Mr. Whillans' management, and nothing could be better.

A Carnation House at Blenheim: Souvenir de la Malmaison.

FORCED FRUIT IN FRANCE.

The Société Nationale d'Agriculture has recently presented its gold medal to M. Anatole Cordonnier, of Roubaix, in recognition of the services which he has rendered to French horticulture, by giving a stimulus to the production of forced fruits, more especially Peaches and Grapes, in the northern departments. It was in 1869 that M. Cordonnier, a wealthy cotton spinner at Roubaix, took to fruit growing as a relaxation, and, being anxious to produce fruits which would be successful at shows, he took the opportunity when travelling in connection with his business to visit the hot-houses of the principal growers in Belgium and England, whose establishments were in high repute. In 1875, by which time he had already two forcing houses of his own, he found his way to the establishments of the best English and Scotch growers, where he obtained information which enabled him to extend his cultivation of Grapes and of fruits in pots. He endeavoured to put this information to a practical purpose, and in 1880 he constructed three large houses of different shapes and dimensions, which he denominated—first, the English house, with a low roof, the Vines having their roots both inside and outside, planted after the English method; second, the Belgian house, with the roots of the Vine inside and a forced cultivation; third, the French house, with French Vines planted outside, there being also a mixed culture of Strawberries and fruit trees in pots. After making experiments with over one hundred varieties of Vines, he finally adopted only six or seven as being suitable for growing under glass

Although, owing to the higher price of coal and of building materials in France, he was heavily handicapped by comparison with the English and Belgian growers, he determined not to be beaten, and a visit from M. Tisserand, the director of agriculture, encouraged him to persevere, and in the winter of 1887-88 the first lot of his winter Grapes appeared in the Paris markets, and brought about a considerable reduction in the price of those from Belgium, which had hitherto enjoyed a monopoly. But finding that land was so dear in Roubaix, he extended in 1889 his business—for a business it had become—to Bailleul, a little way out of the town, and by November of that year had put up over ten miles of glass, producing in the following year forty tons of Tomatos, 6,000 baskets of Strawberries, and 12,000 large Chrysanthemums, pending the maturing of his Vines, which did not, of course, bear that year. In 1890 and 1891 he added over six miles more of glass, so that he now has sixteen miles of glass, which, at about 16s per metre, have cost £21,000, in addition to which the land has cost £3,200, while other expenses bring the total up to £28,000. The Roubaix establishment brings the total up to £42,000, and the revenue is estimated to reach £9,800, derived from the sale of thirty-eight tons of Grapes in December, January, February,

March, and April; ten tons in May and June; three and a half tons in July, August, and September; and seven tons in October and November; and nine tons of Peaches in April, May, and June, the average price of the Grapes being put at 1s. 6d. per lb., and of the Peaches at 1s. 2d. each.

The staff employed during the whole year varies from thirty to thirty-five, their wages ranging from 1s. 7d. to 4s. a day; but during the busy season from 120 to 150 girls are employed, at wages ranging from 1s. 3d. to 2s. 6d. a day. Hitherto the sale of fruit grown at this and similar establishments, which have since been started, has not been very remunerative to the producer, owing to the exorbitant profits made by the "Middleman," though the public in France is beginning to show a decided regard for forced fruit in preference to the coarser kinds sent from the south. This will, no doubt, account for the fact that there has not been much inclination to follow M. Cordonnier's example, though fresh houses are being erected at St. Quentin, Tergnier, Lille, Tourcoing, Fougères in Brittany, and several places in the central department.—*C. B. P., in The Field.*

NEPENTHES MASTERSIANA.

One of the most popular of the hybrid or garden forms of Nepenthes is N. Mastersiana. There are several subvarieties of it in cultivation differing chiefly in colour, but sometimes in form. The most popular form is that in which the stalk leaves the broad base of the pitcher somewhat abruptly, and the colour is of a rich claret-red. There is a pale variety of this, possibly a number of them, differing merely in a shade of colour, though in some cases this may be influenced by the mode of cultivation.

The dark form is distinguished in some nurseries by the name of N. M. rubra. On the contrary there is a very pale, almost green, variety in cultivation also distinguishable by the way that the pitcher tapers gradually into the stalk supporting it. This is considered by some to be the type, while the dark one gets that distinction by others. Some confusion is thereby created, and would-be admirers of the plant are sometimes disappointed in ordering N. Mastersiana by receiving the green one.

It would be an advantage if some uniform system of naming the forms were adopted in order to avoid such disappointment. The pitchers of many of the species in a wild state are dimorphic, that is, of two forms. Those produced at the base of the plant and consequently near the ground are broadest at the base with a slender stalk proceeding directly from the base. As the stems run up, becoming for all practical purposes climbers, then the pitchers produced upon them taper gradually at the base, forming a long, curved neck, connecting them with the stalk. Their peculiarities agree with those of the pale variety above named, and which, without knowing the history of the plant, would seem to indicate its origin.

The dark-coloured form is undoubtably the finest and will always be held in high esteem by cultivators generally. It produces the greatest number of pitchers and that too on dwarf, slow growing stems, making one of the handsomest basket plants that could be hung up in a stove. The parents were N. Khasiana and N. sanguinea. The latter is a rare plant and rather difficult to cultivate. On the contrary the progeny is most easy of cultivation. The dark colour is derived from N. sanguinea. Wings are almost absent in the latter, and in N. Mastersiana they are by no means prominent while the fringes are reduced to mere teeth, and they are not very numerous.

CROWEA SALIGNA.

White flowers are generally associated with the members of the Orange family, to which this plant belongs; but there are few having more highly coloured blooms, including the plant under notice. The leaves are lanceolate and relatively broad for a species of Crowea, hence no doubt the name C. latifolia, which is sometimes given the plant in cultivation. The species is evidently variable, for there are several other forms under different names, and which would appear to belong to this species. The flowers are borne singly in the axils of the leaves, and are of a warm rose. The usual period of flowering is summer, but it evidently may be had in flower in winter, although not perhaps so profusely. We noted it in bloom in the Bush Hill Park nurseries of Messrs. H. Low & Co. It was introduced in 1790, that is just over 100 years ago, from New South Wales, but like many other highly interesting and ornamental hard-wooded plants, it does not get the attention it formerly enjoyed. A greenhouse temperature such as is suited for Heaths would meet its requirements admirably. A compost consisting of one part of peat and two of fibrous loam with plenty of sand, as in the case of many other allied plants, would enable it to be grown to perfection.

PLANTS RECENTLY CERTIFICATED.

The undermentioned subjects were exhibited at the meeting of the Royal Horticultural Society on the 13th inst., and received awards according to their merit:—

Camellia Sasanqua Single Red.—This Japanese species, although an old introduction in the double form at least, is nevertheless very uncommon in British gardens at the present day. The flowers of the single red may be compared to those of the Sweet-Briar for size, but are more uniformly dark in colour. There are five to six obovate, emarginate petals of a uniform soft rose. The centre is occupied with numerous yellow stamens. The stems are slender, and furnished with small, elliptic, leathery leaves, of a deep shining green. The plant is small in every way compared with C. japonica, but it is certainly pretty and interesting, and if it proves hardy as stated to be, it will certainly find admirers even if it was necessary to grow it in sheltered places. A First-Class Certificate was awarded it when shown by Messrs. J. Veitch & Sons, Chelsea.

Chrysanthemums.

Viscountess Hambleden.—When in their best form the blooms of this variety are of great size, and of a delicate blush pink. The earliest blooms of the season, that is, from the crown buds are liable to be pale as are those that come in December. In fact, of three blooms shown on the 13th inst., two of them might be described as pure white, and the third one pink. The florets are broad, of good substance, and regularly incurved, as that would be understood when applied to the incurved Japanese section to which Viscountess Hambleden belongs.

Enterprise.—The florets of the ray of this large Anemone flowered variety, are very numerous, quilled almost throughout their length, and slightly depressed below the horizontal. The quilled or tubular portion is rosy-pink, and the flattened tip white. The hemispherical disc is of a pale sulphur or primrose-yellow.

Robert Owen and Waban.—Both of these were recently certificated by the National Chrysanthemum Society, and are described on p. 209. All the four varieties above mentioned were exhibited by Mr. Robert Owen, Castle Hill, Maidenhead, and were accorded Awards of Merit.

Mrs. Robinson King.—As is now pretty well known this is a sport from Golden Empress of India, and has much darker yellow flowers than its parent, with the same large and beautifully incurved heads. As the bloom gets old, the lower florets assume a bronzy tint forming a band of that colour round the base of the bloom. An Award of Merit was accorded it when shown by Mr. Peter Blair, gardener to the Duke of Sutherland, at Trentham Park, Stoke-on-Trent.

Mademoiselle Marie Recoura.—This may be described as a Japanese variety pure and simple, measuring 6½ in. to 7½ in. in diameter when well done. The florets are long, quilled, moderately slender, with occasionally a floret amongst the others, flattened about half-way down, and all pure white. They are arranged rather loosely, but are very numerous, leaving no room for an open eye. Blooms were shown both by Messrs. H. Cannell & Sons, Swanley, and by Messrs. Pitcher & Manda, Hextable, Swanley, when an Award of Merit was accorded in each case.

Fred Dorner.—In this we have a Japanese variety of rather peculiar form. Flowers of moderate size are semi-globular and very compact, while the larger ones are more than hemispherical; in fact, they are deeper than they are wide, giving the head an elongated appearance. This latter form would measure about 4 in. in diameter and 4½ in. in depth. The florets are revolute at the edges, making them appear very narrow. Different flowers vary in different shades of pale yellow. The variety was shown by Messrs. J. R. Pearson & Sons, Chilwell, near Nottingham, and was accorded an Award of Merit.

Potato.

Colossal.—The tubers of this exhibited were of moderate size and pebble shaped, that is, rather short in proportion to their length, flattened, and rounded at the end like a water worn pebble. The skin is white or yellowish, and slightly rough. In short, it may be described as a fine-looking Potato, A First-class Certificate was awarded it by the fruit committee when shown by Mr. C. Fidler, Seedsman, Reading.

GARDENING MISCELLANY.

PHŒNIX ANDAMANENSIS.

At first sight this Palm seems to be somewhat in the way of P. rupicola, but the leaves are shorter and perhaps not so graceful in outline. The pinnæ are broad, leathery, deeply channelled, and of a rich dark green. The terminal pinna is rather distinct in its way, by being very narrow; in fact it is sometimes reduced to a mere shred representing a midrib. The plant, however, is dwarf, compact, and evidently slow growing. It may be seen in the stove at Kew, and, judging from the name, the species come from the Andaman Islands.

HISTORICAL REVIEW OF FERNS.

At the last meeting of the Manchester Horticultural Improvement Society, Mr. A. Stansfield presiding, Mr. Thomas Hick, of Owens College, delivered an address upon Ferns, illustrated by numerous mounted specimens and sketches. He pointed out that only one aquatic species of Ferns is known. The terrestrial Ferns are widely distributed geographically, and have a long geological history. They prefer moist, shady situations, and even the tree Ferns met with in the tropics are always found accompanied by a soil and an atmosphere full of moisture. In barren soil, or even where the atmosphere is very dry, tree Ferns are entirely wanting. Having described the various characteristics of the roots, stems, and fronds or leaves, and the structure and fertilization of the Ferns, Mr. Hick gave a historical review of the plant. The reproduction of spores was discovered by Morison in 1699. In 1788 Erhart first made known with certainty that the perfect Fern plant is preceded by the development of a deeply two-lobed body, to the under-side of which the perfect Fern is attached. In 1827 Kaulfurs gave the first accurate microscopic investigation of the germination of the spores, and the development of the prothallium. In 1842 Bischoff discovered a wart-like excrescence on the back of the prothallus, and that the first frond breaks forth from this excrescence and grows upwards, while the first roo, likewise comes from it and grows downwards. In 1844 Nageli discovered antheridia and spermatozoat which he maintained were probably male organs. In 1848 Count Leszyc-Suminski ascertained the nature of the archegonia, and in 1850 Mechlin first showed that the young archegonia were open, and gave the first reliable observations on the entrance of the spermatozoa.

A SUCCESSFUL COTTAGERS' SOCIETY.

It is not always that we find a Cottage Gardeners' Society so successful, financially, as that at St. Austell, in Cornwall. Although there have been losses during the past year or two, the committee have at their bankers, bearing interest, something approaching £60. This is entirely independent of the £55 to be spent in the purchase of a silver epergne for presentation to the 21 years' indefatigable secretary to the society, Mr. Hancock, and which has been privately subscribed. This is a good example of what may be done in the way of local shows, even by the cottager.

MASSANGEA HIEROGLYPHICA.

A great many of the Bromeliads are grown purely for the sake of their flowers, and when they are produced, their duration is relatively short. The plant under notice seldom if ever flowers in cultivation, but it is always beautiful and interesting on account of the remarkable and curious markings of

the leaves, and which have been compared to hieroglyphical writings. The latter take the form of irregular bands, and blotches of a deep olive-green on a light green ground. These markings unite in a common band, running across the entire leaf on both surfaces. The component blotches of colour do not completely unite, but appear like a series of characters not to say letters of some ancient people, exquisitely delineated on the leaf. The markings are also shaded with violet or purple at certain stages of growth or under certain conditions. The plant grows very slowly, and the leaves remain in excellent form for years. There are some fine specimens of it in the nursery of Messrs. B. S. Williams & Son, Upper Holloway. Occasionally we see it under the name of Tillandsia hieroglyphica, and the species is included in the genus by the *Genera Plantarum*.

IPOMŒA RUBRO-CŒRULEA.

THE flowers of this showy climber are not so large as those of I. Learii, nor quite of the same shape. The corolla is hardly lobed, but it is distinctly five-angled. The general colour is bright blue with a pale purple band running down from each of the five angles. This is the condition when fully expanded, but while still in bud the tube is white and the plaited lamina of a lake-red colour. As the flower fades the crumpled corolla again becomes red. The leaves are heart-shaped, but often deeply three-lobed. The plant is an evergreen, herbaceous climber, attaining a considerable height when trained under the rafters of the house, and keep on producing flowers in their axils for many weeks together. The species comes from Mexico, and is said to flower in July and August, but was recently if not still flowering in one of the stoves at Falkland Park, South Norwood Hill. Climbers of this class receive comparatively little attention at the present day, but there seems no reason why they should not be plentiful in our stoves, seeing that they bloom so far into the winter.

THE BARBADOS LILY.

THE above name applies to Hippeastrum equestre, which grows wild in the West Indies as well as on the mainland of South America, both on the east and west side. It was originally introduced to this country in 1810, but does not seem to have come into the same favour as several others of the species which are more or less extensively cultivated at the present day. A number of plants may be seen in flower in the nursery of Messrs. Hugh Low & Co., Clapton. They have been recently imported, and many of them were throwing up their flower spikes when received. Those were not potted up in the ordinary way, but put in a mixture of peat and sphagnum, many of them being entirely in the latter and inserted in 60-size pots. Here they are flowering beautifully, with stems 12 in. to 18 in. high, bearing two to four flowers each. The flowers are funnel-shaped with ovate segments, except the lower one which is smaller and lanceolate. The whole bloom is of a soft red with darker veins and a greenish-yellow throat. The plant is by no means bulky and its flowering at this time of the year serves to brighten up the stove.

THE NEW HOLLAND PITCHER PLANT.

A PLANT or two of this about an establishment is always interesting on account of the close resemblance of the pitcher to that of a Nepenthes. The latter requires stove treatment, whereas the plant under notice (Cephalotus follicularis) may be grown, and in fact does best, in cool greenhouse treatment. The resemblance of the pitchers to those of a Nepenthes extends to the shape of the pitchers, the presence of wings and a richly-coloured lid, but there is in addition an elevated ridge along the front and which runs out into two edges at the top. The annulus round the mouth is ridged, and as a rule more deeply tinted with purple than the body of the pitcher. The lid is the most highly-coloured part of it and is striped and splashed with crimson, rose and white, the clear spots giving it a windowed appearance such as we see in Sarracenia. Messrs. Hugh Low & Co., Clapton, keep the plant in a cool house amongst Orchids, covering it with a bell-glass at night and leaving it uncovered during the day. A more vigorous growth is made when the plants are so protected. By removing the glass during the day the pitchers get more highly coloured.

ROSES FROM CUTTINGS.

HAVING made 132 cuttings of six varieties of Roses on the 5th October, somewhat late, I am delighted to be able to state that a few rooted in nine days, the major portion in twenty, and they were all rooted and potted up some time ago, except one small cutting, and even it is not dead. I may send you a note on how that was accomplished shortly.—*John Baxter, Daldowie.*—[Please do.—ED.]

CHEAP RAISINS.

A CORRESPONDENT of the *Daily Telegraph* points out that there is a considerable range in the price of raisins. The bulk of the fruit is cheaper than it has been for years, as at 3d. and 4d. per lb. a much superior article can be bought: but at the Christmas season high-class grocers always create a demand for the very best Valencias, Sultanas, and Currants obtainable. Necessarily these qualities are in limited supply, and as the result of spirited competition high prices have to be paid for them by the wholesale dealer. Considering that at public auction last week 5½d. and over 6d. per lb. was given for small parcels of the finest fruit, the retailer's margin of profit is small when he sells at 6d. or 7d. per lb. and has had to defray the cost of carriage and meet the waste in cleaning. Raisins of the dearest kind often return less profit to the grocer than the lower-priced fruit.

PLANTS FOR WINTER-FLOWERING.

Now that the Chrysanthemum season is nearly at an end, it behoves gardeners who are called upon to supply quantities of cut-flowers, and flowering plants for decorative work, to turn their attention to some other plants for that purpose which are not so much taken advantage of as they might be. Those who are fortunate in having a light airy span-roof or semi-span house, can easily have a good show all through the winter, independent of Chrysanthemums. If cuttings of Zonal Pelargoniums, Marguerites, and Carnations are taken in hand in spring, and grown on well during the summer and autumn in cold frames, they should be at their best now. If a temperature of about 45° by night is maintained it suits them admirably. An early sowing of Primulas, sinensis and obconica, can be had in splendid form at the present time. Then again we can have Arum Lilies, and what grand house plants these make, either grown singly in small pots or a number grown together in tubs; they are worth growing in quantity if only for their handsome foliage. All these plants are easily procured, and if well grown are very highly appreciated at this dull season of the year.—*P. McCowan.*

PHYSALIS CAPSICIFOLIA.

PHYSALIS CAPSICIFOLIA, "capsicum-leaved" or "pepper-leaved Physalis."— From a botanical point of view, this is one of the most interesting species of Physalis in cultivation. It is exceedingly variable, and it appears as if distinct varieties can be readily bred from it. We have grown it under two or three names. It is usually called, though erroneously, Physalis edulis. This name is misleading, for the fruit is really scarcely edible because of its very pronounced mawkish flavour. The fruit is far the largest and handsomest of any Physalis which I have grown, and it is not improbable that we may be able to obtain a desirable variety from it. The plant is exceedingly productive, and adapts itself to almost any soil or condition. It grows erect to a height of three or four feet, bearing smooth branches and leaves. The leaves are thin, ovate or lance-ovate and variously toothed or notched. The flowers are large and open (¾ in. or more across), the border bright yellow and the throat bearing five black-brown spots; anthers purplish. The husk is entirely filled by the large round sticky berry, and is sometimes torn open by it. This plant is supposed to be a native of South America or the West Indies. It was early grown in gardens, perhaps because of its supposed medicinal properties. Dr. Sherard obtained it in Holland in the last century and grew it in his garden at Eltham, England, and Dillenius figured it in 1774. Martyn described it in 1807, but says nothing about its uses. An interesting feature of the plant is its great variability. Dillenius figured the leaves as nearly entire, and Dunal, who named the plant, so describes them; but the greater part of the cultivated specimens have conspicuously toothed leaves.—*L. H. Bailey, Cornell University.*

SOCIETIES.

Royal Horticultural, *Dec. 13th.*—The display on Tuesday last was much larger than might have been anticipated at this season of the year. Orchids, Chrysanthemums, and fruit were strongly represented, particularly the two former. A fine group of Calanthes was shown by Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking. Some of the darkest and richest were C. Burfordiense, and C. Veitchi splendens; good light-coloured varieties were C. versicolor, C. rosea, and C. nivea. They were set up with Ferns. He had fine pieces of Dendrobium Burfordiense and Sophronites grandiflora. A Silver Banksian Medal was awarded. A small but varied and beautiful group was shown by Messrs. Hugh Low & Co., Clapton, including fine pieces of Cypripedium bellatulum, C. Leeanum, C. Chamberlainianum, Saccolabium giganteum, S. bellinum, and many others. A small group of Orchids of various kinds was also shown by Messrs. B. S. Williams & Son, Upper Holloway, including Calanthe Oweniana, Cypripedium Hookeri-Veitchi, C. Enfieldense, C. Pitcherianum var., and Lælia autumnalis alba. A small group of Cypripediums, chiefly C. insigne, of which there were twelve varieties, was shown by Messrs. Pitcher & Manda, Hextable, Swanley, Kent. They also showed C. Niobe, Short Hills var., a pretty and dwarf variety. A larger group was set up by Messrs. F. Sander & Co., St. Albans. Noticeable were Cypripedium Johnsonianum, C. insigne Sanderæ (the gem of the lot), C. Leeanum Audenshaw var., C. insigne Upper Burmah var., spotted with violet all over the upper half, also Lælia Gouldiana, Odontoglossum Insleayi splendens, and others, furnishing a considerable amount of variety. Some Cypripediums were shown by Chas. Ingram, Esq. (grower, Mr. T. W. Bond), Godalming, Surrey, including C. Charles Reffold, C. marmorophyllum superbum, C. Lathamianum inversum. Lælia Fincheniana was shown by C. W. Finchen, Esq. (grower, Mr. Milburn), Hoyland Hall, Barnsley. Some fresh flowers, and also some dried ones, of Cattleya Alexandræ were exhibited by Messrs. Linden, L'Horticulture Internationale, Parc Leopold, Brussels. A plant of the same Cattleya was shown by B. D. Knox, Esq. (grower, Mr. J. Lawrence), Ardmillan, Caversham. A Bronze Medal was awarded to Phillip Crowley, Esq., Waddon House, Croydon, for some huge pieces of Cypripedium insigne and Zygopetalum Mackayi, all well flowered. Some fine Cypripediums and the curious and interesting Pleurothallis punctulata were exhibited by R. J. Measures, Esq. (grower, Mr. Simpkins), Camberwell. The White Vanda teres was shown by C. W. Lea, Esq. (grower, Mr. A. G. Catt), Parkfield, Hallow. Cattleya labiata alba and some Cypripediums were shown by M. Wells, Esq. (grower, Mr. R. Hinde), Broomfield, Sale. Cattleya amethystoglossa, Selwood var., was shown by G. D. Owen, Esq. (grower, Mr. B. Watts), Selwood, Rotherham, as well as Lælia anceps Oweniana. W. Thompson, Esq. (grower, Mr. W. Stevens), Walton Grange, Stone, showed Masdevallia hybrida McVittiæ. Small lots were also shown by Thos. Statter, Esq. (grower, Mr. R. Johnson), Stand Hall, Manchester; by Mr. W Bolton, Warrington; and by W. E. Brymer, Esq. (grower, Mr. J. Powell), Puddletown, Dorchester. A Silver Banksian Medal was awarded to C. E. Smith, Esq. (grower, Mr. J. Quarterman), Silvermere, Cobham, for a huge piece of Cypripedium insigne, bearing ninety-six blooms. It was growing in a large pot, but ten years ago it was in a 32-size pot. A large group of Cypripedium insigne and Calanthe Veitchi was shown by Mr. G. Wythes, gardener to the Duke of Northumberland, Syon House, Brentford. An interesting group of hybrid Cypripediums was exhibited by Messrs. J. Veitch & Sons, Chelsea, including C. Areti, C. Pheres, C. Oenone, and a handsome bi-generic hybrid Sophro-Cattleya, Calypso, with flowers of good size.

A Silver Banksian Medal was awarded to Messrs. Pitcher & Manda, Hextable, Swanley, for a large collection of Chrysanthemums in fine condition. Some of the more striking we noted were Miss Ada McVicker, Mrs. Lay, Pearl Beauty, Mrs. Libbie Allen, Lord Brooke, Etoile de Lyon, Mrs. E. D. Adams and Mademoiselle Marie Recoura. A Silver Flora Medal was awarded to Mr. H. B. May, Dyson's Lane, Upper Edmonton, for a collection of

Crotons set up with Maidenhair Ferns. The Crotons in all the best varieties were richly coloured and leafy to the pots. A collection of Cyclamens in several colours and well flowered was shown by Messrs. H. Cannell & Sons, Swanley, as well as a Chrysanthemum named Mademoiselle Marie Recoura. A Bronze Banksian Medal was awarded to Mr. W. Wells, Earlswood Station, and Redhill, Surrey, for a collection of Chrysanthemums including many singles and Pompons. A Silver Banksian Medal was awarded to Mr. P. Blair, Trentham Gardens, for two stands each of incurved and Japanese Chrysanthemums, many of which were of large size and in good condition. A Silver Flora Medal was awarded to Mr. Robert Owen, Castle Hill, Maidenhead, for a collection of Chrysanthemums representing several classes. Several of the Japanese varieties were very fine, including Waban, Robert Owen, Peter Blair, Mrs. Bruce Findlay, Elmer D. Smith, H. M. Pollett, Mrs. E. D. Adams, and others. A large-flowered Chrysanthemum named R. C. Kingston was shown by T. B. Haywood, Esq. (grower, Mr. C. J. Salter), Woodhatch Lodge, Reigate. A Silver Flora Medal was awarded to Messrs. Paul & Son, Cheshunt, for a group of Pernettyas, Ivies, Holly branches in fruit, &c. Two pots of Iris Histrio and two of Narcissus monophyllus, all flowering finely, were shown by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham. A double white and a single red variety of Camellia Sasanqua, both stated to be hardy, were shown by Messrs. J. Veitch & Sons, who also had a pan of Begonia Winter Gem. A group of a White Chrysanthemum named Duchess of Northumberland, was shown by Mr. G. Wythes. He also had a First Prize for a basket of Christmas Roses. A small group of Chrysanthemums was shown by Messrs. J. R. Pearson & Sons, Chilwell, Notts.

At a meeting of the Fruit and Vegetable Committee a large collection of Beet was brought up from the gardens of the society at Chiswick, as well as some Apples. Small lots of Apples were also shown by Mr. G. W. Cummins, gardener to A. H. Smee, Esq., The Grange, Wallington; by Mr. Edward Corkey, Frome; by Mr. Toogood, Alwalton Hall, Peterboro; by Mr. G. W. Piper, Uckfield; by Mr. H. C. Prinsep, Buxted Park, Uckfield; by Mr. Jas. Hudson, Gunnersbury House, Acton; by Mr. B. Wells, Crawley; and by Mr. D. Keen, Stock Gardens, Aldbury.

ORCHID NOTES AND GLEANINGS.

Saccolabium bigibbum.

At first sight this very much resembles our old friend S. bellinum, but it is quite distinct. It belongs to the same section however, characterised by having an open-mouthed spur or sac to the lip, and which is very large in proportion to the latter. The flowers are produced in a close corymb on a short peduncle as in the case of S. bellinum. The sepals and petals are oblong and nearly covered with crimson blotches on a golden yellow ground. The blotches unite with one another in such a way as to give the segments a marbled appearance. The lip is three-lobed but all the lobes are very small, especially the side ones, which are edged with purple. The terminal lobe is yellow in the centre spotted with purple, and curiously fringed, although not to the same extent as that of S. bellinum. The cup-like sac is yellow at the base both internally and externally. The column is purple with a yellow cap. The stems are about 1½ in. to 2 in. high, bearing oblong leaves in two ranks. Some plants may be seen flowering in the nursery of Messrs Hugh Low & Co., Clapton, alongside or close by S. bellinum, so that the two may readily be compared.

Phalænopsis Portei.

This is considered a natural hybrid closely allied to the better known P. intermedia. Leading authorities therefore consider it to be a variety of the latter, and accordingly name it P. intermedia Portei. It was long believed that P. intermedia was a hybrid between P. Aphrodite, erroneously called P. amabilis, and P. rosea. This fact has more recently been proved by the artificial raising of P. intermedia from the parents named. The plant under notice therefore comes under the last named. It has white sepals and petals, slightly tinted with rose at the base. The lip is more highly coloured, especially the terminal lobe, which is amethyst-purple; the central area and the base of the side lobes are striped with red. The antennæ of the terminal lobe are short and incurved, as in the case of P. intermedia. Altogether the variety is pretty, interesting, and by no means common. We noted it in the nursery of Messrs. Hugh Low & Co., Clapton.

Cypripedium insigne Wallacei.

The nearest ally of this variety is C. insigne violaceum punctatum, otherwise known as C. i. Chantini. Both agree in the prominent markings or blotches of the upper sepal, the broad white margin extending downwards to the base, and the large white area at the top blotched with clear purple. The dark brown blotches on the pale green ground, occupying about two-thirds of the lower portion of the dorsal sepal of C. i. Wallacei, are much richer or darker, and likewise the ground colour, than those of C. i. violaceum punctatum. The petals are pale brown and netted with darker lines. The lip is light brown, large, and shining. If a good stock of such things as this could be got up, the ordinary form of C. insigne would have little chance with it, either in the cut state or for ordinary decorative purposes. The two varieties above mentioned we compared in the nursery of Messrs. Hugh Low & Co., Clapton.

Dendrobium Cassiope.

This very pretty hybrid, the result of a cross between D. nobile and D. japonicum, is just now in bloom here, and its pretty white blossoms are particularly welcome at this dull season. It appears to be a free bloomer, and its nobile parent has imparted its vigorous constitution to it, as it has invariably done when it has been used.—*James Brown, Arddarroch.*

Cattleya Warocqueana Majestica.

The autumn flowering Cattleyas have made a fine display at Gunnersbury Park, Acton, the seat of Messrs. de Rothschild, under the care of Mr. George Reynolds. Amongst them was one of particular merit and appears to agree pretty closely with the variety of the above name, figured some time ago in the *Lindenia*. At all events the stock was obtained from the same source, and the variety under notice turned up amongst the others, and proves to be a variety of particular merit. The sepals and petals are rose-coloured, of good substance and the latter are very wide. The lip is the most distinct feature of the flower and is of a rich crimson purple, the colour being carried well down into the throat. It is also of handsome proportions, being long, wide, and beautifully undulated and crisped at the margins. Only one plant in a large batch showed such well marked characters, although the others generally are showy and satisfactory.

Cypripedium Leeanum Lowii.

The varieties of the hybrid C. Leeanum are now getting pretty numerous in cultivation, and several of them are very fine. That here noted is considered one of the best varieties in cultivation when in good condition. It may be seen in the nursery of Messrs. H. Low & Co., Clapton. The upper sepal is nearly orbicular and white with a very small patch of green at the base spotted with brown, while the white portion is dotted with purple for nearly half way up. There is also a deep purple band on the midrib. The petals are short, wavy on the edges, and of a much deeper shining brown than in the case of other varieties. The lip also is of a deep purple-brown with a yellow edge running round the mouth of the pouch. The petals but more especially the lip mark out the variety as something worthy of being added to a collection.

Cypripedium T. B. Haywood.

The flowers of this hybrid are large and light in colour, but very pleasing and choice from the fact that it shows little of the green colour so characteristic of many of the garden forms of Cypripedium. The seed parent was C. superbiens, from which it derives its size and general contour, while C. Druryi was the pollen parent. The upper sepal is suffused with pink on a white ground, and has a deep purple midrib like C. Druryi. The petals are spathulate and suffused with purple on white, and spotted with purple at the base. The lip is also suffused with purple on a white ground. It flowers freely and lasts a long time in perfection, and is conspicuous in a collection of the more common and better known kinds. The hybrid originated with Messrs. J. Veitch & Sons, Chelsea, with whom we noted it recently.

WHAT TO DO IN THE GARDEN.

Amaryllis.—Those who possess a good stock of bulbs and wish to prolong the season might now start a batch of bulbs for early flowering. Select a number of the best ripened ones which have been at rest for some time, reduce the balls, and repot them in good material, consisting chiefly of fibrous loam enriched with some well-decayed manure. Press the soil very firmly about the roots, and after the work is completed place the pots in a warm position in the stove or forcing pit.

Dracænas.—When Dracænas are kept in a dry atmosphere for lengthened periods of time, the leaves are very liable to become infested with thrip. The smaller plants can readily be dipped into a pail containing some insecticide, and the larger ones should be laid on their sides so that a good syringing may be given to the underside of the leaves with some good and reliable insecticide.

Plants for Christmas Decorations.—Plants intended to be taken into dwelling houses during the Christmas season should previously undergo some preparation, more especially if the condition of the plants after they have been brought back to the garden is a matter of consequence. It will considerably assist them by hardening the tissues, if they are removed from the stove and placed in a lower temperature for a few days prior to their being taken to the dwelling houses. This would apply to such things as Palms, Dracænas, Crotons, Pandanus, Dieffenbachia, Aralias, Ferns, and other classes of plants of a similar nature.

Show and Fancy Pelargoniums.—Trained plants of these should now be gone over in order to thin out weakly and badly placed shoots. Regulate and tie down the remainder. Little water will yet be required, but careful attention must be given the plants all the same to see that the soil does not get too dry, otherwise the roots will suffer. Should green fly make its appearance, have the house or only the affected plants (if they are few) fumigated to check the evil.

Lilies.—Bulbs of such things as Lilium auratum, L. longiflorum, and its variety Harrisii, as well as L. speciosum and its varieties should be potted up when received. Use a compost of loam and peat in about equal proportions, with plenty of silver sand to ensure its porosity. Stand the pots in a cool place secure from frost, and withhold water until growth has fairly commenced.

Aspidistra lurida.—Plants of this as well as its variegated variety that are getting too large to be convenient for decorative purposes, may be broken up into desirable sized pieces and put into pots that will conveniently hold the roots without overcrowding.

Vines.—If the Vines in the earliest house are now shooting into growth, which they should be if they have been properly treated during the mild weather of the past six weeks, the temperature should be gradually increased, so that by the time the bunches are showing the minimum night temperature should be kept at 65°. The amount of rise that may be given during the day will depend on the nature of the weather and the clearness of the sky or otherwise. In dull and cloudy weather it would be unadvisable to maintain a high temperature. Continue to syringe the Vines lightly until the bunches are getting well advanced.

Oranges.—Trees on which fruit is still hanging may be placed in a Vinery where fruit is hanging. The conditions will be favourable till such times as the Oranges are wanted for use. Provided they are not all used up at Christmas they can be kept in a juicy state for several weeks longer under the same conditions.

Strawberries.—Those who have Strawberries in fruit intended for Christmas will do well to treat them with great judgment and care, otherwise the crop at this season of the year is uncertain and precarious. Maintain a minimum temperature of 55°, not allowing it to rise much higher, for by that means the fruit will keep better. Great fluctuations often cause the fruit to decay when it should be in its prime. Maintain a dry atmosphere and ventilate judiciously.

Fruit trees and rabbits.—Should we receive a visitation presently of severe weather with snow, in rabbit-infested localities much damage may be done to fruit trees in orchards by the barking of the trees

by such vermin. This is particularly the case with young trees. Where they are not protected by means of wire netting, Gorse or the branches of Blackthorn might be tied round the stems to a height of 2 ft. or 3 ft. to keep the marauders off.

Rhododendron beds.—The present is a good time to apply a substantial top-dressing of leaf-soil or fairly rotted leaves to the surface of beds planted with hardy Rhododendrons and Azaleas. In the vicinity of the mansion house where such a material on the surface of the beds might be objectionable, it can be lightly pointed in to the advantage of the occupants, more particularly in summer.

QUESTIONS AND ANSWERS.

NAMES OF FRUITS.—*J. L. Bray*: 1, Minchall Crab; 2, Scarlet Pearmain; 3, Mother; 4, Ribston Pippin; 5, Kentish Goff; 6, Dutch Codlin; 8, Gloria Mundi.

PEACH TREES INJURED.—*J. C.*: Whether the galvanised wire is the real cause of the injury or not it might be rash to affirm for certain; but this we know that many similar cases have come under our notice, and the injury was always attributed to the fact of the trees being trained to galvanised wire. The trees gradually recovered themselves when they made fresh wood after the wires to which they had been tied were painted, so that you can do no harm in trying this remedy yourself. The very badly injured shoots you may cut out, leaving the others to take their chance so as not to spoil the appearance of the trees. Some of them, if the injury has not penetrated deeply, may recover.

LANDSCAPE GARDENING.—*G. Rednual*: Kemp's *How to lay out a Garden*, published by Messrs. Bradbury, Agnew & Co.; price about 5s. if we remember rightly.

ARAUCARIA COOKSONI.—*K. T.*: This name was used in error in the paragraph on p. 232, instead of A. Cookii, the proper name. Thanks for calling our attention to the slip.

SCHIZANTHUS FOR SPRING FLOWERING.—*A. J. L.*: Seeds for this kind of work should have been sown in autumn, sometime during August or September. As soon as the seedlings are well up they should be transplanted into boxes about 2 in. apart each way. This will allow them to get to some size before being put into pots, thereby saving the first potting. They can in fact be allowed to grow large enough to be potted singly into 60-size pots. In the latter they can be kept during autumn and the greater part of winter, before receiving the final shift. Cold frames will be sufficient shelter for them until the approach of frost, when they should be placed in heated frames, pits, or the shelf of a greenhouse. Very little artificial heat will be required, merely sufficient to exclude frost. The plants should, however, at all times be kept as near the glass as possible, and judiciously ventilated to prevent their getting drawn. Repot them into 6-in. to 8-in. pots about the end of February or the beginning of March according to the state of the weather and the growth they are making.

ORCHID POT.—*W. Wright, Orchid Grower, S. H.*, and *H. A. P.*: The maker of the new Orchid pot is Mr. Berrie, Kilmarnock, Tooting Junction, S.W.

HAILSTORM INSURANCE.—*E.F.M B.*: The Alliance Assurance Co., 3, Norfolk Street, Strand, W.C., insure glass against fire and hail.

BOOKS ON FERNS AND ORCHIDS.—*A Subscriber*: The following is a number of books published on Ferns:—"Synopsis Filicum or a Synopsis of all known Ferns," by Hooker & Baker, published by Robert Hardwicke, 192, Piccadilly, price 28s. It does not give cultural details and may be out of print. "Select Ferns and Lycopods," by Messrs. B. S. Williams & Son, Upper Holloway, price 5s. "British Ferns and their Allies," by T. Moore, published by George Routledge & Sons, The Broadway, Ludgate, price 2s. 6d. "Ferns and Fern Culture," by J. Birkenhead, Sale, Manchester, price 1s. "Choice British Ferns," by T. Druery, published by L. Upcott Gill, 170, Strand, price 2s. 6d. "New and Rare Ferns," by E. J. Lowe, published by Bell & Sons, York Street, Covent Garden, price 14s. "Garden Ferns." by Sir W. J. Hooker, published by Reeve & Co., Henrietta Street, Covent Garden, price 42s Of all the above it would be difficult to say which would suit you best. "Choice British Ferns" and "Ferns and Fern Culture" are cheap, well illustrated books. The "Synopsis Filicum" is purely botanical. "Select Ferns and Lycopods" is a general work, but not illustrated. For Orchids we should mention "A Manual of Orchidaceous Plants," by Messrs. J. Veitch & Sons, Chelsea, price 7s. 6d. to 10s. 6d. each part; also "The Orchid Growers' Manual," by Messrs. B. S. Williams & Son, complete in one volume, price 12s. or 15s., we forget which.

THE STRAWBERRY TREE.—*J. K. R.*: By the Strawberry Tree we understand you to mean Arbutus unedo, or that together with the other species of the same genus. They are propagated by layers, cuttings, and seeds in the case of the more common kinds. The others may be treated in the same way or grafted upon A. unedo, the commonest species. Plants raised from seeds take five or six years to reach the flowering stage, although it might be a speedy method of raising a large quantity of plants. Sow in peaty soil in a greenhouse or cold frame, and keep the young plants somewhat shaded from strong sun to prevent the soil from getting rapidly dried up, otherwise many of the seedlings will get killed by the drying up of their slender fibrous roots. Layering in the autumn or spring is a safe method, by which plants of good size, and that will soon flower, may be obtained. Cuttings should be made from young and growing shoots of small size, treated much in the same way as one would cuttings of Heaths.

NAMES OF PLANTS.—*W. R.*: 1, Todea hymenophylloides; 2, Adiantum trapeziformi Sanctæ Catherinæ; 3 Adiantum hispidulum; 4, Adiantum concinnum Flemingi; 5, Adiantum diaphanum; 6, Selaginella Martensi robusta variegata.

COMMUNICATIONS RECEIVED.—C. W. (next week). — G. McL. — P. McC. — J. C. — J. W. — R. O. — S. C. B.—H. O.—T. W.—G.—X.

TRADE CATALOGUES RECEIVED.

JAMES CARTER & Co., 237 and 238, High Holborn, W.C.—Illustrated Vade Mecum for 1893.

MAURICE YOUNG & SON, Milford, near Godalming. —Hardy ornamental Trees and Shrubs, Roses, Fruit Trees, etc.

HERB & WULLE, Naples (Italy).—General Trade List of Seeds.

W. E. BOYCE, Archway Road, Highgate, N.—Descriptive Catalogue of Chrysanthemums.

LONDON SEED TRADE.

December 12th, 1892.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a steady sale for White Clover at prices current last week. Alsike offers at moderate figures, and foreign Red Clover is unchanged. English Cowgrass easier. Trefoil and Ryegrass steady.

COVENT GARDEN MARKET.

December 14th.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Grapes..... per lb.	0 6	2 0	Pine apples.		
Kent Cobs...100 lb.	120 0	150 0	—St. Michael's, each	2 6	6 0
Peaches ... per dozen			Apples...per ½ sieve	1 0	3 6
Melons ... . each			Plums...per ½ sieve		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, French, per lb.	1 0		Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	1 0		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	5 0	Seakale .....per bkt	3 6	
Celery.....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers .....each	0 3	0 6	Spinach ... per strike	1 6	
Endive. French, doz.	2 6	3 0	Tomatos..... per lb.	0 9	1 0
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

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PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d
Cyclamen per doz....	9 0	24 0	Chrysanthemum, doz.	4 0	9 0
Cyperus .....per doz.	4 0	12 0	— large. doz.....	12 0	30 0
Dracæna term., doz.	24 0	36 0	Marguerites, per doz.	6 0	12 0
Dracæna viridis, doz.	9 0	18 0	Mignonette, per doz.	6 0	12 0
Erica Hyemalis, doz.	12 0	18 0	Palms in variety, each	2 6	10 0
,, Gracilis, doz...	9 0	12 0	Palms, Specimen ...	15 0	63 0
Evergreens, in var. doz	6 0	24 0	Primula Sinensis per doz.	4 0	6 0
Ferns, invar., per doz.	4 0	18 0	—scarlets.....per doz.	6 0	9 0
Ferns, small, per 100	6 0	10 0	Solanums.....per doz.	9 0	12 0
Foliage Plants, doz.	12 0	60 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s d		s. d.	s. d
Azalea doz sprays.....	0 9	1 6	Marguerites, 12 bun.	4 0	6 0
Arum Lilies, 12 blms.	4 0	8 0	Mimosa (French) p. bh.	1 0	1 6
Bouvardias, per bun.	0 6	1 0	Mignonette... 12 bun.	0 9	1 0
Carnations. 12 blooms	1 0	3 0	Pelargoniums, 12 sps.	0 9	1 0
Chrysanthemum, dz bn	4 0	9 0	— scarlet.....12 bchs.	6 0	8 0
— .....doz. blooms	1 0	6 0	Primula, double, bun.	0 6	1 0
Camellias doz blooms	1 0	4 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Cyclamen doz blooms	0 6	0 9	Roses, yellow, dozen	3 0	6 0
Eucharis ...per doz.	4 0	6 0	— French, per bnch	1 6	4 0
Gardenias 12 blooms	3 0	5 0	— French, 100 blms	6 0	12 0
Heliotropes, 12 sprays	0 6	0 9	— Red..... doz. blms.	1 0	2 0
Hyacinths Roman doz. sprays	0 6	1 0	— Saffrano...per doz.	2 0	3 0
Lilac, White, French, per bunch...	5 0	6 0	— Tea ..... per dozen	1 0	3 0
Lilium Harrisii, doz. blooms	6 0	9 0	Stephanotis, dz. sps.	9 0	12 0
Liliums var., dz. blms.	2 0	4 0	Tuberoses, per doz	0 6	1 0
Lily of the Valley dz. sps.	3 0	9 0	Violets, Parma, French per bunch ..	3 0	5 0
Maidenhair Fern, 12 bs.	4 0	6 0	—Czar, French, bun.	2 0	3 0
			—Small ,, doz. bun.	1 6	2 6

Holly and Mistletoe, very good.

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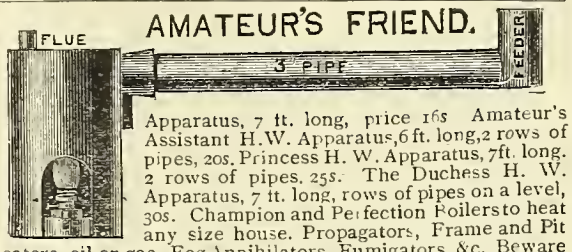

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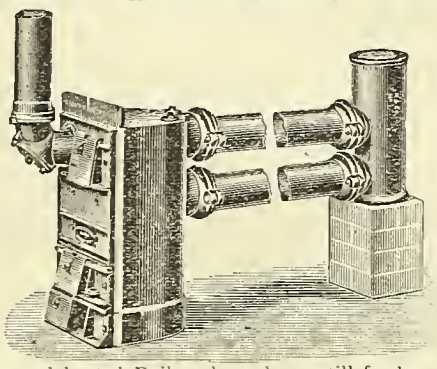

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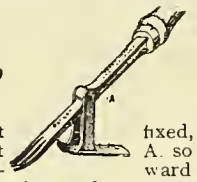

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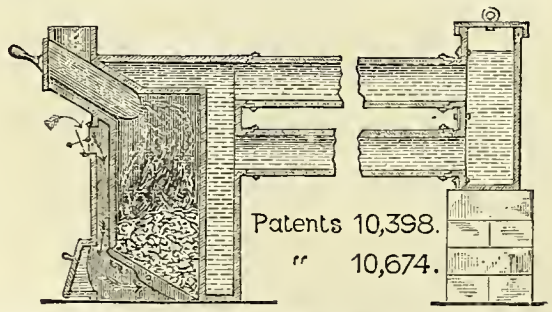

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THURSDAY, Dec. 29th.—Sale of Stove and Greenhouse Ferns at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, DECEMBER 24th, 1892.

CHRISTMAS VEGETABLES.—One thing is certain, we shall have for our consumption during the ensuing Christmas time an abundance of vegetables. Even if to many the extraordinary wealth to be found in our gardens did not assure, there are the markets and shops to tell their own tale, and those who have not seen a large public market or a first class shop display just of late, may well be excused if they do not fully realise the condition of our vegetable supply. It may be that, but for our Brassica tribe, vegetables for the million would at this time of the year be somewhat scarce. That may be so, but then we have the Brassica family, and it is now giving to us immense quantities of Brussels Sprouts, Coleworts, Savoys, White Cabbages, and even yet Cauliflowers.

Then we have Spinach and other leaf products, and both Seakale and Rhubarb are fairly plentiful, and for the time of year fairly cheap. It is too true that yet in private gardens not enough preparation is made for the supplying of these important products throughout the winter, but that surely should now form part of all good garden practice. Potatos are in plenty, and wondrously cheap, and a daily paper, usually so careful in its matter, told us the other day that whilst Jerusalem Artichokes

were dearer the roots were plentiful. The writer had got confused over Globe and Jerusalem Artichokes. As to Tomatos they are literally as cheap now almost as at any time. Parsnips, Carrots, Turnips, Beets, and other roots are plentiful and good.

Of course there is nothing like a home-grown supply of these products, but failing that the shops and markets give a wealth that money can purchase for all who have to spare. We think that in reason rather more money may well be spent at this time of the year on garden products and less upon grosser foods. The former at least will give less work for the doctors later, whilst the greater their consumption the greater the impetus given to their cultivation.

CHRISTMAS BERRIES.—Although there was after all no lecture on Hardy Berried Plants last week at the Drill Hall, and the few berried shrubs present made a poor show, yet there are berries in myriads all about the country, and the Holly seems to be in the most luxuriant fruit, we cannot see the grand old Christmas shrub in all its rich berried beauty at an exhibition. It is needful to get into gardens or woods or in the rural lanes to see huge bushes or trees full to profusion of the rich coral red berries that make them so beautiful now.

It was a very happy thought to whomsoever due, whether to the Druids or other ancient people, to make the Holly our Christmas berried decoration beyond all others. There is perhaps about the Mistleto something that lends a sentimental charm to Christmas-time, especially because of its association with a very pleasant form of salutation. Still the Mistleto fails entirely to satisfy our appreciation for rich colouring in the same way that Holly does. The common form of the Dog Rose or Wild Briar gives to us much pleasingly berried material, whilst the Dogwoods and Mountain Ash would render good service, had not the birds previously eaten the fruits.

We have of shrubs very charming material in the Pernettias, so varied in the colour of their profusely borne berries, and the Pyracanthas and the Cratægus also in many districts give to us wealth of colour that cannot be overlooked. How beautiful too when in good fruit are the female Aucubas, and turning to tenderer plants there are Solanums, Capsicums, Chilis, all specially available for the berried decoration of our houses at this festive season. It is rather odd that although the old notion with regard to abundance of wild berries and a hard winter still prevails, we should so far find the winter exceptionally mild.

THE NATIONAL ROSE SOCIETY.—It is fortunate for this society that it has for its special charge the loveliest and most popular of all hardy garden flowers, and one that blooms at the best time of the year. It may be that though the Rose is the floral queen of summer, the Chrysanthemum is the queen of autumn; but the latter flower, even though so beautiful and so popular, cannot be grown out in gardens as Roses are, or display such glorious hues of colour, much less give to us so much sweet perfume. But with all its good fortune in the nature of the flower cultivated, the Rose Society has to endure the occasional and doubtless natural differences of opinion that will crop up even in a family which contains so much of the clerical element.

Our good friends the clergy are first-rate rosarians, and many of them are much more, for they are cosmopolitan florists; but even the best of them who may go in for exhibition and competition have their little weaknesses for prizes, and all cannot look upon exhibiting with just the same degree of equanimity as does Dean Hole from his high place among the ecclesiastical gods of Rochester. However, the momentous question as to whether the holding of the society's southern show at the Crystal Palace be on the first or second Saturday in July, has been settled so far at present, and we hope all are satisfied. Nothing is so uncertain as the season, and what militates against the northern grower one year may be all in his favour the next, and the happiest medium is that which makes pretty equal chances over a series of years.

After all, as the society holds a special northern or provincial show, we see nothing to complain of if the Crystal Palace Show be a little early, but it does seem as if exhibitors did regard honours won at the Crystal Palace as a long way superior to those secured elsewhere. We are pleased to see that the National Rose Society has been enabled to pay its way, and retain its original balance in spite of the disastrous weather which attended upon its Chester Show.

GARDENERS' ROYAL BENEVOLENT INSTITUTION. — On Tuesday afternoon a general meeting of the subscribers to this Institution was held at "Simpson's" to consider the proposed alteration and amendment of the Rules as recommended by the General Committee. Mr. H. J. Veitch was unanimously invited to take the chair, and there was a fairly good attendance. The Chairman explained the necessity for the alteration required in the registration of the title of the Institution. It appears that when the Institution was originally registered under an old Friendly Societies Act it was called "The Benevolent Institution for the Relief of Aged and Indigent Gardeners and their Widows," but that some time afterwards, under circumstances that cannot now be explained, the title was altered to that of "The Gardeners' Royal Benevolent Institution." That alteration had, however, not been notified to the Registrar of Friendly Societies, according to rule, as had only lately been discovered, and it was therefore necessary that the Institution should be re-registered under the now familiar appellation. This was agreed to unanimously.

With reference to the alteration of the rules the Chairman stated that some time since it was considered desirable by the General Committee to amend them with a view to making them more elastic. On consulting the Honorary Solicitor, Mr. Peacock, he had informed them that having been once registered under the Friendly Societies Acts, they were bound to see that their rules were in accordance with the terms of those Acts. The new rules, fifteen in number, with sub-sections under most of them, were then considered seriatim, and after being amended in various particulars, were unanimously agreed to; and on the motion of Dr. Hogg, seconded by Dr. Masters, it was resolved "That all previous rules be rescinded, and that the rules now agreed to be the rules of the Institution." They will have to be confirmed at the Annual General Meeting in January, but doubtless that will be done without further discussion.

Points of considerable interest were brought out in the discussions which took place on the various amendments proposed, which we cannot for the moment refer to, but we cannot help expressing our regret that the necessity should exist, as Mr. Peacock contended, for being registered under the Friendly Societies Acts, because instead of making the rules more elastic, it seems to us that except in one or two material particulars, they will have a directly contrary effect. However, it was considered best to work under rules that had some sort of legality, rather than go on with the old rules which were not what they should have been.

Most of the new rules may be said to be of a domestic or administrative character, but there is one which we consider will most materially affect the future of the Institution, and to its lasting benefit. It is the rule which empowers the Committee previous to any election to credit any candidate who has paid four years' subscriptions with 50 votes, and to add 50 more for each annual payment up to fourteen. Under this rule therefore a candidate who may have subscribed for fourteen years, will be entitled to have 550 votes placed to his credit, and will not as now have to compete for a pension on equal terms with those who have not subscribed at all. Gardeners we are sure will appreciate this rule at its true worth to them, and they cannot do better than signify the same by sending Mr. Ingram their guineas in larger numbers.

Mr. R. J. Humphries has been engaged as gardener to C. Faber, Esq., The Brewery House, Wareham, Dorset.

The Midland Carnation and Picotee Society.—The second annual report of this flourishing society has just been issued and is of a satisfactory character, the income from all sources for the current year being £188, which includes a balance from last year. The amount of prizes paid at the last exhibition amounted to £90, and we are especially pleased to see that donations of £5 each have been given to the Gardeners' Benevolent Institution and the Gardeners' Orphan Fund, an excellent example to other societies, and there still remains a balance in hand of £32. Amateurs will find the report useful, inasmuch as it gives full lists of all the flowers exhibited in each class, and a carefully compiled list of the best variety for cultivating.

Scholarships in Horticulture.—We have received the following for publication:—At a meeting of the Court of the Worshipful Company of Gardeners, held on Monday, December 19th, at the Cannon Street Hotel, the scheme of examination in horticulture lately set out by the Royal Horticultural Society was brought under discussion, and it was decided that the company should offer a scholarship of £26 a year, tenable for two years, to be awarded after the examination to the most successful candidate under certain conditions. It was also announced that a second scholarship of the same value was offered by the president of the Royal Horticultural Society, Sir Trevor Lawrence, Bart., and it was hoped that others might follow such good examples. The exact conditions of the scholarships have yet to be settled, but the main provisions will be that the holder shall be between the ages of eighteen and twenty-two years, and that they shall study gardening for one year at least at the R.H.S. Gardens, Chiswick, and for the second year either there or at some other place to be approved.

The Birmingham Gardeners' Association.—At the last meeting, Mr. H. Cannell, Swanley, sent one of his representatives to read a paper on "The Rose," and gave excellent advice as to lifting, packing, pruning, and planting, and strongly advised great care in lifting, so as to preserve every root; packing so as to secure the roots reaching their destination in a damp state; and planting in October or November if possible, so as to insure immediate root action. Mr. Cannell also recommended a considerable shortening of growth in newly planted trees, as well as in those already established. If planting cannot be done easily in the autumn, then delay until February or March. An animated discussion followed, many salient points in Rose culture being brought out. Mr. Cannell also sent sample plants of his excellent strain of Cyclamens, and a bloom of the fine new Japanese Chrysanthemum, Mdlle. Marie Recoura, pure white. Messrs. Vertegan & Co. exhibited ripe fruits of the Date Plum, Diospyros Kaki, which has a pleasant flavour, not in the least astringent. Messrs. Thomson & Co., Sparkhill Nurseries, exhibited a fine bloom of one of their seedling Margaret Carnations, from a plant which had been in bloom since the middle of August, and the seed sown in February last.

JAPANESE CHRYSANTHEMUMS FOR EXHIBITION.*

I HAVE been asked to contribute a short paper on the above subject, and I do so with considerable diffidence, for two reasons. First, because I have been a grower for a comparatively short period; and secondly, and more particularly, because the subject has been so scientifically and ably dealt with by many other growers of much greater experience than myself. I purpose, therefore, to give only the general outlines of the method we adopt, and make more especial mention of any details which have been tried by me as experiments, and the results obtained.

I think the most convenient point to start from is the treatment of the old stools and the taking of cuttings. As soon as the flowers are cut from an old plant the stem is cut to within 4 in. of the pot and it is placed in a cold frame. I may here say that I strongly believe in making the plants as hardy as possible all through their period of growth. I am quite aware that in some less favoured parts of the country than that in which I reside it will be found necessary to use some heat in the frames in order to exclude severe frosts, but the less it is employed the better. In my case the frames are unheated, and in severe frosts they are covered with thick straw mats, which I find answer the purpose well. I think it is a mistake not to give the old stools some stimulant, as almost the whole of the nature of the soil must have been exhausted, by the time the blooms have been finished. In order to get good strong cuttings I give two doses a week of weak manure water made in the usual manner from cow or sheep droppings. It is also a good plan to give a slight top-dressing of good loam. The further the cuttings can be procured away from the stem the better, and never take any from the stem itself if it can possibly be avoided.

It is a good plan, I think, when the season is in full swing, to take careful notes of all the varieties and make out a list of the sorts you intend to grow for another season and the number of cuttings you will require of each. It will be found necessary to grow more of some varieties than of others which are equally good as to the flowers, as some are very brittle and suffer much from the wind; others will carry three or even four good flowers, and some only one. Some are also much more difficult to bring out to time. Then, again, certain varieties must be discarded every year to make room for new ones of greater excellence. Let us then suppose that we have our list drawn up and the time for taking the first cuttings has begun. It will be found necessary to strike or attempt to strike quite 25 per cent. more cuttings than you will have room for as full grown plants. Some of the cuttings will not strike, later on some plants will be lost through various causes, and it is best when the time for the final potting comes to have extra plants, so that only the strongest and those which promise to come right as to time shall be grown on through the summer.

The season of striking cuttings begins in the second and third weeks of December, and goes on at intervals till the end of February. I strike all my cuttings in a close frame in a warm greenhouse and use no bottom heat. The soil is composed of well-rotted top spit with plenty of sand and some charcoal. Last season I adopted the plan suggested by Mr. C. E. Shea, of adding a little of the ash produced by burning the old stems and foliage of the last season's plants. This, I think, is of assistance to the plants when they have become rooted and established in their first pots. I do not propose in this paper to give a list of all the varieties we grow and the dates at which their cuttings should be taken. These will be found by referring to the excellent work of Messrs. W. & G. Drover. Of course the time must vary slightly with the district. As a general rule the latest varieties should be struck first and so on, though there is some modification in this when stopping in April is practised. The cuttings are kept fairly close till rooted, after which they are taken out and placed in cold frames and have no heat till they are finally housed. It is most important to give them plenty of room in the frames. If this is not done they will get drawn up, leggy and weak, and will never make good plants.

I think it is a good plan from the first to keep each variety by itself; by doing so the grower will save a great deal of time, as certain varieties require more shifts than others, and as these shifts are given at no fixed dates, but when the plants require them, it can easily be understood that to have to look through, say, 800 or 1000 cuttings for twenty-five of Avalanche, would be a lengthy process if all were indiscriminately mixed together. It is important to place the rooted cuttings near the glass on a cool bottom. The plan I adopt is by resting corrugated iron sheets on inverted pots and then putting 4 in. of sifted coal ashes on them. This makes a cool bed, and can be adjusted to any desired height. The frames I use are Boulton & Paul's span-roof ones 8 feet wide. They have an admirable method of top ventilation, which is especially useful for the plants in their early stages, when very often the east wind is too cold to allow of the lights being raised. Frost is excluded by the use of thick straw mats, and no artificial heat is used. The plants are kept well apart from each other, and are given more room as they require it. This is most important. Never let the plants in their young state get root-bound. Some varieties will require four shifts, others only two. No rule can be laid down, but all must be repotted when they require it. Every now and then the different varieties are looked over, and any that require it are repotted. The same compost is used, but with less sand and a little leaf soil is added.

MR. W. HERBERT FOWLER.

We will suppose that we have now arrived at the month of May. The plants are now strong, and some may be placed outside the frames, placing a stick to any that require it; the rest may remain in the frames, and the lights removed. No definite rule can be laid down for the final potting. We begin about the last week of May, when the first plants require it, and then work steadily through the whole stock as they require it. The operation lasts with us about three weeks. The compost I use is as follows:—Four-fifths prepared fibrous loam, one-fifth leaf soil; to this is added some sand, half-inch bones, and charcoal. No manure of any kind. The loam we use is the best top spit cut 2 in. thick, which is stacked in layers, turf downwards, and covered with corrugated iron to keep out the rain. It is chopped up rough, and all fine parts put on one side. It should be on the dry side rather than wet. For certain weak growers, such as Mrs. Alpheus Hardy, I use two-fifths loam, two-fifths peat, and one-fitfh leaf soil. Two sizes of pots are used, 8½ in. and 9½ in. in diameter. Those made extra deep, as supplied by Messrs. Sankey, are the best I have used. Give plenty of drainage, and some rough soil and ½-in. bones over it, and pot very firm. After potting the plants stand in the shade for some days till the roots begin to take hold of the new soil, and the plants have got over the check. No water at the roots will be required for some days, but a sprinkling or syringing twice a day will be all that is necessary. Labels should be new and long, so as to give plenty of room for notes as to time of taking the bud, and other details.

As soon as the plants can stand the sun they are placed in their summer quarters in the open, so as to get the full benefit of sun and air, and carefully tied to two strands of iron wire. The plants during the summer stand over iron troughs filled with water. In these troughs are placed 6-in. lengths of 5-in. drain pipes, on which the pot stands. Each plant is thus surrounded by water. This almost entirely prevents earwigs from getting on the plants, and also produces a moist atmosphere on very hot days. The plants grown over water have with me better foliage than those placed on the ground. To further keep the earwigs at bay, we tie cotton wool soaked with paraffin round the posts, and renew the wool and oil once a week. The result of this experiment has been that during this season (which has been an unusually bad one for earwigs) we have, out of some 560 plants, only lost three or four; while in an ordinary way I should expect to lose fifty or sixty. I may add that my plants are grown on the grass, which harbours the earwigs, and makes them more troublesome than they otherwise would be. The rows run east and west, and the plants are turned round twice during the summer. We give plenty of room between the plants, so as to ensure ripe wood and good foliage. The lines are about 10 ft. apart.

The principal work during the summer is that of watering and also of tying the shoots as they grow Every plant is tapped with the knuckle to find out the amount of water required. Too much is almost as bad as too little. Any neglect of watering may mean the total loss of all your exhibition chances. No cold water from the mains should be used. All water should stand for twelve hours in tubs exposed

*Read at the Horticultural Club by the Worshipful the Mayor of Taunton, W. H. Fowler, Esq.

to sun and air before being used. Rain water is the best. As to feeding, I give no stimulants at all till the last week in August. In this I believe I am almost alone, as most growers begin in July. I believe, however, that if the potting soil is really good that the end of August is quite soon enough. I use five or six different manures, but always in a liquid form, never giving the same fertilizer twice running. I believe that liquid manure from sheep, cow, or horse droppings, prepared by placing in a sack and allowing it to soak in a tub of water for a night, is one of the very best stimulants. Be careful not to use it too strong to start with. Of prepared manures there are many very good. Pure Icthemic guano, Wood's and Standen's manures being my favourites. Sulphate of ammonia is only used to hurry up a late bloom, and must be very carefully used. Between every watering with stimulants we give two or three days with clear water. This I think keeps the ball clean and the plant healthy. Never use stimulants in strong doses; the result will be burnt roots and a ruined bloom.

One of the most important details with regard to growing for exhibition blooms is the timing of the blooms—*i.e.*, to get the bulk of your varieties out at about the same time. Now, while we have some varieties that are naturally early, and others late, we must find out means of retarding the one and accelerating the other. I cannot go deeply into this subject, as it is too large. I will only say now that we arrive at the desired end by stopping—*i.e.*, taking out the point of the leader—the plants at different times. Thus a plant of Mrs. Alpheus Hardy or Mrs. F. Jameson, stopped in April, will give good blooms from crown buds about the second week in November, whereas if they had been grown in a natural way they would never have given an exhibition bloom. Taking the buds is a subject that is now so generally understood that I will not enter further into it, beyond saying that if a plant is found to be too early or too late for the shows it is waste of time, so far as exhibiting is concerned, to bother further about it. The room of such plants is more valuable than their company (from an exhibition point of view). Of course with new varieties one must keep all to find out what their habits and what is their natural time. In the case of the older varieties their time is known within a few days, and such varieties when out of time should not be housed unless there is ample room for the rest of the stock. Then there is the question of crown or terminal buds. This depends entirely upon the variety, and must be learnt by experience or by reference to works, where all the principal varieties are tabulated, and their peculiarities noted.

We will now enter upon the important step of housing the plants, which takes place at the end of September. First take care that your houses are perfectly clean, if fresh painted so much the better. I always house a plant on the very first symptom of showing colour in the bud. I am quite certain that to leave such a plant outside means simply the loss of the flower. I have found by experiment that with good blinds and proper ventilation a house can be kept cooler than the air outside, and a bloom kept in such a house will open later than one kept outside and will not be ruined as in the other case. I house the bulk of my plants during the last days of September, and have all in by October 2nd or 3rd. It is always a relief to me to know that they are safely housed and out of the way of the strong winds and frosts which often do so much harm at that time of the year. When all are in, give a good smoking on two successive nights to kill all green fly. After that give plenty of ventilation night and day till the middle of the month of October.

I may say that several small houses, where the temperature can be regulated, are far better than one large house. Some varieties require more heat than others to get the best results, and some will want hurrying on and some retarding. I prefer a three-quarter span house, with front and back ventilation. From 1 ft. to 2 ft. will be found the best distance for the blooms from the glass. It is important to house the plants when dry. All houses must have blinds, or shading should be used, as no blooms will stand the sun after they show colour. A perfect house in my mind would have an outside and also an inside blind; the latter is most useful in protecting the blooms from drip caused by condensation. Many blooms supposed to have damped in the ordinary way are lost from this cause. Avoid all draughts, but always allow plenty of air, except when very cold or rough outside, when great care must be exercised. After the plants are housed they will require less water, and stimulants must not be given after the bloom is half out.

Then there is the great damping question. Thousands of blooms are lost every year from this cause, and various theories advanced to explain it and advice given for prevention of the evil. I do not myself believe that the use of stimulants is in itself the main cause. I have had plants damp off which have had no stimulants at all. I think the real reason of the disease arises from the fact that we grow only one, two, or three blooms on a plant which is capable of growing perhaps as many hundreds, and that the amount of sap in the plant fails to find sufficient work to do, and causes the evil. Some blooms no doubt are lost from the wood not being properly ripe. I think that careless ventilation is one great cause of blooms damping. Avoid all draughts, and on no account allow the sun to get on the blooms. Some varieties are much worse than others. Those with heavy foliage are much more difficult to get ripe, and proportionately disappointing. I intend next season, as an experiment, to reduce the foliage of some varieties. I have lost eighteen splendid blooms of Col. W. B. Smith out of twenty this season, and the plants were the best among my collection.

On setting up the blooms and taking them to the shows I will only say a few words. I think that the best tubes are those patented by Mr. E. Beckett and bearing his name. I use them in conjunction with the Jameson clip, which enables one to adjust the bloom to any desired height. A great deal can be done by careful arrangement of the colours. I believe in placing the largest blooms in the back row. On one matter I feel strongly, and take this opportunity of expressing it. A habit has crept in among exhibitors of altering the character of many blooms by spreading them out by means of card-board discs and wire crinolines. The object is to give the stand an appearance of weight which it does not really possess. I think that the time has come when this practice should be put a stop to, and all tubes limited in diameter to a certain specified size (say 2 in.), and no other supports allowed. If this were done we should hear less about the boards not being large enough. At the October Show of the National Chrysanthemum Society I saw two good blooms of E. Molyneux entirely spoilt by an enormous card being placed between the tube and the bloom. Instead of being deep solid blooms they appeared to be quite flat, and altogether out of character. I think that the judges should persistently go for deep solid flowers, and ignore all such manipulated blooms.

Now that new varieties of merit are so constantly appearing I feel that it is almost impossible to give a complete list of the best varieties of Japanese Chrysanthemums; but I give below a list of those I think are the leading forty-eight at the present time, not in the order of merit:—Mrs. A. Hardy, Viviand Morel, Etoile de Lyon (terminal), Mrs. E. W. Clarke, Puritan, Mrs. C. W. Wheeler, Stanstead White, Violet Rose, R. C. Kingston, Colonel W. B. Smith, Mrs. E. D. Adams, W. W. Coles, E. Molyneux, W. Tricker, Florence Davis, Coronet, G. C. Schwabe, Gloire du Rocher, Gloriosum, Mrs. Herbert Fowler, W. H. Lincoln, Sarah Owen, Madame J. Laing, Sunflower, Mons. Bernard, Avalanche, Mrs. F. Jameson, Mdlle. Marie Hoste, Miss Anna Hartzhorn, Japonaise, Eynsford White, Madame Baco, Lilian B. Bird, Lord Brooke, Beauty of Castlewood, Beauty of Castlehill, Aida, Ruth Cleveland, J. Stanborough Dibbens, Mrs. J. S. Fogg, Beauty of Exmouth, W. K. Woodcock, Lady T. Lawrence, Mr. A. H. Neve, W. Lane, Hamlet, Boule d'Or, and Ralph Brocklebank.

I hope this paper has not been too long, but the subject is so large that I could have written much more, and I assure you that I have found it an unfailing source of interest during the last four years. I would strongly advise any who have the opportunity to try and grow a few plants next year, and note the many differences which are to be found in the habits and likings of this most interesting family.

[We have much pleasure in giving on the preceding page a portrait of Mr. Fowler which was not ready for our issue of November 19th. To that number, p. 177, we may refer our reader for some particulars concerning this distinguished and much-respected amateur's successes.—Ed.]

NATIONAL CHRYSANTHEMUM SOCIETY.

A meeting of the General Committee was held at Anderton's Hotel, on Tuesday evening, and there was a large attendance, over forty members being present. Mr. R. Ballantine, presided and the minutes of the previous meeting having been confirmed, Mr, A. Taylor presented an interesting tabulated report on the number of cut blooms exhibited at the last November show, and received the thanks of the Committee for the trouble he had taken in the matter. The total number of cut blooms staged was 2,163, comprising 1,134 Japanese (142 varieties), and 642 incurved (75 varieties), the remaining 387 consisting of reflexed, Pompons, large-flowered Anemones, Japanese Anemones, Anemone Pompons, singles, varieties not in commerce, and new varieties named. Two lists were presented, showing the number of times each variety was exhibited in the Japanese and incurved classes, but we regret we can only find space here for the first twenty-four in each section.

Japanese.

Avalanche	84	Louis Bœhmer	25
Viviand Morel	68	Val d'Andorre	23
Sunflower	62	A. H. Neve	20
Ed. Molyneux	47	Condor	20
W. H. Lincoln	45	Mad. J. Laing	19
Etoile de Lyon	40	Mad. C. Audiguier	18
Stanstead White	40	W. W. Coles	15
Gloire du Rocher	36	Sarah Owen	15
Florence Davis	35	W. Tricker	15
Mons. Bernard	35	Mad. Baco	14
Mrs. Falconer Jameson	30	Mdlle. Marie Hoste	14
Puritan	29	Gloriosum	14

Incurved.

Princess of Wales	47	M. R. Bahuant	16
Empress of India	40	Mrs. Heale	16
Lord Alcester	39	Alfred Salter	16
Jeanne d'Arc	31	Nil Desperandum	15
Queen of England	31	Lady Hardinge	13
Lord Wolseley	28	Mad. Darrier	12
Golden Empress	25	Mrs. W. Shipman	12
Violet Tomlin	24	John Salter	12
John Lambert	22	Prince Alfred	10
Miss M. A. Haggas	20	Jardin des Plantes	9
John Doughty	19	Princess Teck	9
Mrs. S. Coleman	19	Alfred Lyne	8

The Chairman then brought up the following report from the Sub-Committee appointed to investigate the charges made by Mr. W. J. Godfrey in the *Journal of Horticulture* against a member of the Floral Committee, and moved that it be received and adopted.

"Your Committee have to report that they have held several meetings, and acting under legal advice they passed the resolution (A) published in the *Journal of Horticulture* of November 3rd. At the same meeting the member whose conduct was complained of voluntarily attended, but your Committee declined to discuss the matter with him until the letter containing the charges had been published by the *Journal of Horticulture*. This letter the *Journal of Horticulture* declined to publish. At a subsequent meeting a sworn statement was furnished by the gentleman in question denying the main facts of the case. In face of this statement your Committee came to the conclusion that it would be unwise to proceed further, as were they to do so they were advised that an action for libel against them might be the result. This decision was communicated to the Editor of the *Journal of Horticulture* by letter (B), but this letter he did not publish. Your Committee recommend that no further action be taken in the matter.—*Signed*, R. Ballantine, Edwd. C. Jukes, Joseph R. Starling, R. Dean, C. Harman Payne."

Resolution marked A.

"That inasmuch as the charges brought by the *Journal of Horticulture* against a member of the Floral Committee of the National Chrysanthemum Society are made in exceedingly vague terms, and as the letter upon which the charges were founded is not published, or the name of the incriminated member made publicly known, the Sub-Committee are unable to effectively deal with the matter. They consider that in justice to all concerned the publication of the letter is imperatively called for."

Letter marked B.

"The Editor, *Journal of Horticulture*.

"Dear Sir,—Referring to your paragraph of October 27th *re* Floral Committee Certificates of the N.C.S., I beg to inform you that the Sub-Committee that was appointed has held three meetings, and as far as possible investigated the matter. The member

referred to in your correspondent's letter has furnished the Sub-committee with a sworn statement denying the truth of several of the main facts mentioned in the letter. In face of the affidavit against an *ex parte* statement the Sub-committee feel they cannot proceed further unless you publish the letter. As the letter was addressed to you and not to the N.C.S. the Sub-committee have no right to publish it, and were they to do so they might incur the risk of an action for libel.—Yours truly, R. BALLANTINE, chairman of Sub-Committee."

Mr. E. C. Jukes seconded the motion of the chairman, and after a lengthy discussion in which Mr. Addison, Mr. W. H. Fowler, and Mr. Bevan took part, the motiou was put to the meeting and carried.

The secretary next read some correspondence with reference to a circular letter which had been published by Mr. Wells, whereupon Mr. Addison moved the following resolution, which was seconded by Mr. Rundle and carried after a brief discussion:—

"THAT the General Committee of the National Chrysanthemum Society—having considered the charges made by Mr. Wells against a member of the Floral Committee of acting prejudicially to the interests of the society, which actions are likely to bring about an incurable mistrust in the important work of the Floral Committee—desire to place on record this resolution of their strongest disapproval of such conduct, and to warn the member referred to against a repetition of such irregularity."

The Schedule Sub-Committee brought up a report on the subject of the compulsory enlargement of show-boards for Japanese varieties, in which they recommended the General Committee to adhere to the regulations at present in force, which leaves it optional to exhibitors to use larger boards as they may think fit. Mr. Addison moved, and Mr. Jukes seconded, the adoption of the report. Mr. C. Harman Payne moved, and Mr. Rundle seconded, an amendment to the effect that the adoption of boards of the size recommended at the conference be made compulsory in the case of all the open classes for Japanese blooms at the N.C.S. exhibitions. After some discussion the amendment was put to the vote and declared lost. Mr. W. H. Fowler moved that an addition be made in the form of a rider to the original recommendation, to the effect that no cups used exceed 3 in. in diameter, and no cardboard or paper discs or crinolines shall be allowed. This was agreed to, and the original motion with the addition was carried unanimously, the general opinion being that the rule with regard to the cups and the abolition of cardboard discs and crinolines, by compelling the flowers to be shown more naturally, would obviate the overcrowding, which is now so common, and so render the compulsory enlargement of the boards unnecessary.

The recommendation that the society's exhibitions next year should be held on September 6, 7, and 8; October 11, 12, and 13; November 7, 8, and 9; and December 5, 6, and 7 was adopted; as was also a recommendation with regard to the Metropolitan classes that the area should be that of the new county of London.

Three Fellows, and eighteen new members were elected, and the following societies admitted into affiliation:—The Yeovil Chrysanthemum Society, the Steyning Chrysanthemum Society, the Horticultural Society of New South Wales, the Christchurch, Canterbury (New Zealand) Chrysanthemum Society, and the Cambridge (New Zealand) Chrysanthemum Society.

MUSHROOMS IN A WINE CELLAR.

MUSHROOMS would more often be grown in cellars than they are were the sanitary inspectors agreeable, judging from the newspaper accounts we occasionally hear of. For instance, we heard not long ago of a case where Mushrooms were grown in the cellar or basement room, above which the owner thereof lodged his family. We have also seen a plentiful harvest of the coveted esculent in the basement of a conservatory which was elevated considerably above the ground in order to be on a level with the drawing-room of the mansion. In the case we have under notice, the old wine cellar belonged to an old house, long since pulled down, and the site is now covered with shrubs and gravel walks. The new mansion of Gunnersbury House, Acton, and now belonging to the Messrs. de Rothschild, is built a little to the east of the old site. The wine cellar is a brick-built structure, consisting of several arches right and left of a central pathway. The Mushrooms are grown in the areas enclosed and roofed over by these arches, each area containing a bed or space for one. The place is entered by a narrow door, down a flight of steps, and even in daylight can only be inspected by candle light. The space at command is greater than is necessary to supply the requirements, so that at present only some of the beds are in use. In fact there is only one bed in full bearing, and from that a large quantity of Mushrooms can be obtained. It was spawned on the 26th of September, and will last for two or three weeks yet.

Altogether a bed will last six or eight weeks. Several other beds are now in their last stages of bearing, but not being immediately required, the dung has been allowed to remain. An intermittent supply continues to be furnished by them, so that taken altogether there may be said to be two beds in bearing. A fresh bed was spawned on the 11th of November, and the spawn having commenced to run, the bed will come into bearing in two or three weeks. Before the beds are bearing they are covered with straw, after which it is taken off. Mr. Hudson, the gardener in charge, says that the atmosphere of the cellar even now stands at a temperature of 49° or 50°, yet no artificial heat is resorted to by any means.

THE VEGETABLE GARDEN.

Beetroot.

A VERY useful and instructive collection of varieties of Beet, was shown at the last meeting of the Royal Horticultural Society, on December 13th, from the gardens at Chiswick. It told us that many of the varieties very closely resemble each other, and out of the whole collection, which numbered about sixty names, the well known Dell's Crimson, and one or two others much like it, appeared to be the most useful of the long-rooted varieties for general purposes. Of the Turnip-rooted sorts, whose chief recommendation is their earliness, not much can be judged at this season.—*G. H. S.*

Savoys.

SAVOYS though not a choice vegetable, are very useful in their season. I think the best flavoured of them all is Gilbert's Universal, and those who have not given this variety a trial should do so during the coming year. It is of nice shape, and the flavour is a distinct improvement on the older varieties. The season of this vegetable is short, but that is partly because they are sown so early. If in addition to the early sowings some later ones are made, and by this means the heads grown smaller they remain longer fit for use, and come in useful in a mild autumn, when perhaps the tender vegetables, such as Scarlet Runners and Vegetable Marrows, last longer, and the large early grown Savoys are split and spoilt. Vegetables then become scarce, and these small late sown Savoys come in very handy.—*G. H. S.*

General Work.

CARE should be taken in gathering the green vegetables to use the older ones first. If the man whose duty it is to perform this work uses a little foresight, crops of vegetables may be made to last much longer. This may seem a very simple matter, but there are innumerable simple matters that require care in the constant supply of vegetables to a gentlemans establishment which is a very different thing to growing a field of any one or two vegetables, and as soon as they are ready for use sending them into market in bulk. What a private gardener aims at is to keep up a constant supply, with as little waste as possible, and to do this every effort must be made to prolong the supply of each vegetable in turn. See that all supplies of forced vegetables are kept up. Get the supply of seeds ordered as soon as possible as we shall soon have to get some of them sown. Mend or relay any box edging that may require it, as weather permits.—*G. H. S.*

Jerusalem Artichokes.

THIS crop, if not already lifted, should be taken up and pitted in the earth, the same as Potatos. The ground can then be manured and dug ready for the next crop.—*G. H. S.*

Gleanings from the World of Science.

Branching in Palms.—A paper on this subject was read at a meeting of the Linnean Society by Daniel Morris, M.A., F.L.S., Assistant Director, Royal Gardens, Kew. This is published in *The Journal* of the Society, vol. 29, No. 202, and the following are his conclusions on the branching of Palms:—"(*a*) Branching is habitual in certain species of Hyphæne; it is occasionally in certain other species of Hyphæne, and (arising from various causes) it is occasional also in certain Palms belonging to the genera Areca, Rhopalostylis, Dictyosperma, Oreodoxa, Leopoldinia, Phœnix, Nannorhops, Borassus and Cocos. (*b*) In numerous cases branching in Palms is the result of injury to, or destruction of, the terminal bud causing the development of axillary or adventitious buds below the apex. These buds when lengthened out produce branches. (*c*) In some cases branching in Palms, as in Nannorhops, Ritchieana and Phœnix sylvestris, is caused by the replacement of flowering-buds by branch-buds. In such cases the branches are usually short, and are arranged alternately along the stem. The terminal bud is apparently neither injured nor destroyed. (*d*) Palms that are usually so boliferous (producing suckers at the base) are rarely branched at or near the apex. And lastly, (*e*) no instance appears to be so far recorded of a monocarpic Palm with a branched stem."

Cut flowers and bacteria.—It is now pretty well known amongst gardeners, florists, and others that cut flowers last longer in a fresh state (other conditions being equal) when a small piece is cut off the end of the stems at intervals of two or three days. The reason for this is that bacteria collect and multiply round the cut surface of the stems and in the process of appropriating that which constitutes their food, they produce a slimy or mucilaginous material which prevents the ingress of water to the stems. By cutting off the ends of the stems a fresh surface is exposed to the water, so that the latter can again be conveyed to the flowers in sufficient quantity to keep them fresh. This is more essential in summer than in winter, because the higher temperature of the former season causes a more rapid increase of bacteria and other low vegetable, as well as animal organisms.

The River Thames and Plant Dispersal.—A paper has been contributed to the *Journal of the Linnean Society* by Mr. H. B. Guppy, M.B., containing the results of observations on the agency of the Thames in distributing plants chiefly by means of seeds or fruits. He found that the seeds produced on the banks of the river, and which get carried seawards, take a long time to reach the sea provided they do not get stranded on the banks before that time. He has been collecting the vegetable drift at various times during autumn and winter, and finds that seeds, seed vessels and vegetable debris generally are more plentiful during January and February than in October, when vegetation generally is decaying or scattering its seeds. This he explained by the fact that prevailing winds by blowing across the river serve to drive the drift into sheltered bays and other places where it may lie for months before the water current and wind carry it away, and that after the lock at Teddington is passed, it then comes within the influence of the tides and may traverse the distance between Teddington and Gravesend several times before it finally passes the latter place. All this time the seeds of a great many plants survive and will germinate if stranded upon the banks, or upon mud along the margins. Many of them even germinate in the water, but never attain any great size unless they get stranded on soil or mud into which they can root. Amongst the plants conveyed in this way are species of Ranunculus, Scutellaria galericulata, Mentha aquatica, Iris Pseudacorus, Impatiens Noli-me-tangere, and others. The latter we have been observing on the banks of the Thames for the past two or three years, and were some time before we discovered the source from whence the seeds came. At the same time we had no doubt that they had been stranded just at high water mark and left there, where they germinate most abundantly every spring.

The Carnation: its History, Properties, and Management with a descriptive list of the best varieties in cultivation. By E. S. Dodwell. Third edition, with supplementary chapter on the yellow ground. London: GARDENING WORLD Office, 1, Clement's Inn, Strand, W.C. 1s. 6d; post free, 1s. 7d.—[ADVT.

FLORICULTURE.

Violas in Pots.

I AM pleased to see the remarks from "A. J. R." and Mr. George McLeod in your last issue, and to know that my views on the adaptability of the Viola in pots as an indoor decorative plant are corroborated. Mr. McLeod alludes to the Violetta section especially, and these are very sweet-scented, but at present do not possess a great variety of colour. Other kinds—such as Bullion, Ethel Baxter, Duchess of Fife, and many others of the shorter growing type—are so very suitable and many of them fragrant, and I hope the members of the New London Pansy Society will take the pot culture of Violas in hand, and Pansies also. I have a vivid recollection of the lovely pots of show Pansies (we had no fancies then worth looking at) grown at Slough about 1856, when the late Charles Turner, Wm. Bragg, and others exhibited Pansies in pots so successfully. Their cultivation is so easy, and large pots not at all necessary, and when going out of bloom they should be turned out of pots and planted on a north border or some other shady place not under trees, and the plants be cut back and surfaced with good potting soil, first treading around the plants to make the soil as firm as possible. Young growth will then spring up and give an abundance of stock for later blooms in autumn. Rich soil is not at all a necessity, but rather a mistake, but good fresh turfy soil, loamy if possible, is a necessity, and just looking after and keeping them free from insects.—*W. Dean.*

Violas in Pots for Winter Decoration.

I HAVE read with interest the notes on this subject from "A. J. R." and Mr. G. McLeod in your last issue, and am decidedly of opinion that a fine display of these plants may be had through the winter, but not quite on the same lines as suggested by "A. J. R." I think to be successful the plants so employed should be seedlings. This I daresay will do away with their charm in many people's eyes. Yet I do not see why it should be so, for there are numbers of seedlings raised every year that are really beautiful, and if we have to drop the strict lines of the florist for a few months, we can pick them up again in the spring with renewed vigour.

At the present time I have a striking example of the superiority of seedlings over the cuttings and old stock of named varieties. Towards the end of July I sowed a quantity of seed in boxes, and as soon as the seedlings could be handled I had them transplanted to the open ground. These seedlings commenced flowering in September, and have flowered without intermission till the present time, December 20th, and they have numbers of buds on them, so that, if potted up, they must continue flowering for a long while yet. A sharp frost spoils the upper petals of the flowers, but a fine mild day or two causes dozens to open again, while on my named Pansies and Violas, both cuttings and stock plants, I have to look in vain for a flower. The secret of success appears to lie in the fact of having seedlings. While I am quite confident there is a great future for the Pansy and Viola in the south, I think my friend Mr. G. McLeod depicts a rather far-fetched picture in telling us the Viola will become as popular as our winter-flowering Violet for pot culture.—*Jas. B. Riding.*

CARNATIONS AT CHRISTMAS.

THE winter hitherto has been characterised by a mildness which is remarkable for this period of the year. It has therefore been favourable for all kinds of plants under glass kept in a growing state. When much fire heat has to be given to the house in which Carnations are kept, the unnatural stimulus and the closer atmosphere necessary to conserve the heat has the effect of causing the flowers to be puny and short-lived. This year, however, the flowers have expanded under more natural conditions, and therefore retain their natural size. There is a fine display in one of the houses at Gunnersbury Park, Acton, one of the seats of the Messrs. de Rothschild, whose garden there is under the charge of Mr. Reynolds.

The front staging is occupied by a batch of Cyclamens in 32 and 48-size pots. They are somewhat over a twelvemonth old, with well developed foliage and now laden with bloom. The other side of the house is three times as wide or more and is entirely occupied with Carnations in relatively a few varieties. They are arranged on staging gradually rising as it approaches the back of the house, till the top ones are pretty close to the glass. A striking variety on account of its size is Irma, having large and rich rose-coloured flowers with broad petals. In the same category we would place Mrs. Leopold de Rothschild which gained two certificates at least during the past summer. The flowers are of handsome proportions, in fact much larger than those we saw in summer, and of a shade of rosy pink closely similar to that of Raby Castle, but a larger and finer flower, while the broad petals are more nearly entire It is truly a winter flowering variety and should become popular with those who like winter-flowering Carnations. Both of them make the flowers of the popular Miss Jolliffe appear puny by comparison. The latter is, however, both dwarf and floriferous.

The large white flowers of Empress of Germany are comparable to those of Mrs. Leopold de Rothschild for size and effect. The petals are, however, characterised by a few slender pink lines which are unnoticeable at a short distance. A very persistent flowering sort is Winter Cheer, now well known for its dwarf and dense, bushy habit, and which never seems to give over flowering. The flowers of Brunette are comparable to those of Miss Jolliffe for size, but they are of a deep crimson, very freely produced, and serve to form a contrast to the lighter kinds. Madame Arthur Warocque, or the scarlet Malmaison, does not come up to the expectations originally held respecting it.

THE CHRYSANTHEMUM IN AMERICA.

ANOTHER busy season among Chrysanthemums has gone by, and the popularity of the flower increases apace. Chrysanthemum societies are springing up everywhere. The exhibition blooms are swamping specimen plants, which, it is to be regretted, have a hard struggle; but their turn *will* come I hope. It was noteworthy in Boston this year that the specimen plants received their full share of attention from the public. Heretofore it has been the reverse. In New York specimen plants were scarcely noticed, the blaze of colour on the tables being the whole source of attraction. I think the exhibitors on your side of the Atlantic have something to learn from the Americans in regard to exhibiting large blooms. As far as I can learn, you have not gone beyond boards and dressed blooms. Here they are less and less seen; in Boston they are altogether discarded. A few were seen in New York, but the society there is opposed to their use, though I think they will find it necessary to retain them, as to the general public they were a constant source of attraction. The bulk of the blooms were exhibited with long stems, loosely arranged in vases, thus placing many varieties which are otherwise good as show blooms at a disadvantage. The effect, certainly, will be to discard all that have not stems strong enough to carry their blooms. One strong point in favour of this mode of exhibiting is to show the varieties best suited for decorative purposes. Many of the loose-flowered Japanese varieties, which would have no place on a show-board, appear to excellent advantage; large, handsome foliage, clear up to the blooms, being especially telling. It is particularly noticeable that long, bare-stemmed crown buds are very much at a disadvantage in comparison with terminals in this contest.

A critical survey of this autumn's exhibitions show that a large number of last year's introductions have proved failures. Looking back through the lists of novelties of 1892, I cannot remember seeing more than one in a dozen at the exhibitions; where we naturally expected to see them on their first year. The coming season will again find us facing a larger list seeking public favour. I am amazed when I come to reckon the number of firms in the novelty business. Several new names come to hand this year. I think some protest ought to be made against the practice of dealers taking a new variety on an exhibition bloom alone. A full investigation should be made during the blooming season, and every point of value reckoned. Chrysanthemums should be grown more as specimen plants, and it should be taken into consideration whether, or not, a variety has any value for this purpose. Some of the very best varieties for blooms, are utterly worthless and beyond recognition as specimen plants. Waban, Yonitza, Wm. Singerly, W. W. Coles, and W. K. Harris are examples. During the past season, with the assistance of some friendly correspondents I have been able to make a selection of the very best of next year's introductions, which I hope will be of service to intending purchasers.

BY T. N. SPAULDING.

M. B. Spaulding.—Deep lemon-yellow, full double, high built, incurved Japanese, of large size, stiff stems; habit good.

Mrs. Dudley S. Hall.—Neat incurved (C) lemon sport from St, Patrick; makes a neat specimen.

Brydon, Jun.—Very fine, large, incurved Japanese. This is said to be a seedling from Mr. H. Cannell.

Wyndmon.—Bright red, reflexed Japanese, of large size; makes very fine specimen blooms.

Ada Strickland.—Handsome bronzy Anemone, good centre.

Martha Duryea.—Neat, snow-white, incurved Jap.; makes a lovely bloom.

Walter Hunnewell.—Bright orange incurved Japanese. A good solid flower, of fine form; one of the very best of its colour for specimens.

M. Simpkins.—Good white incurved Jap., of globular form and fine lasting qualities; splendid exhibition bloom.

BY E. G. HILL:

Robert McInnes.—The very best of the "Wheeler" type yet seen; very bright, full, and double to the last degree.

Maud Dean.—Very fine, broad-petalled, incurved Jap., of deep carmine-pink shade.

Mrs. J. W. Crouch.—A self-coloured purple, of globular form and large size.

Joey Hill.—A very large, flat flower, coloured cardinal-red. Centre petals incurve sufficiently to hide the centre.

Judge Hoit.—An immense, flesh-coloured, Anemone-flowered Japanese, fully 8 in. in diameter. The guard florets incurve slightly, giving the flower a saucer shape; disc high and broad. A very good grower.

G. R. Gause.—A splendid full double edition of W. W. Coles.

Amber Queen.—The very best of this shade; colour bright and attractive; fine grower.

BY J. N. MAY:

Creole.—Large, bold, deep claret-coloured Japanese. Good exhibition flower; good habit.

Falstaff.—Clear rose, medium-sized flower; dwarf, sturdy grower.

Fascination.—A very distinct and attractive flower. Colour lemon, with deeper centre; round form, with long twisted petals; splendid habit; medium size. Sure to be a favourite.

Gloriana.—New and distinct type of flower. Broad, flat, folded florets; good dwarf grower, and splendid for specimen plants.

Jeannette.—Bright golden yellow, with an old gold shade. A deep, round-flowered Japanese, regularly incurved, with the outer florets standing out in effective relief. Makes a fine specimen plant.

Miss Frances Thorley.—Full flower, of reflexed form. A snowy white bloom, of medium size. Fine for specimen plants.

Miss Sue Price.—Fine rounded yellow Jap., of medium size, with straight, twisted petals.

BY PITCHER & MANDA:

Mrs. F. L. Ames.—Large, deep yellow, broadly incurved Japanese, of fine habit, and good lasting qualities; late.

Mrs. Leslie Ward.—Incurved double Jap.; slightly hairy; of a fine shade of buff.

Mrs. Bayard Cutting.—Deep reflexed rose; a good grower.

Mrs. H. Graves.—Incurved, peach-coloured Japanese; very distinct.

Mr. W. C. Van Horne.—A very fine reflexed Jap., with tubular florets; deep buff, shaded carmine.

BY PETER HENDERSON & CO.:

Golden Wedding.—Stands far and away ahead of any yellow introduced this year. This came from Japan two years ago. It is broadly incurved, with slightly interwoven florets, a very large, but not coarse, flower. Everybody ought to grow this and

Niveus, Nathan Smith & Son's sensation of the "West." It is a grand, creamy white incurved; high-built, with reflexed lower florets.—*T. D. H., Dec. 4th.*

CHRYSANTHEMUM BARON HIRSCH.

We are now in a position to give an illustration of this bold and striking new incurved variety of Chrysanthemum. Owing to the small amount of improvement that has been made in the incurved class during the past twenty or thirty years, they as a class have fallen behind the Japanese varieties in popularity. The improvements during that period consisted chiefly of sports from already existing sorts. A new variety, especially a seedling, should therefore be hailed by the Chrysanthemum-growing public, as it is another step towards enabling them to make up a stand of twenty-four distinct varieties, and all of large, or at least respectable size. Many of the old kinds are pretty enough, but they are too small to command attention at the present day. Baron Hirsch measures about 5¼ in. in diameter, and 2½ in. to 3 in. in depth. No doubt some growers would be able to make it larger. The bloom is perfectly full, and high in the centre, with broad and regularly incurved florets of great substance. The bloom is of a beautiful golden bronze, darkest in the centre and becoming paler towards the base. This is the case with the early developed blooms, say those produced in October; but towards the middle and the latter part of November the late blooms are of a deep chestnut red, and so different from the early ones as hardly to be recognisable. Altogether the variety promises well. The illustration was prepared from a bloom sent us by its raiser, Mr. Robert Owen, Castle Hill, Maidenhead.

Chrysanthemum Baron Hirsch.

GUMMING IN PEACH TREES.

I notice an answer to a correspondent in last week's issue anent galvanised wire and the gumming of Peach trees. Now this is a subject which I have taken an interest in for some years, and would be pleased to learn the opinions of other horticulturists on the matter, as it is one which affects a great many of the craft in a greater or less degree. From my own personal observation, I have come to the conclusion that the galvanised wire, painted or unpainted (although we prefer to have it painted with white lead), has got little if anything to do with the evil which so soon disfigures our Peach and Nectarine trees under glass, and that the operator or attendant is almost solely to blame, owing to carelessness or ignorance in the manipulation of the young shoots in the growing season, and again in the winter season, when tying up the branches after the usual washing and dressing, preparatory to starting for another season's crop.

Our own plan, which is by no means new, or has anything striking in it, has almost entirely done away with gumming, and may be briefly summed up in a few words. During the summer months when growth is active, we make it a point, when tying in the young shoots, to hold the latter close to the wire with the back of the forefinger of the left hand, and run the knot of Raffia or other tying material up to the shoot, leaving sufficient room for growth; instead of, as the uninitiated sometimes do, run shoot and knot up to the wire together, thereby bruising the bark of the soft wood, which bruise eventually develops into what is usually termed gumming. I do not say this is the only cause, but it is a most common one.

Perhaps some gardeners may differ from me in this respect, and they are entitled to their opinions. I do not mean to pose as an authority on the subject; I only stake my own experience, and I beg respectfully to say that this seemingly trifling point is too often overlooked, especially by beginners, in whose interest this is penned, and that if more attention was paid to it we should hear less of gumming so called, which is a natural process of decay consequent upon a bruise or rupture of the bark and cellular tissue of the branches of the tree.

The same diagnosis, reasoning by analogy, may be applied to gumming on Cherry and Plum trees, etc.,

on walls, although hard frost has a deal to answer for, both on trees with the protection of walls and in the open garden, acting on unripened or even old wood, a rupture is caused, gumming sets in and the branch gradually decays. Over this we have little or no control, but under glass it is quite different. It is only by attention in a great measure to minor details that satisfactory results can be obtained in the cultivation of the Peach, as in other branches of horticulture. This class of tree must have careful attention from the first in regard to disbudding the young shoots carefully, and expeditiously tying them in as occasion requires, and rigorously thinning out the old branches after the fruit is gathered (so that the wood may get thoroughly consolidated before the sun's rays have become less powerful), leaving also a fair number of natural spurs on the older wood.

We water abundantly during the summer, and about the end of November give the borders a thorough soaking of diluted liquid manure to plump up the buds. The trees are dressed and carefully tied up in December. We have no gumming, little or no bud dropping, and by carefully fertilising the blossoms daily with a soft brush we always secure fine crops, the trees being in fine health and vigour —*William Minty, Raasay, Strome Ferry, N.B.*

GARDENERS IN COUNCIL.

A Year's Proceedings of a Gardeners' Society. At the last meeting of the Devon and Exeter Gardeners' Improvement Society, Mr. Mackay, the able nursery manager of Messrs. Robert Veitch & Son, Exeter, gave a capital address on the year's work of the society, which included a resumé of the papers read, from which we take the following extracts :—

The Apple.

It is now over twelve months since Mr. Powell delivered his opening essay on the Apple, and it was thought by the committee that the present would be a most fitting time for a short review of the year's work of this society, thus refreshing our minds once again with the ideas and experience of past essayists, and if possible to still gain some further knowledge of these most interesting subjects, and by discussion to impart to one and all the experience of those who had been cultivators, successful or otherwise, during the past season. This interchange of ideas and results under certain treatment should be of great benefit to all, more especially so to members of an improvement society like ours.

Taking the Apple as our starting point, it would be most interesting to know how certain kinds do on certain soils in certain districts, so that such kinds as do badly may by future planters be avoided. Mr. Powell has told us what kind of soil is most adapted to successful culture, but what to my mind is more important to the cultivator is how to adapt the Apple to any and all kinds of soils ; this can only be done by carefully selecting from actual experience such kinds as do well in certain places and under certain conditions. I firmly believe that many good kinds which are but indifferent growers in some soils might, by judicious treatment in the way of branch and root pruning at the proper seasons, and by carefully manuring on the poorer soils, be made to produce better results than at present. Most failures, I quite believe, are more the result of improper pruning and an altogether neglect of root pruning than of anything else. It would be of great advantage to such a society as this if each member would make a list of the kinds he grows, with a table of the results in each case, with any remarks that he may have to make as to nature of soil and reason of failure, if any, and in doing this I think consideration should be given to the crop of the former year, as but few kinds continuously bear heavy crops.

It is not only essential that Apples should be well grown but they also require to be well gathered and well stored, the old fashioned mode of storing in well-heated fruit rooms and in single layers on stages fitted for the purpose has had much to answer for in the way of premature decay and degenerated flavour. On being gathered they should at once be placed in barrels or hampers, to me the latter are preferable, and then placed in a cool dampish room, if possible opening to the north, which should be well aired even during the coldest of weather, provided the frost does not affect the fruit, the greatest mistake possible is to keep them too warm or too dry and without air.

Pears may with advantage be kept in the same way up to a certain time, that of ripening, when they should be selected out and placed singly in a warm dry room; in this way they come quicker to maturity, and their flavour is greatly enhanced.

So far as I can judge Mr. Powell is so very correct in his ideas as to the best mode of cultivation that there is very little in his paper to take exception to. I would however say I cannot quite agree with him when he advises that when planting a tree after the roots are well covered the tree should receive a good shaking. I may have a wrong conception as to his mode of doing this, but undoubtedly, if the tree be in any way lifted in doing so many of the smaller roots would be drawn up, and not having sufficient strength to push their way back again, would become doubled and their proper action retarded.

And as to manuring, I should in any soils, much prefer winter mulching to the mixing of manure with the soil.

Root Pruning.

It does seem a pity that so valuable a paper as that given by our valued friend Mr. George should have been entirely lost to the society ; and it has occurred to me whether in a case of this kind when the essayist has so much practical knowledge of his subject—and added to this, shall I say, that most excellent gift for such a purpose, the "gift of the gab," that he has no need to write his paper—whether it would not be money well spent if the society were to pay a reporter to make a full report and thus secure for the society what in this, and one other case I could mention, has been an irreparable loss.

Mr. George, in his lecture on the Peach and Nectarine, went most fully into the question of root pruning, and told us what an advantage it was to fruit trees if properly and carefully done ; and to any right-thinking man who does not pin his faith to such nostrums and old-day superstitions as have been from time to time formulated by old women of either one sort or another, with or without petticoats, I mean, it must be patent, that by keeping the roots well within a given space you not only encourage them to form a mass of fibrous or feeding roots, but you prevent these roots from being led away to feed in subsoils, which in nine cases out of ten would be most injurious to them, and should extra feeding become necessary you know exactly when to apply it to obtain the best results.

Value of Horticultural Exhibitions.

It is quite possible to over-rate the value of these exhibitions. Especially so is this the case when they are looked upon as simply a thing to pay, and of pleasure rather than of instruction. Shows of this class cannot be said to be of much value to any one, more especially to exhibitors, unless each exhibit possess some high point of merit, and be exclusively the result of high scientific cultivation on the part of the exhibitor, and not as in many instances a combination of results of many individuals, or as in some instances obtained at the expense of whole plantations of crops, completely spoilt and denuded for the sake of one superior dish. To be of any real value to the horticulturist, they should be considered more as large classes of instruction. All exhibits should also be truly and carefully named. Much evil attends the practice of showing vegetables and fruit under false names or without any names. The public generally, and gardeners in particular, go to these shows to make notes of the prize winners, and it is of the utmost importance to them that things obtaining honours should be properly named and true ; and where younger gardeners especially should be allowed to attend, and by a comparison of results, and an interchange of ideas and modes of obtaining these, gain a better knowledge of what is essential to successful gardening. I am afraid that money prizes, however small, are more or less a temptation to many of our gardeners to endeavour to bottle up their knowledge, and rather mislead others than instruct them ; human nature, or that worst part of it, will bubble uppermost even amongst gardeners.

A society such as ours, if properly worked and supported, might be of infinitely more value to gardeners than exhibitions, which to me seem to be of more pleasure and enjoyment to such as go to see and admire the lovely productions of nature and art, to meet friends on the same errand, who at the same time do not care one straw about any particular prize either first or second.

Where exhibitors strain after the present craze of growing and bringing either flowers or fruit, flowers especially, to the largest possible size, by limiting the supply the result may tend to show what can be attained in this way, but in every other respect is misleading and disappointing. Take the Chrysanthemum, for instance ; of late years the great craze at shows has been the largest possible flowers, arranged leafless and in monotonous rows on ugly green boards. What can be more misleading ? The ordinary visitor makes notes, buys plants, and expects the same results from ordinary plants under ordinary cultivation.

More prizes should be given for the best results, when quantity as well as quality is the desiderata, and for the most artistic arrangement either in groups or on the show-boards, upon which foliage should have a more prominent position than at present. Cultivate rather that most manly and best of all curiosity to gain knowledge and experience when and wherever you can ; and fed with this, "the truest of all ambition will follow and lead to good results."

> "Dare to do all that doth become a man,
> Who dares do more is none."

Our friend Mr. Bartlett has, in his paper, endeavoured, and laudably so, to fire his younger friends with ambitious desires. I would say don't be hasty in becoming ambitious, or possibly you may be led astray. Some people's ambition is never satisfied, they want and intend to climb, and care not oftentimes upon whose ladder they do so, and then as Shakespeare has it—

> "Lowliness is young ambition's ladder,
> Whereto the climber upward turns his face ;
> But when he once attains the upmost round,
> He then unto the ladder turns his back,
> Looks in the clouds, scorning the base degrees
> By which he did ascend."

Vegetables for Exhibition.

Then as regards vegetables for exhibition, the Rev. Mr. Cruwys' paper is to my mind a most valuable one. He not only tells us what to grow but how to grow it ; this is as it should be, for although many may differ as to the mode of treatment, yet all who know him, and the good results he gets, must admit he is one of our most successful growers. His paper should have made many ambitious to do as well as he has, and this possibly at the expense of his extensive experience.

Too many vegetables, however, obtain first-class honours at our exhibitions, which, as productions for the table, are completely worthless. This is to be regretted, and if judges of vegetables were able to and did their duty, this would soon be past history, and those useless showy kinds would soon be weeded out and find their true level both at exhibitions and in the garden. I quite agree with Mr. Cruwys that a time has arrived for fixing a standard as to size, and that prizes should be awarded for high quality and to such as are of a fair average table size.

The judging and judges should have far more consideration from committees of flower shows than at present. A little more money spent in this way, even at the expense of the prize list, would be of great benefit to the exhibitor and the public.

The number of judges appointed at large exhibitions, and the time at their disposal, is too totally inadequate to the amount of work they have to do.

Mr. Cruwys gives sound advice when he says that more attention should be paid to the Potato, in the way of good soil, carefully prepared, and good sound seed, frequently changed. Many people even at the present day are too content to continue to plant the same stock of Potatos over and over again ; this has undoubtedly been proved to be a great mistake.

ON PROTECTING ROSES.

Now is the time when a little judicious protection is beneficial to Roses. In fact, just enough protection to keep off the sharp frosty winds is all that will be required. Too often, gardeners and amateurs afford their Roses too much protection, or else none at all. I do not know which is worse of the two. If it be a mild winter, protection does harm. But one can place a few branches of Gorse, Birch, Fir, etc., among their dwarf plants, and be sure that they will derive much benefit from it during frosty weather ; while, should it be a mild and wet winter, no harm will accrue from such protection, the same as from shaking short straw or hay among the tops of the plants.

If there is a little soil drawn up around the base of dwarf Roses, and a few twigs stuck in the ground and

leaning towards the plants, they are sure to be safe from any except a phenomenally severe frost. Many recommend dung among the plants as a winter protection. This does not find favour in my sight, because such material retains the moisture to so great an extent. In fact, Roses mulched with manure are more susceptible to frost than if left entirely alone. This is from the great amount of wet contained in the dung and around the bole of the plants. Mulch with manure by all means, to enrich the soil, but do not place it close to the plant itself; the ordinary soil drawn up towards them and covering some six to nine inches of the base of the plants is much the best plan. This, and the twigs already spoken of, are all that dwarf plants require.

In the case of standards, it is the Briar stem itself that suffers most from severe frost. At the first glance this may read somewhat strange, seeing that the Briar is a hardy native plant of this country. But we must remember that in a wild state the stems are almost always protected by surrounding branches and brambles. A few boughs tied around them, and also around the tops, will give ample protection and not look so untidy as hay bands do. Nor will these retain the same amount of wet. Light can also reach the wood much better, and the plants will not be nearly so liable to break into premature growth in the spring, as when protected with hay or straw tied around them.—*Experience.*

APPLES UNDER GLASS.

It is well-known to most growers of hardy fruits that the better they are ripened before being removed from the trees, the better they will keep. Of course this applies to the late-keeping sorts. Early Apples if left for a day or two on the trees after being ripe get mealy, and Pears suffer the same fate, becoming dead and tasteless. Last summer a considerable number of varieties of Apples were grown in pots under glass in the gardens of the Royal Horticultural Society at Chiswick, and a set of each variety was stored in the fruit room alongside of those that were grown in the open air. The results, so far, are that indoor-ripened fruit keeps longer than that ripened under natural conditions. The inference would be that the indoor fruits have been more solidly matured, are less watery, and contain more solid substance. Their greater solidity would be due to a smaller amount of water in the tissues, and to a greater amount of starch and other reserve matter in the cells brought about by the drier atmosphere and the higher temperature which would make the chemical changes going on in the fruit during the ripening process more active.

Many people are under the impression that Apples get more highly coloured under glass, but the idea is hardly correct in certain respects. For instance the amount of red, crimson, or bronzy-red, and green s liable to be considerably reduced or toned down. On the contrary, the yellow hues are brought out in much greater clearness, with the effect of giving remarkable clearness and apparent cleanness to the skin. Fruits affected or improved in this way have a more tempting and appetizing appearance, and doubtless they are really more mellow. Lady Sudely is in season during August and September, but some fruits of moderate size still remain sound, although they could hardly be expected to be so highly flavoured as in September. The Queen is in season during October and November, still some good samples remain. The same may be said of Worcester Pearmain, which is in season at the same time as Lady Sudeley. Both have retained their high colour wonderfully. The outdoor grown fruits of Ecklinville have all decayed some time ago, but there are still some sound specimens that had been grown under glass. Golden Noble keeps from September to December, so that it is less exceptional. It is remarkable for its pale or soft yellow colour as well as the clearness of the skin. Yorkshire Beauty is almost of the same shade of yellow with a conspicuous absence of red. Hoary Morning on the contrary retains its characteristic high colouring.

There are still some handsome fruits of Cellini, although usually out of season by the end of November. Another comparatively early Apple, ripening in September and October, is Kerry Pippin; yet a quantity of fruits is still in fine condition, and some are of large for the variety. King of Pippins lasts from October to January, and the samples are still remarkably solid, well flavoured, and entirely devoid of that bitter taste experienced in the mouth when eaten in October, at all events in the case of outdoor-grown fruit. All the rest which we noted are decidedly late-keeping Apples, and even now contrast strongly with the same varieties ripened under different conditions. In the north of Scotland, Ribston Pippin is a green fruit more or less obscured with russet; but in the more sunny south it is often more or less suffused with a bronzy-red, especially when it has been well finished. The skin, however, assumes a beautiful, clear, deep yellow when ripened under glass. The same may be said of Cox's Orange Pippin, but it is more or less streaked with red. The glossy skin of Lane's Prince Albert is of a pale green. Annie Elizabeth is liable to great variation of colour under different conditions, but the skin is always glossy. The fruits ripened indoors are of a peculiar soft salmon hue, reminding one of the Swedish Apple Akera in October. Not so common or well-known is Grange's Pearmain, good either for dessert or culinary purposes, and in season from November to February. It is pale green, pleasantly acid, and bakes well. Galloway Pippin or Croft-en-Reich is interesting from the fact that it has been grown near Wigton in Galloway for centuries, in fact, from time out of record. It is a culinary Apple and keeps till the end of January.

GARDENING MISCELLANY.

APPLE WINTER GREENING.

Amongst the plethora of Apples ancient and modern that press themselves upon the planter's attention, the Winter Greening, known under various names, is worthy of notice. In the West of England it is known as John Apple, but there are two varieties of that name, and it is not retained in either case. Winter Greening is an Apple of medium to moderately large size, and although not particularly attractive is of excellent quality. The fruit is globose, narrowing slightly to the eye, which is closed and set in a shallow, slightly plaited basin. The skin, when the fruit is gathered, is of a dark green, suffused with pale red on the sunny side and dotted all over with russety specks, but before this time of the year it becomes greenish yellow, retaining the red flush and the russety markings. The flesh is of a greenish yellow, tender but crisp and by no means soft, and juicy with a decided and brisk acidity which proves very agreeable to some palates. Although reckoned a culinary Apple it may be eaten with relish by those who prefer or are not averse to brisk or pleasantly acid Apples. It comes into use during November and lasts for months in good condition if properly cared for. The tree is a good bearer and should not be lost sight of in the desire for modern kinds.

APPLE FEARN'S PIPPIN.

The fruit of this beautiful Apple is small and very much flattened at both ends, with an open eye set in a wide or narrow but shallow cavity. The skin is yellow on the shaded side, and sometimes this extends nearly all over the surface with a small red cheek and marbled with triangular, russety grey dots; but more frequently the surface is bright red or crimson over the greater portion and speckled with russet. The flesh is white or pale yellow, tinted with green in places, tender, crisp, juicy, briskly aromatic, and most agreeable to eat. It is a dessert Apple really, but though of small size its firmness and brisk character renders it highly suitable for culinary purposes. The tree bears well and frequently appears on the exhibition table in exhibits of dessert Apples, where it tells well on account of its handsome colour and beautiful shape.

PLATYCERIUM ALCICORNE.

The old Stag's Horn is a more ornamental object, when properly treated, than is generally supposed. It is altogether a lost plant when grown in a pot, which retains the moisture about the barren fronds, and rots them long before their natural period of decay. A better plan is to grow them in Orchid baskets, or, on the other hand, those made up of virgin cork. Quite a different kind of basket has been adopted by Mr. Reynolds at Gunnersbury Park, Acton. He put his plant (not a very large one) into the centre of a wire basket some years ago. Now not a trace of the basket can be seen except the chains supporting it to the roof of the house. The plant has increased, forming numerous young crowns, and likewise its characteristic orbicular and shield-like barren leaves, which have grown over the basket everywhere. Numerous young plants have also become developed from the roots round the sides and the bottom of the basket, making the plant an object quite in the Japanese style. The fertile fronds are not very tall, it is true, but this may arise from so many plants being supported on so small a ball of soil. The whole makes a capital basket fit to hang up in the conservatory or any other cool house.

MIMICRY AMONGST FERNS.

Cases of remarkable similarity amongst Ferns belonging to different genera occur just as in other families of plants. We noted a case in point in the nursery of Mr. H. B. May at Upper Edmonton recently. It was that of Acrostichum drynarioides and Aglaomorpha Meyenianum. The fronds of both are oblong, sessile on the root-stock or rhizome, and in each case bear the fructification at the top. The fronds of the Acrostichum are oblong and pinnatifid, with broad leafy pinnæ, except those on the upper fifth of the frond, where they are linear and covered all over the under-surface with dark brown spore cases. In the case of the Aglaomorpha the fronds are pinnate, with the lower pinnæ broad and leafy, and the upper ones linear, and contracted here and there, giving them a necklace appearance. The spore cases are here again confined to the narrow pinnæ on the upper fourth of the fronds. The rhizomes are thick, and densely covered with soft reddish brown scales of great length. This Fern is on this account named the Bear's Foot.

ORCHID NOTES AND GLEANINGS.

Orchid Growers' Calendar.

Cattleya House.—The first batch of Lælia anceps just now in flower will serve to keep this house gay during the festive season, or will come in very useful for the embellishment of the drawing-room in a cut state, and should the weather continue mild no harm will be done if the plants themselves are placed in the house for a day or two, providing they are not wet at the roots. Ours are flowering very freely this season, and although we have certainly had more flowers to a spike, they have never before been anything like it in size or substance. The petals of the largest measure 1½ in. across, with a proportionately large lip. It is not, however, a specially dark one which is rather unfortunate.

Those imported under the varietal name of "Morada" are, as the name implies, very rich in dark forms. They are distinguished when out of flower by their short round pseudo-bulbs, and thick leathery leaves, suggesting the idea that they are found growing in very much exposed positions. The white ones will be quite a month later than the earliest dark ones, but the spikes promise to be quite equal, if not better, than the dark ones. Most of them have four blooms to a spike, and a strong plant of L. a. Williamsii has a five-bloomed spike. These results we attribute to the judicious use of weak manure water, as advised in a previous calendar.

The old Lælia superbiens, too, is just opening its flowers. This fine old Lælia is not often found looking or flowering too well; it never fails to flower with us, but perhaps ours is a free flowering variety. We give it a fair season of rest, and when it starts into growth treat it rather liberally as regards moisture; it seems to do best when the roots are allowed to ramble at will outside of the pot, and kept well syringed. In this way the roots will attain a length of three feet or more. The only thing that can be said against it is that it takes up a good deal of room.

Helcia sanguinolenta, now in flower, is a curious little Orchid from the Peruvian Andes not often met with. In growth it is something like a Trichopilia, but the flowers are quite different. The sepals and petals are light green in colour with brownish markings, whilst the lip is white veined with crimson; it produces two or three single flower stems to a bulb, it makes up well for button-hole bouquets, is of easy culture and takes up but little room. We

grow ours in small pans in the usual compost of peat and moss, giving plenty of moisture, and in the cool house during summer and the warmer and drier atmosphere of the Cattleya House during the dull winter months it succeeds well.

COOL HOUSE.—Fresh spikes are constantly making their appearance, and should be placed out of the way of slugs which are unusually troublesome this year. O. triumphans, O. luteo purpureum, and O. Hallii, are pushing up very strong spikes. Some of the triumphans are not satisfied with having two spikes to a bulb, but must need have an additional one at the apex of the bulb, and a strong plant of O. gloriosum has three spikes all from the base of one bulb. We still grow a few of this on account of its odour and free-flowering qualities.

There will not be much to be done until the new year in the potting way, but a good stock of peat should be got in in readiness, as the L. Anceps will soon claim the attentions of the Orchid grower.

TEMPERATURES.—East India house, 60° at night; in frosty weather 65° to 70° by day. Cattleya house, 55° at night, 60° by day. Cool house, 45° to 50° at night, with a rise of 5° by day.—*C.*

A CONSIDERABLE number of groups of Orchids, and also smaller exhibits of them, were made at the meeting of the Royal Horticultural Society on the 13th inst., when the undermentioned species and varieties were accorded certificates.

Sophro-Cattleya Calypso.

ANOTHER lucky hit has been made in the production of a bigeneric hybrid in which Sophronites grandiflora has been employed to excellent purpose. As in the case of Sophro-Cattleya Batemanniana, so here again we have Sophronites grandiflora as the seed parent, crossed with the pollen of Cattleya Loddigesii, the result being a hybrid in all respects intermediate between the parents. The pseudo-bulbs are 3 in. to 5 in. long, slender, terete, covered with membranous sheaths to the top, and surmounted by a solitary, oblong-lanceolate, rigid leaf. The flowers are solitary in the present stage of the plant. The sepals are oblong and deep purple, while the petals are obovate and similar in colour but somewhat paler towards the base, with darker, radiating veins spread upward. The tube of the lip is curved like that of Cattleya Loddigesii and three-lobed. The colour, however, refers us back to Sophronites. The tube is pale yellow externally, suffused with purple towards the edges, while the interior is of a deeper clear yellow or quite of a golden tint in the centre; the side lobes are toothed at the edges, while the middle lobe is obreniform and deep purple at the tip. The size of the flower is intermediate between that of the parents, and while it may be said that the form and colour have been largely influenced by the pollen parent, they are considerably different from either. A First-class Certificate was awarded it when shown by Messrs. J. Veitch & Sons, Chelsea.

Cattleya labiata alba.

THE long-expected white variety of the autumn-flowering Cattleya has at length turned up in the collection of M. Wells, Esq. (gardener, Mr. R. Hinde), Broomfield Sale. The oblong sepals are ovate, undulate and crisped petals are pure white The same may be said of the lip except that towards the base of the tube it is pale yellow. The latter organ is rather small for C. labiata, undulated and crisped at the margin, but it may improve in size when the plant gets better established. A First-class Certificate was awarded it.

Cypripedium Arété.

IN this we have a pretty hybrid of small size, but very interesting. The seed-parent was Cypripedium concolor, and the pollen-parent C. Spicerianum. The leaves of the plant are still very small, being only 1 in. to 2 in. in length, oval, and closely tesellated or marbled with deep green on a light green ground. The one-flowered scape is only about 3 in. high. The dorsal sepal of the flower is roundish, and white, with a deep purple mid-rib and suffused with purple in a broken or interrupted manner, and paler or pink on the outer face. The oblong petals are slightly twisted, and closely suffused or marked with purple and slightly green at the base. The lip is somewhat compressed laterally in the same way as C. concolor, suffused and splashed with purple on a greenish white. The staminode is also white, suffused with purple. An Award of Merit was given it when shown by Messrs. J. Veitch & Sons, Chelsea.

Cypripedium Johnsonianum.

THIS has been raised from C. nitens magnificum crossed with C. Lawrencianum. The rich, dark, shining colour of the latter is most in evidence in the hybrid. The leaves are oblong and of a light green, tesselated with dark green. The scape, about 10 in. high, bears a single flower. The upper sepal is ovate, pale green at the base, blotched with a blackish purple and white on the upper third of its length, spotted with a clearer purple. The petals are of a rich, shining purple brown. The lip is in the same style, but even darker. The reniform staminode is flesh coloured, and tinted with purple towards the edges. An Award of Merit was accorded it when shown by Messrs. F. Sander & Co., St. Albans.

Masdevallia hybrida McVittiæ.

THE flowers of this hybrid are of a soft pink colour, although judging from the parents one would have expected them to be darker. It was raised from M. tovarensis crossed with M. Veitchi. The leaves are spathulate, deep green and coriaceous or leathery. The flowers are about the size of those of M. tovarensis, but not quite of the same shape; it fact it may be considered intermediate between the parents. The lateral sepals are connate for nearly half their length with the free portion, ovate, and drawn out to a fine point but scarcely tailed. The upper one is linear with a broader base. The plant was exhibited by W. Thompson, Esq. (gardener, Mr. W. Stevens), Walton Grange, Stone, and received an Award of Merit.

Lælia hybrida Fincheniana.

IN general appearance this resembles L. anceps and L. autumnalis, but seems intermediate between the two. The flower scapes are about 2½ ft. long, but not compressed like those of L. anceps, and the plant shown bore five flowers. The sepals are oblong, the petals ovate-elliptic, and all are pure white. The lip is also white, but heavily striated with dark purple in the tube, contrasting beautifully with the white ground; the lower half of the crest is also purple and the upper half yellow. The terminal lobe is characterised by a heavy deep purple band in the shape of a horse-shoe, extending from near the margin inwards, the rest being white. The column is purple on the face. It was exhibited by C.W. Finchen, Esq. (gardener, Mr. J. Millburn, Hoyland Hall, Barnsley), and received an Award of Merit.

Cattleya amethystoglossa Selwood var.

THE plant itself is tall in habit like the type, but the flowers are lighter in hue and beautifully spotted. The sepals and petals are broad, oblong and creamy white, spotted all over with deep purple. The lip has a curved, creamy tube, while the side lobes are of a deep purple; the terminal lobe is obversely wedge-shaped, raised into slender ridges along the centre and of a rich dark purple. An Award of Merit was accorded it when shown by G. D. Owen, Esq. (gardener, Mr. B. Watts), Selwood, Rotherham.

Lælia anceps Oweniana.

THE variety here mentioned has the same characteristic habit as the type, but the flowers are very large and richly coloured. The sepals are oblong, the petals elliptic, and all are of a deep purple. The lower portion of the lip is pale purple, but the side lobes, especially on the inner face, are of a deep purple; the colour is very much intensified on the terminal lobe, which is bifid. The prominent ridge or crest along the centre of the lip is yellow in the upper half and purple downwards. An Award of Merit was accorded it when shown by G. D. Owen, Esq.

Cypripedium Leeanum Claptonense.

THIS may be compared to C. L giganteum, but it differs by showing a greater amount of green on the upper sepal; that portion is spotted with brownish-purple with a band of purple spots on the midrib, and spotted with purple on a part of the white upper half. The petals are pale brown and wavy on the edges—a character doubtless derived from the pollen parent C. Spicerianum. The lip is of a shining brown. We noted a large and well-grown plant of it in the nursery of Messrs. Hugh Low & Co., Clapton, bearing a large number of flowers, and three of the spikes at least bore twin flowers. The different forms of C. Leeanum are evidently becoming popular, and are destined to be largely grown in the future. They are as easily grown as C. insigne, which was the seed parent.

Cypripedium insigne Mooreanum.

A NUMBER of the varieties of C. insigne are characterised by having a considerable proportion of the upper sepal pure white or spotted to a greater or less extent with violet-purple. The variety under notice belongs to that group, but curiously enough, has only a single blotch on the white ground, and that is confined to the base of the latter. The lower portion of this organ is of a pale straw-yellow, and distinctly spotted with bright brown blotches. In shape it is obovate-elliptic and tapers to the base. The petals are pale brown and netted. The lip is similar in colour, narrowed to the lower end of the pouch, but remarkably widened upwards with diverging auricles. Notwithstanding the numerous varieties of C. insigne in cultivation, the above characters should serve to distinguish C. i. Mooreanum from the rest, unless there are others identical with it under various names, a coincidence which is difficult to prevent seeing that names may be given by so many growers in different parts of the world. We noted the above in the nursery of Messrs. Hugh Low & Co., Clapton.

WHAT TO DO IN THE GARDEN.

Camellias.—The flowers of this class of plants expand best, if not so quickly, by being kept in a cool atmosphere. If brought into a warmer house with the object of getting them to expand their flowers more quickly, a much moister atmosphere should be maintained and the plants syringed twice a day at least. This will help largely in preventing them from casting their buds with the increased heat.

Heaths for present use.—Some of the autumn-flowering Erica gracilis are still in bloom and will be found useful in supplementing the others. E. hyemalis is one of the commonest Heaths at the present day, and may be put to a great variety of purposes. Its white variety will probably never become very popular, but is useful by way of contrast with the ordinary form. Another old Heath, not so much grown as it used to be, is E. melanthera, which when well grown is an object of great beauty. With these and the flowering and berried plants, the greenhouse or conservatory may be rendered gay even in mid-winter.

Agapanthus umbellatus.—Large plants which have got too big for the pots they at present occupy, may be broken up and the pieces placed in smaller pots. Use substantial material consisting of good fibrous loam, well drained to carry off the large supplies of water necessary during summer.

Eurya latifolia variegata.—The habit of this plant is similar to that of a Camellia, to which it is closely allied, but it has smaller leaves and grows more slowly, branching freely. The old leaves are heavily variegated with creamy-yellow, and the young ones bronzy-red. The plant is easily kept in good form by timely pruning, and proves useful for conservatory work during the winter months, and being nearly hardy can be kept in any greenhouse from which the frost is merely excluded.

Carnations.—The present winter so far has been favourable to the flowering of tree or Winter Carnations. Being mild no great heat has been necessary, and the fogs have neither been plentiful nor of long duration. Maintain a day temperature of about 50° and keep the plants in a light position near the glass, and always freely ventilated. Where the stock is large, a low, span-roofed house or part of one should be devoted to them.

Plants for the flower garden.—Succulent plants such as Echeverias, Pachyphytons, and Sempervivums are very slow growing in their younger stages, and in order to be ready by June for planting in the open ground, seeds should be sown at once. Prepare some pans of light sandy material, and after making the surface level and firm, sow the seeds thinly, merely giving the surface a slight sprinkling with the same compost to keep the seeds in position till germination takes place, after which keep the pans close up to the glass.

Dahlias.—Look over the stock of roots to see whether they are still in good condition. Any roots of sorts of which the number is as yet limited may be put in heat to start them if they show signs of decaying. Take the cuttings as soon as they are strong enough. Valuable kinds may thus be saved that might otherwise be lost if left till the usual time of starting.

Peaches.—The temperature in the early house started in the beginning of November should now be kept somewhere between 45° and 50° at night with a

considerable rise by day from sun heat, giving plenty of ventilation as it rises to 65° or above it. Get the heat up pretty early in the day so as to make the most of the light while it lasts. In establishments where there are several houses another may be closed for starting at once, and another towards the end of January for a succession.

Orchard House.—If the trees are required to come into early bearing, or if there are two or more houses, one of them may be closed now for starting. This applies more particularly to houses of pot plants chiefly of Peaches and Nectarines, because Plums, Cherries, and Pears do not set very freely at this time of the year on account of the bad light and the moist and heavy nature of the atmosphere. A night temperature of 50° will be quite sufficient to start with, and hard forcing should be avoided as prejudicial to success. See that the trees are always kept moderately moist at the roots by thoroughly effective waterings when necessary.

Peas.—Make an early sowing of some reliable early sorts in pots. A Vinery or Peach house will be sufficiently warm to give them a start. When the stems are well above the soil, remove the pots to a house from which frost is merely excluded, keeping them close to the glass to prevent drawing. After having been thoroughly hardened off they may be planted on a warm sheltered border towards spring.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to* "THE EDITOR" *or* "THE PUBLISHER," *and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa, London."*

FRUIT WITHOUT SEEDS.—*Thos. C. Steel*: It is contrary to the usual rule for plants to produce fruits without being fertilised, and fruits that do grow generally contain seeds. But there are many cases of imperfect fertilisation amongst Orchids, which bear fruits that swell up and appear perfect, and further contain what would be termed seeds, but as the latter contain no embryo they cannot germinate. Cucumbers never require to be fertilised to produce fruit—a fact now well known amongst gardeners, but such fruits do not contain perfect seeds. On the contrary, those who grow Cucumbers for seed, take care to fertilise the flowers when they expand. Melons, on the contrary, require to be fertilised before the fruit will set and swell up at all. We have known fruits to grow without having been fertilised artificially, but they might, and in all probability were, fertilised by insects. Besides the Cucumber, there are other plants that produce fruit and may not contain any seed, as in the case of Bananas and Pineapples, that have been cultivated for centuries and propagated from suckers only. There are, doubtless, many other cases amongst cultivated plants if they were looked up. For instance the Viola known as Duchess of Fife seldom makes an attempt at producing capsules as far as we have observed, but we have nevertheless picked several fully grown capsules that contained not a single seed. You may have a similar experience. Some years ago the female plant of Cœlobogyne illicifolia was in cultivation while the male plant was not introduced; yet the former produced fruits and what was apparently perfect seeds, for when put under favourable conditions they germinated. On scientific examination it was found to be merely a case of budding or proliferation—the production of a young plant from the nucellus of the ovule, and not an embryo at all.

GREEN FLOWERS AND INSECTS.—*Thos. C. Steel*: It would be rash to state that only flowers of bright colours are visited by bees. On the contrary many flowers that are comparatively unattractive as far as colour is concerned, are great favourites with bees and other insects. Mignonette and Listera ovata might be mentioned as examples. Some flowers are sweetly scented and serve to attract insects in that way, others are known to possess nectar, and when such is the case they are sure to have visitors. Many of the grasses are doubtless fertilised by the wind, but some of them are self-fertilised at the time of opening their flowers or even before it. As far as we remember the flowers of Leeks produce nectar, and in such a case they would be sought after by insects. The cross fertilisation of Leeks could easily be affected by growing two or more varieties intended to be operated upon, and when in flower, the pollen from one should be taken from the stamens of one and transferred to the stigmas in the centre of the flowers of another variety. This may be done with a camel hair brush. Be careful to observe whether the anthers have burst so as to show the pollen, and see that the stigmas are also fully developed.

ELEPHANT PLANT.—*Thos. C. Steel*: The leaves you send are those of what is known as Sedum spathulatum in the London parks. We have never heard of the appellation you give it. The flowers are yellow, but they are not very frequently produced. The plant requires to attain some age, and to be kept in a dry warm house in winter to flower it. They are produced in trusses terminating the stronger stems.

PEARS DECAYED.—*S. G. Wilcock*: The Pears you send us are not those of Madame Treyve, but some variety which we have been unable to get named. Madame Treyve comes into use during September, and would therefore be naturally out of season by this time. The fruits sent are evidently affected with a fungus, the nature of which at present does not seem to be well known. Pears have come in from several parts of the country all affected in the same way this year; in fact the complaints are much the same as yours—namely, that the fruits of one tree only go bad, while the rest grown under the same conditions are sound. Seeing that the mischief, whatever it is, occurs inside the fruit, it would be difficult or impossible to suggest a cure. Judging from the fact that the fruit of only one tree has been affected in this way for the past three years, we should consider that the variety is either peculiarly liable to attack, or that the fungus has effected an entrance into the tree, and continues to live there, attacking the fruit year after year. The soil as you describe it is well suited for fruit culture, and if the tree is vigorous and bears well, we would not suggest root-pruning, more especially as that would not affect the well-being of the fruit. We would keep the fruit of this particular variety separate from the rest to prevent the latter from being affected, and also watch the behaviour of the tree in question. Should we find out anything about the nature of the disease, we will make a communication on some future occasion.

NAMES OF FRUITS.—*W. R. G.*: Apple Wadhurst Pippin; 2, not recognised; 3, Dutch Codlin; 4, Crimson Queening; 5, Blenheim Orange; 6, Golden Reinette. —*C. W., West Worthing*: 1, Colonel Vaughan; 2, Royal Russett.

POLYPODIUM LINGUA.—*G. R.*: This is the most correct name of the plant, and that adopted by the leading authorities on Ferns. As a sectional name Niphobolus Lingua might be used; but modern authorities do not approve of the cutting up of a genus into a number merely because the members may be classified into a number of groups having certain characters of minor importance in common. The plant has also been known under the name of Niphobolus latus, doubtless given to it on account of the size of its leaves compared with the other species of the section, which are dwarf creeping plants with fronds only 2 in. or 3 in. long, in some cases even including the petiole.

ACORUS CALAMUS VARIEGATUS.—*J. Mitchell*: The plant is truly an aquatic as you say, but it may also be grown with great facility in the ordinary border provided it keeps moderately moist through the summer months. You may place it in a position where the sun will not strike directly upon it, but it must not be overhung with trees or it will make poor growth. Should the ordinary border be rather dry for it, you may improve the natural soil by means of leaf soil and well-decayed hot-bed manure.

GOOSEBERRIES AND CATERPILLARS.—*Henry Calder*: Yes, the practice pursued by your neighbours we conder a good one, even if not absolutely efficacious. It entails practically very little extra labour, and while it serves to destroy part of the pupæ in the soil, it is worthy of attention. The pupæ of the Gooseberry Sawfly would rest in the upper 3 in. of the soil, and the caterpillar of the Gooseberry Moth lives through the winter in the neighbourhood of the bushes, it may be, hidden amongst the fallen leaves. Then when all has been cleared away into the middle of the space between the bushes, it may be buried somewhat deeply there or a good sprinkling of gas lime may be mixed with it provided nothing is planted there for six or eight weeks, after which the gas lime becomes harmless to plant life. The roots of the bushes may be covered with fresh soil from the middle of the trench. Then in spring, when the leaves commence to open, you could scatter a good sprinkling of quick lime over the surface of the soil and around the bushes. This will help to prevent those caterpillars which may be alive from ascending the bushes.

SOIL FOR SARRACENIAS.—*T. Davidson*: Peat and chopped sphagnum will furnish them with all they require. The peat however must be of a good fibrous nature, such as will not decay rapidly, seeing that they require a large amount of water during the growing season more especially. If the peat is of a dusty or earthy character it gets sodden and sour long before the plants should be repotted. Should your peat not be so good as desirable then you could improve its porosity by using a considerable quantity of broken pot-sherds in the potting material. This should be done later on, say in spring, just as the plants show signs of making fresh growth. Some growers keep the plants in too high a temperature. A very cool greenhouse where frost is merely excluded in winter and which can be kept quite cool in summer will enable the plants to make better pitchers than in a stifling atmosphere. The roots should be kept quite moist and also the atmosphere about them.

NAMES OF PLANTS.—*J. W. W.*: 1, Cyperus Meyenianus apparently; 2, Malva sp.; 3, Pteris longifolia; 4, Doryopteris palmata; 5, Cryptomeria japonica; 6, Thuya occidentalis; 7, A Juniper or Cupressus, could you send fruit; 8, Not in character, there are no spores; 9, Send when in flower.—*Nemo*: The three pale flowers are those of a pale variety of Odontoglossum crispum Andersonianum; the other is Oncidium tigrinum ungriculatum.

COMMUNICATIONS RECEIVED.—J. H.—J. W.—J. B.—F. T.—A. H.—F. H.—W. M.—S. C.—J. C. & Co.—G. S.

TRADE CATALOGUES RECEIVED.

SUTTON & SONS, Reading.—Amateur's Guide in Horticulture for 1893.

CHARLES FRAZER'S EXORS., Palace Plain Works, Norwich.—Illustrated Catalogue of Conservatories, Greenhouses, etc.

JAMES VEITCH & SONS, King's Road, Chelsea, S.W.—Seed Catalogue for 1893.

EDWARD WEBB & SONS, Wordsley, Stourbridge.—Spring Catalogue of Seeds, 1893.

W. BAYLOR HARTLAND, 24, Patrick Street, Cork.—"Little Book" of Seeds and Plants.

JOHN PEED & SONS, Roupell Park Nurseries, orwood Road, S.E.—Seed Catalogue for 1893.

DICKSON'S, Limited, Chester.—Vegetable and Flower Seeds, Seed Potatos, etc.

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December 19th, 1892.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report trade in agricultural seeds slow. Red Clover continues steady in America, and has advanced 2s. per cwt. in Germany. English White Clover offers more freely at slightly reduced rates. Alsike and Trefoil steady. English Cowgrass and Red Clover do not meet with attention at present, dealers being of opinion that prices asked are much above values of qualities offering. Ryegrasses unchanged.

COVENT GARDEN MARKET.

December 21st.

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	s. d	s. d.		s. d.	s. d.
Grapes..... per lb.	0 6	2 0	Pine apples.		
Kent Cobs...100 lb.	120 0	150 0	—St. Michael's, each	2 6	6 0
Peaches ... per dozen			Apples...per ½ sieve	1 0	3 6
Melons ... . each			Plums...per ½ sieve		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, French, per lb.	1 0		Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	1 0		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	5 0	Seakale .....per bkt	3 6	
Celery.....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers .....each	0 3	0 6	Spinach ... per strike	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 9	1 0
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

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	s. d.	s. d.		s. d.	s. d
Azaleas ... per doz.	42 0	60 0	Chrysanthemum, doz.	4 0	9 0
Cyclamen per doz....	9 0	24 0	Foliage Plants, doz.	12 0	60 0
Cyperus .....per doz.	4 0	12 0	— large, doz.....	12 0	30 0
Dracæna term., doz.	24 0	36 0	Marguerites, per doz.	6 0	12 0
Dracæna viridis, doz.	9 0	18 0	Palms in variety, each	2 6	10 0
Erica Hyemalis, doz.	12 0	18 0	Palms, Specimen ...	15 0	63 0
,, Gracilis, doz...	9 0	12 0	Poinsettia ..per doz.	10 0	15 0
Evergreens, invar. doz	6 0	24 0	Primula Sinensis per doz.	4 0	6 0
Ferns, invar., per doz.	4 0	18 0	Solanums.....per doz.	9 0	12 0
Ferns, small, per 100	6 0	10 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s d		s. d.	s. d
Azalea doz sprays.....	0 9	1 6	Marguerites, 12 bun.	4 0	6 6
Arum Lilies, 12 blms.	4 0	8 0	Mimosa (French) p. bb.	1 0	1 0
Bouvardias, per bun.	0 6	1 0	Mignonette... 12 bun.	0 9	1 0
Carnations, 12 blooms	1 0	3 0	Pelargoniums, 12 sps.	0 9	1 0
Chrysanthemum, dz bn	4 0	9 0	— scarlet.....12 bchs.	6 0	8 0
— .....doz. blooms	1 0	6 0	Primula, double, bun.	0 6	1 0
Camellias doz blooms	1 0	4 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Cyclamen doz blooms	0 6	0 9	Roses, yellow, dozen	3 0	6 0
Eucharis ...per doz.	4 0	6 0	— French, per bnch	1 6	4 0
Gardenias 12 blooms	4 0	6 0	— French, 100 blms	6 0	12 0
Heliotropes, 12 sprays	0 6	0 9	— Red..... doz. blms.	1 0	2 0
Hyacinths Roman doz. sprays	0 6	1 0	— Saffrano...per doz.	2 0	3 0
Lilac, White, French, per bunch...	5 0	6 0	— Tea ..... per dozen	1 0	3 0
Lilium Harrisii, doz. blooms	6 0	9 0	Tuberoses, per doz	0 6	1 0
Liliums var., dz. blms.	2 0	4 0	Violets, Parma, French per bunch ..	5 0	7 0
Lily of the Valley dz. sps.	3 0	9 0	—Czar, French, bun.	2 0	4 0
Maidenhair Fern, 12 bs.	4 0	6 0	—Small ,, doz. bun.	1 6	2 6

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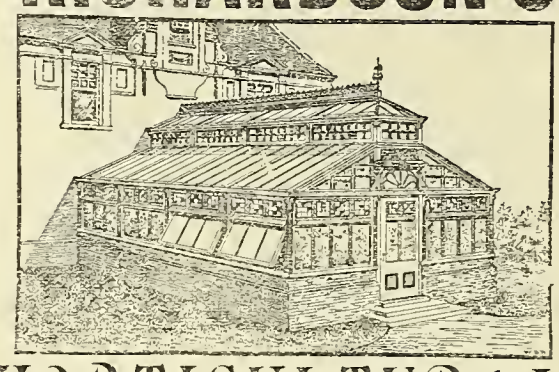

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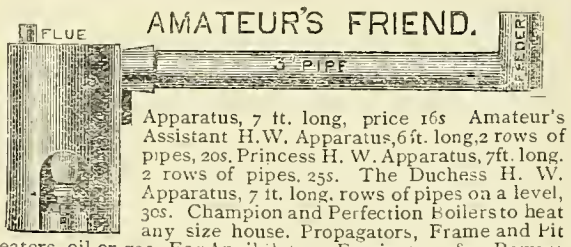

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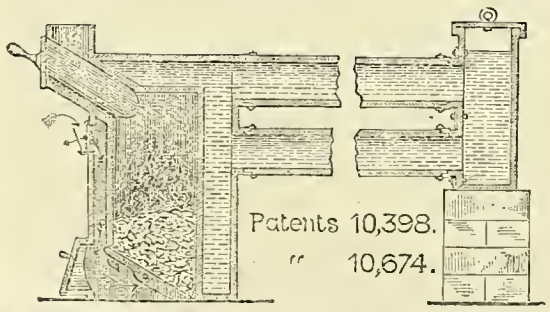

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

NEXT WEEK'S ENGAGEMENTS.

Monday, Jan. 2nd.—Plant and Bulb Sale at Protheroe & Morris' Rooms.
Wednesday, Jan. 4th.—Sale of Lily Bulbs at Protheroe & Morris' Rooms.
Thursday, Jan. 5th.—Plants and Bulb Sale at Protheroe & Morris' Rooms.
Friday, Jan. 6th.—Orchid Sale at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, DECEMBER 31st, 1892.

The Old Year.—With our present week's issue closes the year 1892. But the year in a sense never dies, any more than the King does, and the moment one expires another comes into existence not unlike to Kings also. We see very little of difference in them, although we may in crying out "A Happy New Year" seem to decry the old one for its production of happiness. It may not have been one of exceptional prosperity to all, but it may have been so to a few, whilst to the many it has been but as the years usually are and no more.

What its death does indicate, is that another step has been knocked away from the ladder of our lives. Old Father Time not only is a resistless mower, but as persistently sends crashing into the eternal past those rounds of time in the shape of years upon which we have so long stood, and they leave nothing behind but a deep

gulf down which recession is impossible. We may crane our necks upwards to see how many more steps are left to us, but none can count, for even the next lies in obscurity. Not a few of our friends fell from their steps during the year; of these it is enough to mention Dr. Woodman, Robert Parker, Montgomery Henderson, Edward Cooper, Michael Saul, W. Alfred Dickson, Joseph Ellam, Richard Westcott, James Williams, William Pratt, and John Downie. None can tell who will fall during the coming year. Some will climb on till they reach the highest point humanity may hope to climb to and then fall, full of years and we hope of honours.

Horticulturally the year has been a comparatively active one, the chief elements perhaps having been the enjoyable series of exhibitions held at Earl's Court, and which we fear it will be long ere they are repeated. Generally, trade has been fairly good, perhaps as good as could well have been expected. There has been the same persistent introduction of new plants, flowers, fruits, and vegetables, for without such development horticulture might become stagnant. The conclusion of the year is perhaps one of its best weather features, for it is dying in a comparatively quiet, if cold, way, and in so doing is creating as little trouble as possible.

THE NEW YEAR.—Anticipations as to what the new year may bring forth are natural to us all. Not that there is in the mere alteration of a date anything that is likely to be productive of special change, indeed as the alteration of date falls at a dull and usually restful time of the year, nothing is so unlikely as that immediate change of any kind will follow. But in horticulture, we are so exceedingly dependent upon climate, weather, season, or whatever else we may term natural surroundings that no one doubts but that a good season, one of pleasing acceptable weather, will bring prosperity just as a cold, wet, ungenerous season will bring adversity. Of course, we invariably associate with the term prosperity financial successes, but these are only in part of our desires, the true gardener thinks something of the results to his fruits, his flowers, his vegetables from the cultivator's point of view; he likes to see his work productive of abundance and of beauty, because such results are so much more enjoyable. It is, we are sure, as much in that higher sense horticulturists are hoping the new year may be one of prosperity, as in the more common one of a pecuniary success. So far, happily, the winter, which according to sun altitude, we are now fully half through, has brought neither terrors nor reverses. Generally, it has been a helpful and kindly winter. What the other, and usually the longer and too often less generous half, will be we can only imagine, but its character may have the greatest influence on the spring, summer and autumn, which will make up for us the most important parts of the year 1893.

How most heartily do we wish for all our friends and readers, a Prosperous and Happy New Year in every sense. How we hope that horticulture generally may share in that prosperity, and our loved vocation become all the more popular and honoured amongst the people. The doings of the past year is now almost old history, the immediate present has for us little interest, but in the near future we are deeply concerned, and look to it with exceeding hope to bring joy and happiness to all.

CAULIFLOWERS.—These delicious vegetables have been almost unusually abundant during Christmas, and the honours of the Brassica family on myriads of dinner tables last Sunday were shared equally by Brussels Sprouts and Cauliflowers. The winter so far has been specially favourable to Cauliflower development, and myriads of plants were enabled to head in, that would with the usual frosts much earlier have been destroyed. We have all been the gainers in consequence: the growers have been enabled to reap all possible advantage from their late plants, and the consumers have had Cauliflowers until they have been satisfied.

Almost directly we shall see the hardier Brocolis turning in, for the excellent and precocious Christmas White and Snow's Winter White, when obtained true, produce heads speedily, and if there be provided a proper succession then Brocolis keep the pot boiling, literally until the summer Cauliflowers are again to be had. There are few hardy plants that have evolved more variety and in more acceptable forms than has the Brassica Oleracea. What a wide divergence between a Cauliflower and a Red Cabbage, or a Curled Kale; what between a Brussels Sprout and a Brocoli. Let the season be what it may, hot or cold, wet or dry, we are never without some members of this great Brassica family.

The Cauliflower has the merit of being more useful in the summer than at any other time, because none other of the family are so tender, sweet and delicious. If the autumn heads become so much larger they are also rather stronger in flavour, but still are very profitable, and form a most acceptable vegetable diet. It seems not so long ago that we had few other than the Walcheren, Early London and Purple Cape. Now we have in such splendid varieties as Snowball, or Early Forcing, Magnum Bonum, King of the Cauliflowers, Autumn Giant, self-protecting varieties that have made the tender "Whiteheads" into one of the most important of summer and autumn green vegetables.

The Bute National Rose and Horticultural Society's annual show will take place at Rothesay on Tuesday, September 8th.

The Herefordshire Fruit and Chrysanthemum Society will hold its next exhibition on November 15th, 16th, and 17th, 1893.

The Devon and Exeter Horticultural Society's Shows next year will be held at Exeter, on August 18th and November 10th.

Gardeners' Royal Benevolent Institution.—The fifty-fourth annual general meeting of the subscribers to this institution is announced to take place at "Simpson's," 101, Strand, on Tuesday, January 17th, at 3 p.m., when an election for ten pensioners will take place. A general meeting will be held a quarter of an hour previously to confirm the resolution passed last week with reference to the new rules.

Gardeners retiring.—We understand that Mr. Fowler, who for many years has been gardener at Harewood House, Leeds, has lately retired, and has been succeeded by Mr. Jeffrey, lately gardener at Caversham Park, Reading. We hear also that Mr. George Bethel, gardener to Sir Greville Smyth, Bart., at Ashton Court, Bristol, and previously gardener to Sir Richard Wallace at Sudbourn Hall, Wickham Market, will also retire into private life at an early date.

Cereus grandiflorus.—It is stated by a Baltimore paper that an extract obtained from Cereus grandiflorus is considered by physicians as an almost infallible agent for heart disease, they claiming it to be superior to either Digitalis or Belladonna. Two hundred pounds weight of this plant passed through Baltimore recently, having been shipped from the mountain country of Mexico to a well-known manufacturing druggist of New York city.

The Horticultural Pocket Book and Diary, issued by Messrs. J. Weeks & Co., King's Road, Chelsea, S.W., for some years past, is such a useful article to put into the hands of a gardener, that it requires no recommendation from us. That issued for 1893 fully equals those which have gone before for durability and usefulness, and more than this we need not say.

The Horticultural Press of the World.—The Dutch Journal *Sempervirens*, in one of its recent issues, speaks of a list of the horticultural journals actually appearing in the various parts of the world. The list mentioned was published by Herr L. Möller, of Erfurt, and was curious enough to sum up the organs of the horticultural press. There are thirty-six in Germany, sixteen in Austria, eight in Hungary, nine in Switzerland, eighteen in England, ten in France, eight in Belgium, six in Holland, three in Denmark, four in Sweden, three in Norway, ten in Italy, five in Russia, one each in Portugal and Spain, nineteen in the United States of America, one in Canada, two in Java, one in Japan, and one in Ceylon, which make a total of 162.

Tea made from Angræcum fragrans.—For something like half-a-century, a beverage has been prepared from the flowers and pseudo-bulbs of Angræcum fragrans, a species of Orchid possessing a very pronounced aromatic odour. This has been served in the saloons frequented by the higher members of society, and the *Kew Bulletin* states that the usage is increasing rather than diminishing. In order to prepare this tea the stems and flowers of the Orchid are simply dried in the air, and a pinch is put in a kettle containing cold water that has previously been boiled for ten minutes. Then according to liking or taste, milk, sugar, and rum may be added, and the concoction drunk either hot or cold. This kind of tea is called Faham, after the name of an island, and fifty cups of it, according to *L'Illustration Horticole*, only cost a franc.

East Anglian Horticultural Club.—At the recent annual general meeting of the members of this club, Mr. F. Morris, The Gardens, Witton House, Norwich, was re-elected president, and presented with an enlarged framed photograph of himself. Mr. H. N. Bartlett, gardener, Earlham Hall, was elected vice-chairman, and Mr. Charles Daniels, honorary treasurer, in the place of his brother Mr. George Daniels, who resigned the office. Mr. A. F. Upstone (of Messrs. Daniels Bros.) was again elected honorary secretary.

Mr. William Heale, son of the late Mr. William Heale, of the Nurseries, Calne and Chippenham, died lately at Easterton, Wilts, in his 84th year.

Death of Mr. William Pratt.—We regret to hear of the death of Mr. William Pratt, for several years gardener to the Marquis of Bath at Longleat, near Warminster, and previously gardener to Lord Hill, at Hawkstone, near Shewsbury. Mr. Pratt was a very able man in his profession, and both at Hawkstone, where he succeeded the late Mr. Daniel Judd, and at Longleat, where he succeeded Mr. William Taylor, gardener to Mr. Alderman Chaffin at Bath, he could always hold his own as an exhibitor of fruit. Some few months ago, on leaving Longleat, he embarked in the business of a wine and spirit merchant at the Southgate Hotel, Bath, and died on the 11th inst. leaving a wife and young family to mourn his loss.

The National Chrysanthemum Society.—We have received the following communication from Mr. W. J. Godfrey, Exmouth, which we publish without comment:—"As my name figures rather prominently on page 258 of your last issue, I trust you will give me space to explain to the readers of the GARDENING WORLD the circumstances. It is not my intention to enter into a controversy. During the month of October last, I was the means of bringing before the N.C.S. what I considered an irregularity on the part of a member of the Floral Committee. A sub-committee was appointed to investigate the charge. This sub-committee met three times for the purpose of investigating the matter, and although I have not been asked to appear before this committee it accepts and is satisfied with a sworn statement from the member I complained of, in which he denies the main facts of the charge. Permit me to say that in reply to that statement I am prepared to swear that the main charges are correct. Your report of the meeting would lead the readers of the GARDENING WORLD to believe that the report of the sub-committee was adopted unanimously; whereas it was not so, as a large number of the general committee did not consider the report a satisfactory one. I consider your report of the meeting stigmatises myself as being a person who trumped a serious charge against another which cannot be sustained."

HARDY ORNAMENTAL TREES AND SHRUBS.*

So FAR as my own observation goes a good many young gardeners do not give the amount of attention to this branch of their business which its importance and interest demands and requires. In some places the management of the trees and shrubs is deemed of more consequence than even the kitchen garden, and that is saying a good deal, for we all know the dire results of not keeping the pot boiling; and as no young man can with certainty forecast what or to where the changes and chances of life may bring him, it is incumbent upon him that he should fortify himself with a store of knowledge upon every branch of his business if possible, but more especially upon one of such universal inrerest as the subject of this paper. The furnishing of glass-houses with plants was in former times very different to the fashion of to-day as regards the number of species and varieties cultivated. People then seemed to try to have one or two plants of everything they could get hold of; but the prevailing custom now-a-days appears to be to cultivate some favourite plant or class of plants in quantity to the exclusion of many interesting subjects that are rarely seen outside of botanic gardens and are not always easy to find even there. But if the field of interest be narrowed in our greenhouses by the prevalent custom of special culture on a more or less extended scale, the same cannot be said concerning outdoor plants, for never have we been richer in hardy trees and shrubs than we are at the present time. The first step towards gaining a knowledge of plants is to get to know their names accurately, both Latin and English, so far as that can be done, as well as the synonyms of such as happen to be hampered with more names than one. This can be done through the help of friends who already possess such knowledge, through visits of observation to botanical gardens, arboretums, and public parks, as well as by the consultation of books, nurserymen's catalogues, etc.; and, as a last resource, the editors of our garden papers are always willing to help in such matters on certain specified conditions. Gardeners, as a rule, are not easily deterred from attaining their ends. They are often face to face with some difficulty, and so become as it were inured to efforts of perseverance, and we have on record some noble and encouraging examples of men among them who pursued knowledge under most adverse circumstances, but who ultimately gained success by dint of unflagging application. If it be true that love laughs at locksmiths, the love of plants may be included, for it is almost impossible to keep knowledge away from a person who is bent upon acquiring it. So if at first you do not succeed, why try, try again! I need hardly remind you that this is not intended to be a treatise upon the management of trees and shrubs, but merely an attempt to stir up an interest in them amongst the class of men into whose hands their management will in the course of time largely fall. In this country we have never far to go ere we find some specimen of tree life to contemplate, for in field, forest, and city, trees and shrubs meet us and greet us everywhere. We are fascinated by the infinite variety of form in individual as well as in the different species, by the endless variety and beauty of shape and colour in the foliage, and also by the changes induced in them by the progress of the seasons, the action of the wind upon their movements, their shadows in the water, etc., while the uses to which they may be put and their adaptation (some of them to nearly all manner of positions that are natural) are of the greatest benefit to mankind and to animal life generally.

In trade catalogues we find certain things classed as forest trees, while others are placed under the heading of ornamental trees and shrubs. This arrangement is without doubt quite convenient and proper for trade purposes, but no injustice would be done to the trees if they were all placed under one heading, for I hold that all trees and shrubs are ornamental when seen under favourable conditions; and as regards favourable conditions we may often make notes by the way, mentally and otherwise, as to the suitability or unfitness of certain things for a given purpose. Knowledge gained in this way is most useful and can be turned to good account as opportunities for so doing occur.

A few short lists of plants for special purposes or having special qualities, with some incidental remarks, is as much as I can put within the limits of this paper. Conifers are a very large and interesting class of trees of first-rate importance both as stately ornaments in the landscape and as yielding perhaps more timber than any other class or family of trees. In size they range from Pinus Mughus and Picea excelsa Clanbrasiliana, which are rarely seen more than a few feet high, up to the trees of the most gigantic stature. Members of the genera Cupressus, Juniperus, Retinospora, Thuja, Sequoia, Taxus, Cryptomeria and others are commonly made use of as shrubs in a young state, and fine sentinel-like figures many of them make when not planted too thickly, or crowded or overtopped by other things; but the bulk of them grow into trees of timber size in their native habitats and some of them even in this country. Our common Yew (Taxus baccata,) is one of the hardiest of trees and lives to a more than patriarchal age, some say as much as a thousand years, but this would perhaps be difficult to verify. The Irish Yew (Taxus baccata fastigiata) is most frequently seen in an upright form, but that is not by any means its universal natural shape and character, but one imposed upon it by training, tying, and the knife. When left unmolested the Irish Yew has mostly a peculiar spreading and sprawling habit which makes it very interesting in aged specimens. The Japan Yew (Taxus baccata adpressa) makes a dense hardy bush or small tree and is useful in a mixed shrubbery as well as ornamental as a single specimen on a lawn. The Hemlock Spruce (Abies canadensis) is one of the finest objects that can be planted on a lawn in a sheltered place; its lower branches dip down and touch the ground, and then curving upwards give the tree a most nove and striking appearance. The Cedar of Lebanon (Cedrus Libani) when fully developed stands out as a very king among trees by reason of its majestic appearance.

MR. H. J. JONES (See page 276).

Among deciduous trees may be noted the Tree of Heaven (Ailantus glandulosa), which in foliage somewhat resembles the Walnut, but botanically is quite distinct from that species. I have read somewhere that in China and Japan silkworms are fed and reared on the young foliage of this tree, but its chief value in this country is as a quick growing nurse in young shrubbery plantations. The Horse Chestnut, Œsculus Hippocastanum, is one of the best known and most admired trees, and its pink variety is at least equally charming. The Tulip Tree (Liriodendron tulipifera) is an object of great beauty when in flower, its yellow cup-like blossoms being borne in great profusion. The bark is said to be a powerful tonic, and the imported timber is, they say, used by coach builders for panel work. The common Lime Tree (Tilia vulgaris) is a well-known tree throughout Europe, as well for its beauty as a tree as for its economic value, and from about the end of July to the middle of August the Linden trees are a source of food, or at least of honey, to bees generally, while our common garden mats are made of the inner bark of some of the species.

The Plane tree (Platanus orientalis acerifolia), about which at one time there was a little botanical confusion, is another well-known tree, having within the memory of man been very extensively planted and reared in towns and cities, as it bears smoke and dust better than most trees. A peculiarity of trees of this species is that they cast a portion of their bark off in flakes every year, but they wisely provide themselves with a new jacket underneath first. Another remarkable thing about the Plane tree is that the incipient leaf-buds are not exposed in the axils of the leaves, as in most other trees, but are completely enveloped by the base of the leaf-stalk, like an extinguisher on a candle. Among smaller growing trees may be noted the Mountain Ash, the Manna Ash, various Thorns, Acacias, Ilexes, the Deciduous Cypress, the Almond tree, many members of the genera Pyrus, Mespilus Cerasus, Laburnum, Hollies, Tilia heterophylla, Fagus sylvatica asplenifolia, and the cut-leaved Alders should not be left out. Large-growing shrubs are represented by Cornus mas, which is one of the earliest to flower, by Laurels, Rhododendrons, English, Spanish, and Portuguese Brooms, double Gorse, Lilacs, Tamarisks, Azaleas, Deutzias, Prunuses, Kalmias, Andromedas, Ligustrums, Ribes, Pernettyas, Barberries, Laurustinus, Daphnes, Syringas, Daphniphyllum glaucescens, Cotoneasters, Philadelphus, Roses, Clethras, Olearias the Judas Tree, etc.

Berry-bearing plants include Hollies, Aucubas, Skimmias, Pernettyas, Cratægus, Pyracanthas, Barberries, Cotoneasters, Mountain Oak, and some Roses and Thorns, etc. Among plants remarkable for the beauty of their variegated foliage are Hollies of sorts, two of the best being Golden Queen and Milkmaid, Golden Yews, Aucubas, Euonymus, Eleagnus, Osmanthus, etc. Weeping trees have notable representatives in the Weeping Ash, the Birch, the Elm, Sophora japonica pendula, and the Yew, (Taxus Dovastoni), etc. Trees with coloured foliage are seen in the purple Beech, the purple Hazel, purple Oak, the Concord Oak, Prunus Pissardi, some of the Japanese Maples, the white Beam, Firs, white Poplar, Shepherdia, etc. Trees whose foliage dies off a bright colour are the scarlet Oak, Liquidamber, Plum-leaved Thorn, Snowy Mespilus, Rhus Cotinus, Ghent Azaleas, etc. For covering the ground or filling up among other things the following are suitable, Polygala Chamabuxus, Hypericums, Periwinkles, Gaultherias, Epigæas, Ivies, Berberis dulcis nana, Butcher's Broom, Heaths, Sun Roses, etc. The following

* A paper read by MR. HARRISON, Knowsley, at a meeting of the Liverpool Horticultural Association, on December 17.

ought to have well chosen, warm, and sheltered situations; they are not adapted for general planting in all parts of this country, but they are all worth bestowing a little trouble upon where that will suffice:—Paulowina imperialis, Catalpa syringæfolia, Myrtles, Pomegranates, Chimonanthus, Ceanothus, Escallonias, Camellias, Desfontaineas, Hibiscus syriacus, Hydrangeas, Cistuses, and many other equally beautiful plants which cannot be named here, as I am afraid my paper is already too long, and these lists are not intended to be exhaustive, but merely illustrative so far as they go. —*F. Harrison, Knowsley Gardens, Prescott, Lancashire.*

HORTICULTURE AS A SCHOOL SUBJECT.

In the new Educational Code "Horticulture" finds a place as a new extra subject. It excites a little surprise to read the announcement, for if horticulture is to be taught to children, the masters and mistresses should know a good deal about the subject, and so far as our experience goes, only a few of them know more than a very little about it. If this be so, how will the pupils fare? We are afraid the only conclusion is that they will, at first, at all events, do but badly; for there can be no doubt that to teach the elements of any subject well, the teacher must know the subject thoroughly.

We are disposed to find fault with the framers of the code that they did not use the word "Gardening," which would have been better understood than "Horticulture," but perhaps we must give them the benefit of a doubt, and suppose they know best what they are aiming at; but we think a much more serious fault is that they did not assure themselves that, at least, a large proportion of their masters and mistresses would be capable of teaching the subject in an intelligent and interesting manner.

No experienced gardener would ever admit that really useful instruction on the subject can be given, especially to children, by teachers who are not practically acquainted with gardening. Mere book knowledge on this subject imparted in lessons will necessarily be more or less lifeless. Gardening consists largely of knowledge acquired from actual experience in carrying out the many and various processes involved, and we do not think it possible for anyone unfamiliar with those processes, gained by repeatedly doing them, to impart an adequate knowledge of them to others.

That horticulture is a good subject to be taught in country schools cannot, we think, be doubted, provided that capable instructors are forthcoming, for every country child must be more or less familiar with it; and it is a subject which, if enlightened by intelligent teaching, can be made most interesting and of much value to the children, many of whom after they have left school will be engaged in gardening or farming operations. But the teaching must be thoroughly sound, or it will not only be useless but hurtful.

The question then naturally arises, how can the teachers be qualified for the new task imposed upon them? We are inclined to think the County Councils may render valuable help. Several of them are employing professional lecturers on horticulture, and if arrangements were made that schoolmasters and mistresses should be specially thought of, and provided for, in the lecturer's programme, much good might be done. Such arrangements would provide that opportunity should be afforded for acquiring a practical knowledge of garden operations. It is all very well to describe verbally the processes of digging, hoeing, raking, planting, transplanting, etc., but a demonstration of how these operations are done by a skilful workman would be of great value, especially after the student has been made familiar with them by a good description, for as every gardener, amateur or professional, knows, skill is only to be attained by repeated practice; and it is of consequence that the practice should be based on good models, and naturally the County Councils will secure the services of competent men who can supply such illustrations of the best way of doing things as would leave nothing to be desired.

A really good text-book remains to be written to be placed in the hands of the children. It should be written in simple language by one who has a thorough knowledge of gardening. It should deal with the subject in a manner to make the youthful pupils interested by first of all speaking about things they are familiar with, and then gradually advancing from the known to the unknown, in such a manner as to awaken their interest. The lines of the book are laid down by the programme of the code, so that little is left for the exercise of special knowledge or individual taste; but a really capable man will manage to disregard the trammels of routine, and if such an one can be induced to undertake the work, a book will be produced which will be of untold usefulness. It is too much to hope that such a book as we have in view will be the first produced, but it will be something to aim at providing such a book, whether it is the first or the last, for there can be but little doubt that the book for the occasion will be one to hold its own, and advance the technical education of the juvenile rustics of this country as the gardeners of the future.

No one familiar with the state of gardening at present prevailing in this country will have any doubt as to the importance and value of sound technical teaching. English folk are credited with being a nation of gardeners, but, we think, without any just claim. They have a natural and inborn love for the subject, but their knowledge is often shallow and imperfect. They know a great deal about it according to "rule of thumb," but it is exceptional to meet with a gardener, however skilful he may be, who can reason about his work from first principles. Many can undertake the processes, but only a few can explain the reasons for doing them in the manner experience has shown to be best. We possess but few books in which gardening is dealt with from the scientific side. Dr. Lindley's famous "Theory of Horticulture" is our only book of any real value, and that has long been out of print, and was written so long ago as to be behind the times, especially in physiological teaching. There is great need for a thoroughly good book treating of the science of gardening in a sound and comprehensive manner, in which "Practice with Science" are accurately and skilfully combined. Such a book would be invaluable, for it is one of the greatest weaknesses in this country, that although our scientific botanists know so much about the physiology of plants, this important branch of knowledge is scarcely available for the young gardener, in a form likely to be within his reach. A good popular book on the science of horticulture would do more for the advance of gardening —if it were within the reach of the young student, so that he could study his subject in a broad catholic manner, and see the reasons for the various operations which he has daily to perform—than years of routine practice unenlightened by scientific knowledge. Such a book as we have in mind would be of immense value to the schoolmasters and mistresses who will shortly have to teach horticulture to their advanced pupils, and would enable them to prepare their lessons in a manner very different from that in which they will be able to do so, as long as their only guides are mere text-books of practice.

Our main hope in drawing attention to these points is that some of our enterprising publishers may be led to commission some competent authority to prepare a book something like what we have indicated, in which the theory of horticulture will be accurately set forth, and that County Councils will be induced to provide such a course of practical instruction in their various localities as will really assist the masters and mistresses of our schools to qualify them to give sound and vivifying instruction to their young pupils.—*Midland Counties Herald.*

THE BLENHEIM SALE.

The sale of the Orchids at Blenheim last week attracted buyers from all parts of the kingdom, and as a rule, satisfactory prices were made from first to last, considering the lateness of the season and the difficulty of moving such plants at this time of year. On the first day the 400 lots offered realised over £1,000, the most important items being Cattleya Lawrenceana, £3 3s.; Cœlogyne Sanderiana, £3 3s.; Lælia harpophylla, £3; Vanda Hookeri, seven growths, £3 3s.; Cattleya Mossiæ, fine plant, £6 6s.; Lælia anceps Sanderiana, two spikes, £7 15s.; Cœlogyne pandurata, fine specimen, £9; Sobralia xantholeuca, large specimen, 9½ gs.; Cattleya Mendeli, 11 sheaths, 26 leads, 20 gs.; Anæctochilus petola, 7 gs.; Aërides expansum leonis, with 18 growths, 6 gs.; Cymbidium eburneum, four plants, £9 10s.; Cattleya Mendeli, large specimen, £15; Cattleya Lawrenceana, with 150 large bulbs, 15 to 20 leads and sheaths, 25 gs.; Cattleya Skinneri, with a supposed portion of C. Skinneri alba mixed, 11 gs.; Cattleya labiata autumnalis, 12 gs.; Cypripedium Morganiæ, £5; Ada aurantiaca, fine specimen, £8; Cymbidium eburneum, with flower spikes, four plants, 6½ gs.; Cattleya Trianæ, ten plants, 7½ gs.; Cattleya Gaskelliana Blenheimense, special variety, 6 gs.; Epidendrum prismatocarpum, a dark spotted variety, 8 gs.; Cymbidium Mastersii, thirteen growths, 6 gs.

On Tuesday there was a smaller attendance, but prices ruled higher. Among the best lots sold were: Cattleya Lawrenceanum, with fully 200 bulbs, £40; Cattleya Mendeli, with over 150 bulbs, 16 gs.; Lælia elegans alba, with over 200 bulbs, in a boat-shaped basket, 12 gs.; a pair of plants of Cattleya imperialis, 20 gs.; 9 gs. for Sobralia xantholeuca, with twenty-four growths; 9½ gs. for a pair of Cypripedium barbatum grandiflorum superbum; 8 gs. each for Vanda tricolor Patersoni, six growths, Cypripedium vexillarium, twelve growths, and C. œnanthum superbum, eight growths; 7 guineas for a massive example of Cymbidium Lowianum; 6 gs. for Cypripedium Rothschildianum, eleven growths; 8⅓ gs. each for Lælia anceps alba and Cattleya Trianæ, fine specimens; 8 gs. for Lælia purpurata, with hundreds of bulbs; 6 gs. for Dendrochilum filiforme, a very fine example; £5 for Dendrobium chrysotoxum; 5 gs. for Cypripedium Stonei; and 4 gs. for C. lævigatum; Cymbidium eburneum Dayanum, eight growths, 7 gs.; Odontoglossum Alexandræ (small plants in beds), fetched from twenty to thirty-five shillings per dozen. Of these, about three thousand were disposed of, making six thousand in two days. The four hundred lots in the second day's sale realized £1,050.

On the third day the attendance increased again, and prices again advanced. The principal items were:—Cattleya Mendeli, the largest plant in the collection, with 200 bulbs and many sheaths, 45 gs.; other good prices realised were—14 gs. each for Lælia anceps alba, with a dozen spikes and a fine example of Cattleya Mendeli; 10 gs. for a grand specimen of Ada aurantiaca; 10 gs. for an extra large specimen of Lælia anceps Schroderæ, with 400 bulbs; 8 gs. for a noble example of Epidendrum prismatocarpum, with 200 bulbs; 7½ gs. for a good plant of Lycaste Skinneri alba; 6 gs. for Dendrobium Cooksoni, with eight bulbs; a like amount being given for a charming example of Lælia purpurata, with numerous bulbs, and a Cattleya Mossiæ with 100 bulbs; 5½ gs. for a fine plant of Cypripedium Elliottianum, with six growths; 5 gs. for a big pan of Cœlogyne cristata; and 4 gs. for a plant of Cattleya labiata. The total result of the day's sale was £1,103.

A VISIT TO SHORT HILLS, N.J.

One of the greatest treats I have enjoyed since I landed in the United States some months ago, was a recent visit to the world-famed nursery of Messrs. Pitcher & Manda, at Short Hills, New Jersey, a horticultural establishment of great magnitude, and where there is always much to see that is of rare interest to a man fond of plants. At the time of my visit the ground was covered with snow, but under glass I found a plantsman's paradise and welcome shelter from the wintry blast without. Having to wait a little time before I could see the courteous manager, Mr. Manda, I amused myself in his office by looking over some huge albums of plant portraits, made by the artist which the firm keeps constantly employed, and which include sketches or photographs of everything that has flowered in the establishment of any degree of interest.

Of the plant houses, I was first introduced into section 1, which is a fine block 200 ft. deep and 250 ft. wide, with the offices and packing sheds in front, and potting sheds on each side, so that in no case do the staff have to go outside in order to enter any house, a great advantage when taking plants to the potting or packing sheds in securing them from the injurious effects of cold winds. This great block of glass consists of twenty distinct houses, the main one being a conservatory or Palm house 250 ft. long, with the nineteen others disposed on either side of it, and all admirably designed to promote plant growth. Here, as in most American nurseries, the massing system is adopted, that is to say each house is devoted to one particular plant or class of plants, and it is a plan that answers admirably. All the houses are filled to repletion with a splendid stock—indeed for general health, cleanliness, and the character and value of the plants, I have seen nothing like it in the States.

Passing through the central house I specially noted some very fine specimens of Kentia Fosteriana 20 ft. high, splendidly furnished; a beautiful piece of Latania borbonica variegata; a noble lot of tree ferns, Dicksonia antarctica and others with stems from 20 ft. to 30 ft. high; some twenty or more species of Cycads, in fine plants, and a new and rare form of Araucaria Rulei named trifraska. The other houses are filled as follows:—One is filled with Araucarias, a splendid lot, and a most pleasing sight. A. excelsa compacta is the favourite. No. 2 is mainly filled with Zamias, and Mr. Manda is specially proud of a big stock of Zamia Lindeni, a re-discovery. No. 3 contains Ficuses in variety; and No. 4 Areca lutescens; No. 5 and 7 Kentia Belmoreana from 3 ft. to 5 ft. high; No. 6 K. Fosteriana in various sizes; No. 8 is the Cocos house; and 9 contains Palms in some 230 species and varieties, and many of them rare. I noticed Phœnix Robeleni, Areca grandis, Bismarckia nobilis, Kentia Drummondi, Calamus Nicholi, and others too numerous to mention. No. 10 contains Bromelias and hybrid Anthuriums; and No. 11 is the propagating house. No. 12 is devoted to Alocasias and Dieffenbachias; and No. 13 to Anthuriums exclusively. In No. 14 there is a beautiful collection of stove plants, including a new Maranta named Laggerii after their collector—a very striking plant of the form of Zebrina, and darker than Metallica; 15 contains Dracænas; 16, Adiantum Farleyense, very fine; and 17 Adiantums in variety. Here I came upon the stock of a decided novelty, the variegated form of Adiantum cuneatum, in which the variegation takes the form of silvery streaks on every pinnule; it is very pretty. No. 18 contains Pandanads in some dozen sorts; and 19 is devoted to Ferns. Here I must mention the rare Pteris Wallichiana, a plant that will prove of the greatest value to exhibitors, owing to its rapid growth and handsome proportions. I saw one specimen which was 6 ft. through, with triangular fronds measuring 30 in. each way—a noble plant. Aspidium viridescens is very striking with its blue sori. I was also shown a new Datura named "Cornucopia," which is similar in habit to the old Datura Knightii with double flowers 8-10 in. in length and 5-7 in. across the mouth of the corolla, and in colour a beautifu French grey, beautifully marbled on the outside with regal purple. The flowers are produced at every joint, and as many as 300 on a plant.

Our next visit was to the seed and store rooms, a three-storey building 200 ft. by 30 ft, and then followed seven large show houses 200 ft. long and 30 ft. wide, which were recently filled with 35,000 seedling Chrysanthemums, and which were visited in the first week in November by 12,000 persons. The "Mums" have all now been cleared out and the houses filled with Palms, Genistas, Azaleas, and other greenhouse plants, and half-hardy subjects that have to be given some shelter in winter. Another house near at hand is devoted to Latania borbonica only.

THE ORCHIDS.

A trip "over the hill" brings us to the famed collection of Orchids, which is housed in a block of twenty-one houses. At this season Orchids are not to be seen in all their glory, but an enormous collection like this is always interesting. The first houses contain mixed collections of Dendrobes, Oncidiums, etc., and these having been inspected we enter the famous Cypripedium house, which is 100 ft. long and 40 ft. wide. Messrs. Pitcher & Manda claim to have the largest and best collection of Cypripediums in the world, which includes some 400 species and varieties, and four houses are devoted to their cultivation. The centre stage of the large house on November 29th was a mass of bloom—a sight to be remembered. The principal sorts in bloom were C. Harrisianum, C. insigne, and C. Spicerianum, and some of the pieces of the latter carried from fifty to seventy blooms. Many of the firm's new hybrids were also coming into bloom, and there are some most promising novelties among them. Much time and attention is devoted to seedling raising, and in one house were some 5,000 established seedlings. Other houses are devoted to Cattleya Mossiæ, C. Percivaliana, Odontoglossums, Oncidiums, Dendrobes, etc.

A house is also devoted to Sarracenias, and various species of Nepenthes are also in evidence. The firm are hybridising and cross-breeding Nepenthes with a view to obtaining varieties with self-coloured pitchers, and have already met with some success. I saw one of a beautiful rose colour, and another yellowish green. Seedling Anthuriums are also raised in thousands, and spathes are seen of almost every colour and shade. A very pretty form had salmon-coloured spathes with a white spadix. Anthurium Brownii has very dark spathes, almost maroon colour.

The collection of Orchids is under the charge of Mr. Joseph Manda, Jun., and the condition of the plants proves his skill as a cultivator. Mr. Manda has also achieved great things as a hybridist, and is now devoting much attention to the seeding of Dendrobes, Cattleyas, Phaius, and other Orchids, and has nice batches of seedlings coming on. The firm employs their own collectors and are consequently in receipt of new plants, and Orchids in particular, in large quantities. One consignment recently consisted of 115 cases; and a fine lot of Cattleya chocoensis arrived on the day of my visit.—*Am. Cr.*

SCOTTISH NOTES.

DECORATIONS AT CARGILFIELD, EDINBURGH.—The large dining hall at the above place was decorated on an extensive scale for a concert a week ago. To meet the great demand for Chrysanthemum blooms, Mr. Cameron turned his inventive ingenuity to manufacture flowers from what is known as wood wool or shavings, a substance used extensively for packing the finer class of confectionery goods, etc. His success was so remarkable that the spurious flowers could not be distinguished among the evergreen leaves from real ones. The pure white nature of the material, as well as its fine feathery texture, in a special degree fitted it for the purpose, and when placed only at a few feet away few indeed but specialists could detect their counterfeit character. On this account, as well as the fact that we live in an age of imitation, we doubt not that in some measure this material will take the place of the Chrysanthemum in similar decorative work when Chrysanthemum blooms are scarce. In many respects it has a preference, particularly inasmuch as it stands with impunity the deleterious fumes of gas and petroleum.

The interior of the hall is entirely of pitch pine, and massive arched couples support the roof. From these lamps were suspended among festoons which gracefully swept across the arches. On the pine cornice round the hall were placed various designs and wreaths embellished with the spurious flower. Attached to these was a light wreath, which hung down between each design in semicircle form. Real flowers were occasionally mixed, to make the deception more perfect, but this was found to be entirely unnecessary. Lower down on the wainscotting, stars and other designs of real blooms, some of which were entirely composed of yellow Pompones, showed in splendid effect as they sparkled out from among the other evergreens. The windows were tastefully decorated; the higher ones with wheel-shaped designs, studded with the spurious blooms, the lower with triangular designs of leaves only. The platform was covered with scarlet cloth, upon which fine foliage plants were arranged. The long corridor which leads to the hall was also tastefully decorated with pot plants. The avenue down to the entrance gate was beautifully illuminated with numerous lamps suspended from every available branch of the trees, which on either side line the way. The entire scene throughout presented a most pleasing effect, and might well be designated one of those fairy scenes which we so often read of, but seldom see realised.

It is quite unnecessary to say that Mr. Cameron's decorative style and taste not only met with Mr. and Mrs. Darnel's warmest appreciation, but by the entire party they there entertained, and all others who had the pleasure of seeing them.—*W. C.*

[Our correspondent obligingly sends us a photograph of a wreath in which the "flowers" are so deceptive as to mislead even good Chrysanthemum growers at first sight, and we regret that we cannot reproduce it in our columns.—ED.]

Royal Horticultural Society.—We are informed that the following dates have been definitely fixed for next year's meetings:—January 17, February 14, March 14 and 28, April 11 and 25, May 9 and 25, 26 (Temple Show), June 6 and 20, July 11 (Chiswick Show), July 25, August 8, August 29, 30, and 31, September 1 (Agricultural Hall Show), September 12 and 26, October 10 and 24, November 14 and 28, December 12.

Gleanings from the World of Science.

Primula Cockburniana.—New species of Primula continue to arrive from China, showing that the latter country is really a metropolis for the genus. It would be difficult to separate the Chinese and Japanese forms into a distinct type separate from that of the Himalayan ones, as there are evidently similar types in both countries. That under notice is similar to P. Poissoni already in this country, but differs in the leaves being more slender and almost without teeth on the margins in the more slender flower stalks and smaller flowers. They all agree in having the flowers arranged in tier above tier upon the stem in the same way as in the case of P. japonica, which is the most familar instance in gardens. Now this particular type is represented in Japan, China, the Himalayas, and Java. The species under notice is perennial, about 4 in. to 12 in. high, with two or three superposed whorls of three to six flowers each. As recorded in the *Journal of the Linnean Society, vol. XXIX., p.* 313, the specific name is meant to commemorate H. Cockburn, Esq., and the Rev. G. Cockburn, both on service in China, but n no way related to one another. Systematic botanists may remember that Bauhina was in a similar manner named after two gentlemen of the iname of Bauhin, both botanists and brothers.

Forked Stem of Dendrobium Pierardi.—It is quite a common occurrence for the stems of many species of Dendrobium to become branched, but that is quite different from forking. While making its growth last summer in the gardens at Falkland Park, South Norwood Hill, Dendrobium Pierardi produced a shoot which forked a short way above the base. Each of the forks attained a length of 5 in., and were about equal in strength and all other respects. One of them was slightly twisted at the base, but whether the twisting was caused by the forking or the latter caused by the twisting was not very evident. As there was no evident obstruction to necessitate twisting, it might be assumed that the latter was caused by the forking.

Sleeplessness in plants.—It is now pretty well known that many plants belonging to the Leguminosæ and Oxalidæ exhibit the phenomenon termed sleep under certain conditions. When the light wanes in the evening or at sundown, the leaflets of which the leaves are composed fold upwards or downwards as the case may be, and close up generally face to face. When a number of these plants are examined on a bright day, it will be seen that (as a rule) the leaflets place themselves at such an angle that the sun will shine fully upon them. As the sun sinks so do the leaflets, until they are perfectly closed, exhibiting the phenomenon termed sleep. Now should the same plants be examined during daylight on a dull day, the leaflets will be seen to be fully expanded; but should the day be cloudy throughout, the leaflets in the evening will be found either fully expanded or imperfectly closed and sleepless so to speak. The cause of this would be the result of the feeble light during the day, and which had rendered the leaves so dormant, or their functions so inactive, that they are less sensitive to the waning light, and consequently do not exhibit the phenomenon of sleep. Fancifully this might be compared to sleeplessness in animals which have not had proper exercise during the day, and consequently cannot sleep. The actual causes are different in the two cases, but the results are very similar, considered in the light that they cannot, or do not, go to rest properly.—*J. F.*

Saline air and Orchids.—It has sometimes been considered that a saline air must be suitable for many Orchids, particularly those which naturally grow upon islands and the sea-board of continents coming under the influence of the sea breezes. To test this a well-known amateur of Ghent, M. A. Van Imschoot, as recorded in *Le Journal des Orchidées*, made some experiments in his Orchid houses. He made use of salt water to damp the pathways, as well as for damping the ribs of tobacco placed over the hot-water pipes. The results obtained were stated to be excellent. It may be within the remembrance of Orchid growers in this country that many of the continental growers place Tobacco leaves or their ribs upon the hot-water pipes and wet them, so that the vapour arising therefrom may be charged with the odour of Tobacco for the purpose of keeping greenfly in check.

FLORICULTURE.

Violas in Pots for Winter Decoration.

UNDER the above heading, our good old friend Mr. Wm. Dean has made a happy suggestion, which will popularize his favourite flower. And I believe with Mr. Geo. McLeod, that it is only a matter of time until the Viola becomes as popular as our winter flowering violets.

Mr. Riding does not seem to be so favourably impressed with this idea, but perhaps he has not grown the new miniature type, which is so admirably adapted for pot work.

The remarks of A. J. R. (on p. 224) are worth consideration, but I think young plants treated in a similar way would give a much better return. We can always have plenty of bloom here (from young plants propagated in June) up to the beginning of December, when grown in cold frames.

Mr. Riding, however, has them in the open up to December 20th. How to grow them from then on to March is the point for future consideration, and as the subject is most interesting I hope these columns will be open for the opinions of your readers. I am myself thoroughly convinced that the miniature type at least will, before many years, be largely grown in pots, and be forced similar to Violets for market purposes. I do not quite favour the idea of seedlings for winter work. With Violas, as with Chrysantheums, we have early and late flowering varieties. The question is a selection of these and how to grow them for winter decoration. A few years ago we never dreamt of having Carnations in full bloom at Christmas, yet at the present time what a wealth of bloom we have of this sweet scented and popular flower.

To grow Violas in pots for winter decoration they must receive treatment similar to winter flowering Carnations. The mild season we have experienced has been favourable so far for plants grown under glass, but when fire heat has to be given the unnatural stimulus has the effect of causing the flowers to be puny and short-lived unless special care is exercised. I do not believe in putting more than one plant in a 5-in. pot, which size seems well adapted for Violas of the miniature type. Of course I only grow this new and lovely type in pots, for they are more appreciated owing to their delightful fragrance, and I have been fortunate in getting some fine distinct colours deliciously fragrant which when tied up in bunches are as valuable as Violets. There is one question by the way I would like to ask Mr. McLeod—wherein is Violetta a hybrid Viola, and wherein does it differ from Duchess of Fife and other modern Violas?—*Viola.*

THE FIRM OF HURST & SON.

THE famous wholesale seed firm of Messrs. Hurst & Son next year celebrate their jubilee, the business having been founded in 1843, and as a memento of the occasion have issued a series of four photographs, of which they have kindly favoured us with copies. These include capital likenesses of the founders of the firm, Mr. William Hurst and Mr. G. W. McMullen, Mr. William Hurst, jun., and Mr. N. Sherwood; a portrait group of the employés of the firm, sixty-seven in number, with Mr. Johnson, the late manager, in the centre. This group surrounding Mr. Johnson was taken just before his retirement in 1890, and contains portraits of most of the members of the staff, some few being unavoidably absent. The other illustrations are of the firm's offices and warehouses in London and at Boston, in Lincolnshire.

As we learn from an accompanying circular, the house was founded in 1843 by Messrs. Wm. Hurst and W. G. McMullen, who for many years represented the well-known seed firm of Warner & Co., of Cornhill, London (long since extinct). These gentlemen commenced business at 6, Leadenhall Street, on a very small scale; but both being well known throughout the country and very greatly respected, the business grew fast and rapidly became important. After some 20 years Mr. McMullen retired from the firm in consequence of ill health, and Mr. Hurst took his son William into partnership. The style of the firm was then altered to Hurst & Son. Mr. Hurst, Senr., died in 1868. The business then devolved on his son and Mr. Sherwood, who married the youngest daughter of Mr. Hurst, Senr., and with Mr. Johnson as manager, it was carried on until the retirement of the latter in 1890. Since that time Mr. Sherwood has assumed the entire management, and is now sole proprietor. Notwithstanding these various changes, the principles on which the business was founded and conducted have remained unaltered, and the trade has continued to increase year by year. Need we add that all who know Mr. Sherwood, will heartily wish that the prosperity of the house may long continue, and that he personally may long be spared to exercise those excellent qualities of head and heart which have endeared him to all who have the honour of his acquaintance.

HARDY FRUIT GARDEN.

LICHENS AND LIME.

WHERE this troublesome pest is making headway on fruit trees or just making its appearance, it can be easily arrested and finally stamped out by the free use of slaked lime. Here we made an experiment with lime on four varieties of Apple trees, which not only proved satisfactory, but quite a success. On a calm, wet day (not uncommon at this period of the year), we dusted the trees until they were white with slaked lime, which was passed through a fine sieve. At the time of operation we had some doubt that the lime would injure the buds, but on the turn of spring, to our great satisfaction the buds started as if nothing had been put on the branches. The lichen turned brown and was finally washed off by heavy rains leaving the bark clean and healthy. Not a trace of lichen remains on the trees operated on. I may add that three of the trees carried a fair crop and are now showing well for next year.—*W. O'N., Abergavenny.*

APPLES AND PEARS AT GUNNERSBURY HOUSE.

THE past season was more especially notable for the Apple crop. Pears in most places in the south were a scanty crop as far as the outdoor trees were concerned, but at Gunnersbury House, Acton, one of the seats of the Messrs. de Rothschild, the Pear trees with few exceptions bore well. Only the late varieties now in the fruit room can of course be noted, but it might be interesting to mention the varieties of Pears with which Mr. Hudson, the gardener, manages to keep up a supply from beginning to last.

He has had dessert Pears in constant succession since the end of July. The variety that ripened then was Doyenné d'Eté and that was followed by Jargonelle. Next came Williams' Bon Chretien, Beurre d'Amanlis, Louise Bonne of Jersey, Pitmaston Duchess, Marie Louise, Thompson's Beurre Clairgeau, and Napoleon. Some two of the above came together, thus affording variety, but the line of succession was never broken however. Beurré Diel was still in use the other week, but it could not be expected to extend its season much longer.

Knight's Monarch is still in use and an excellent Pear, although neither large nor showy. Other well-known sorts still in use, and which like the last named may be considered Christmas Pears, are Beurré d'Aremberg, Glou Morçeau, Easter Beurré, and Josephine de Malines. The last named tree is usually a good bearer, but last summer it nearly failed, so that the stock of it is not so large as in previous years. Ne Plus Meuris is not yet ripe. Beurré Rance is the last to ripen with Mr. Hudson, and comes into season during January and February, finishing off well, although some growers have a difficulty in getting it to ripen. The first is of medium size and clean skinned, and to their moderate size Mr. Hudson attributes their perfect ripening in this country; large ones are more difficult to bring to proper maturity and have therefore to be stewed in order to utilise them. Althorp Crassane is another very late sort, but it has to be used for stewing, as it never becomes properly fit for dessert purposes. The old Catillac, or Pound Pear, is one of the best and most reliable for stewing purposes. There is a large quantity of it in the fruit room in perfectly sound condition, and all of good average size. The skin was never cleaner nor so free of spotting as it is this year. Samples of the same kind are fetching about 3d. apiece in the market at the present time.

The supply of Apples has also been excellent, and still in great plenty in the fruit room, although the varieties are not very numerous. There is still a large supply of Waltham Abbey Seedling, a yellow Apple at this season with occasionally a red cheek, and in exceptionally clean condition. The yellow flesh is tender, and sweet eating. The tree crops heavily. Court of Wick is a small but very pretty Apple with a red cheek and makes pleasantly acid eating. Highly coloured is Winter Queening, also a good keeper. Dumelow's Seedling, better known as Wellington, is in excellent condition, and quite free from spot or blemish. Other varieties still in quantity are Golden Reinette, Blenheim Orange, Alfriston, and Bess Pool. The latter is heavily suffused with red, but yellow on the shaded side, and may be described as a good and useful kind if not so liable to crack. On the other hand Alfriston is a well-known cooking Apple of great excellence, and always deserving of a place in collections.

All of the trees are grown as standards. At one time it was the custom to prune them closely in the orthodox fashion, and the results were anything but satisfactory, and the crops thin indeed. Mr. Hudson changed his practice, allowing the trees to grow freely with admirable results. Heavy crops of medium and even large sized fruits are obtained, which is sufficient proof of the efficaicy of the practice. The trees are allowed to grow freely, and the weak and useless as well as badly placed shoots are merely removed by way of thinning, but even this is done with great moderation. Golden Noble produces excellent samples of fruit under this kind of treatment, and amply justifies it.

NOTED CHRYSANTHEMUM GROWERS.

IN our last we gave the portrait of a distinguished amateur grower, Mr. W. H. Fowler, and to-day we have the pleasure of including in our pages the counterfeit presentments of two other noted cultivators of the favourite autumn flower, namely the Scottish champion of the year, Mr. Alexander Watt, gardener to J. Stewart, Esq., Black House, Skelmorlie, Ayrshire, and Mr. H. J. Jones of the Ryecroft Nursery, Lewisham, one of our most successful trade growers. Mr. Watt is a comparatively young cultivator of the Chrysanthemum, but has already made his mark in Scotland, and we hope the time is not far distant when the fates and the seasons will be propitious and so enable him to bring his flowers to the south and pit them against those of our champions.

Mr. Watt served his apprenticeship at Ormiston, near Edinburgh, and subsequently served as foreman at the Arboretum, Birmingham, the Viceregal Lodge, Dublin, and lastly with Mr. Hugh Crichton at Bellaire. He has been gardener at Black House some six years, and in 1891 came to the front as a grower of prize blooms at Edinburgh, when he won the Association Challenge Cup, besides two first, five second, and three third prizes, and followed up these successes by taking a cup, a gold medal, and four firsts at Stirling in the following week. Last November Mr. Watt again won the Edinburgh Association Challenge Cup and other good prizes, and shortly afterwards, at Paisley, cleared off all the first prizes, eight in number, and a silver medal, besides showing the best Japanese bloom, a very fine one of Lady T. Lawrence, and the best incurved, a grand Empress of India. This is a decidedly good record, on which Mr. Watt may be heartily congratulated.

Mr. H. J. Jones', whose portrait will be found on p. 273, has made a name for himself which has become a household word amongst "mumists." He has been in the trade for some years, first in business in Lewisham on his own account, then for a few years in partnership with Mr. Norman Davis, and now again conducting a business of his own at Lewisham. Mr. Jones' speciality is the introduction of new varieties, and many a good thing has passed into commerce through his hands. He grows a great collection, and grows them well, and it is his pride in business to keep stock of every new and old variety that is worth growing, indeed as regards the older sorts it is often remarked that "if Jones has not got it, it is not worth having," and this has almost become a proverb.

W. J. Gordon, the Cleveland Millionaire, who owned the Gordon Rose Houses at Glenville, O., died November 23rd. By his will Gordon Park, an extensive and beautiful pleasure ground, to which in the past the public has been admitted on stated days, is given to the city of Cleveland under certain conditions. Mr. John Thorpe is one of the executors of the will, and in all probability he will take charge of this park at the conclusion of his work in connec- with the World's Fair.—*American Florist.*

GARDENERS IN COUNCIL.

(*Continued from p. 262.*)

THE Violet evidently is a very humble flower, and as such is often killed by too much affected kindness. The placing of the Violet in some positions and boring it with a host of unnecessary attentions is like placing a humble countryman in a long-tailed coat and asking him to dine with the squire; both become digusted and their food naturally chokes them. Mr. Ebbut's opening remarks prove this. He says: "I have invariably found that the greatest number of flowers are produced by plants grown on poor soils; in richer soils foliage takes the place of flowers." No plant for either autumn or spring cutting so well repays the cultivator for his attention as the Violet, but these attentions should be largely guided by nature. Failure to produce an abundance of flower is more often the result of fads of the cultivator than the position. All that is necessary to my mind is plenty of growing room, plenty of air and sun to well ripen the crowns, and a plentiful supply of moisture during the summer droughts to prevent a check of their growing powers, and you may rely on an abundant supply of flowers for both autumn and winter.

Mr. Ebbut speaks of forcing the Violet, and at the same time tells us that it is most impatient of artificial warmth. This seems rather conflicting and of itself to answer a question I should like to ask, viz., is it necessary to force the Violet at all? I think not. All I think it requires to enable us to prolong its flowering season is protection, more especially from cold, frost, and heavy rains, and in doing this to ensure it at the same time an abundant supply of air, and your forcing apparatus, if you like so to call it, is complete.

TOMATO.

This seems to me to have been one of the best papers of the session, and my reason for saying so is because I find it deals entirely with Mr. Rowlands' own actual experience, and for a society like ours this is exactly what we require. We want to become more familar with the best modes of culture, whether of the Tomato or any other subject, as adopted successfully by our own members, independently of any outside theory, written in all probability more for the sake of adding a little to the writer's income than as a practical guide to others.

We ask only for hard facts and then to be allowed to deal with them as each may think fit. The Tomato has of late years become one of the most popular vegetables of the day, and should therefore, as such, be more extensively cultivated in England by those who supply our markets. It should be one of those things if properly handled that should help to alleviate the so-called depression in trade. Our English cultivators should remember that fashions exist and change equally as much with fruits, vegetables etc., as they do with silk hats and petticoats, and that it is by watching these changes that fortunes are made or lost. To make a fortune you must not be too conservative in your ideas; you must see at once when a thing has had its day and drop it as you would a hot Potato and take up quickly those tha are taking its place, before competition has had time to play havoc with the prices.

The Tomato has not yet soured the public taste and at the prices realized should pay its way. It has struck me that our English growers do not plant sufficiently early enough, and therefore get a superabundance of green fruit late in the season, which never can attain perfection, and therefore unless for making sauce, which I must admit is very good, become unrenumerative. This I am fully aware cannot, where the necessary protection is absent, be avoided, but surely it would pay the cultivator to provide this early spring protection for so valuable and certain a crop, rather than to spend all his energy in growing simply green meat, which in nine cases out of ten never gets further than the refuse heap.

I have had no means at my command to enable me to gain a practical knowledge of the cultivation of the Tomato, but it seems to me that success depends mainly on first selecting a free fruiting kind, then keeping your plants growing and healthy, and at the same time prevent their growing too luxuriantly and so prevent their setting their fruit, and to secure this any feeding they may get is better applied after the first fruit has appeared rather than it should have been placed in the soil previous to planting. Evidently it is more beneficial to the crop that the superabundance of growth should be checked in this way than by pruning, by which means you must necessarily cut off not only fruit producing wood, but much that is necessary to the full development of the fruit already produced.

MR. ALEXANDER WATT.

THE CHRYSANTHEMUM.

Culture by an amateur, as I understand it, is a culture of love; not merely monetary, from which point we poor selfish professionals regard the culture of everything more or less in all probability, oft times mixed with a certain amount of love, but generally otherwise, and here it is where I think the culture for exhibition—although it may excite the cultivator to endeavours he would otherwise scarcely dream of, and to perhaps splendid results not otherwise attainable—takes to a great extent the real love of the flower off his mind, and replaces it with a sort of morbid straining after in many cases the impossible. My idea of a good gardener is that he should be an amateur in any case—the professional part of the business is found to come in when exhibiting or very high culture is taken up.

Mr. Crabbe has not merely shown us by his paper what results are attainable by any one in a similar position to himself, but has of late given us ocular demonstration of doing it himself, and so proved by the best possible means that his paper was not merely the outcome of a fertile brain and based entirely upon theoretical knowledge.

It would be mere affectation on my part to pretend to criticise the means he uses to bring his plants to perfection, as they seem to me for the most part thoroughly practical, and quite in agreement with what I myself have been taught, and with what is generally carried out by most gardeners. I should however, just like to say one word on the system of drainage. Mr. Crabbe seems to pin his faith to zinc. May I be allowed to ask, are there any special properties in zinc itself which are detrimental to either worm or slug, that it should be of such value as a draining material? To my mind there is nothing like crocks of old or broken pots. If I may be allowed to judge from the scanty drainage I often see used by many of our present day gardeners, they do not give this matter half the consideration or think it near so essential as did the old day gardeners. This I consider one of the evils we have to contend with. Evidently they have more the saving of the waterpot at heart than the health of the plant. I feel thoroughly convinced that good drainage is most essential to all plants grown in pots, whether pot-bound or otherwise.

I am also fully persuaded that not half the care and attention is bestowed on watering as is necessary to the health of pot plants, and in this way lessons taught us by old-fashioned gardeners are at the present thrown away by our young men.

As a winter decorative plant, and one calculated to give an endless amount of pleasure, there is none more valuable than the Chrysanthemum; from it we get a diversity of colour, most colours in fact, excepting perhaps the true blue or the ofttime, despised scarlet. Like everything Japanese it is essentially artistic, both as regards habit and colouring, and to the lovers of the beautiful cannot at any time fail to awaken feelings of emotion. To all cultivators they must prove an endless pleasure, and therefore no garden can be perfect without them.

PLATYCERIUM ÆTHIOPICUM.

THE Elk's Horn is the grandest and noblest form of Platycerium under cultivation. Both the barren and the fertile fronds have a noble and telling appearance, but the latter are not very plentifully produced; they are produced in pairs, but frequently those which should be fertile fronds remain small and fruitless, we say small, because when they attain anything like proper size they are 2 ft. to 3 ft. long, pendulous, twice divided into three long forks, and hoary beneath with tomentum. The barren fronds are like great plates of vegetable tissue, rolled round at the sides as if to protect the surface against which they cling, and shallowly lobed at the top. The species is also known to cultivators under the name of P. Stemmaria. We noted it with Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton.

A PLAGUE OF MICE.

For some years past voles or field mice have been increasing at such a rate in the border counties of Scotland, that for some time they have been nothing short of a plague to the sheep farmers, owing to the destruction of the pasturage by them. They burrow along the surface of the ground and cut the roots and stems of the grass, so that where the grass consists of a thick foggage, as it usually does in old pastures, the whole surface may be pulled off like a mat of turf. The grass, as a matter of course, dies, and the pasturage is more or less completely ruined according to its nature.

Where gardens exist in the neighbourhood of such pastures, they must be subject to the inroads of the voles, which are always unwelcome visitors in gardens, inasmuch as they eat and destroy many kinds of vegetables. Our experience of them is that they eat the various members of the Cabbage tribe, also Peas, Beans, Turnips, Carrots, Parsnips, Potatos, and other subjects of that class. As a matter of course they always destroy more than they eat, and are therefore more mischievous as a rule in gardens than the ordinary house mice. When present in moderate numbers they can be baited and trapped much in the same way as the marauder of the cupboard. They are larger than their indoor cousin, with short tails and a reddish-brown back. The device of trapping with an elevated brick may also be resorted to.

Their overwhelming numbers in the pastures has rendered their wholesale destruction a matter of great difficulty. Many expedients have been tried by the farmers with very little success. Some time ago they appealed to the Board of Agriculture to help them in their difficulty, with hitherto little or no advantageous results. The committee of inquiry appointed by the Board of Agriculture discovered in the course of their investigations that Thessaly, in Greece, had suffered from a similar plague, and that the Greek Government enlisted the services of Professor Loeffler to advise them in their emergency. The professor advocated the destruction of the mice by communicating to them the germs of the disease known as mouse typhus, which is peculiar to that rodent, and does not affect other animals outside of the mouse family. Grains of corn mixed with the germs of the disease were strewed or placed about in the habitats of the mice, and in a short time the plague abated. The committee of inquiry were adverse to the carrying out of this plan in Scotland, for fear that the water supply would get tainted with the dead bodies of so many animals. Besides, they were somewhat doubtful whether the mice in Greece were really destroyed by the Professor's germs of mouse typhus or by heavy rains. It was finally resolved to send the chairman and the secretary of the committee to Greece to investigate the matter for themselves, and find out if possible the real cause of the destruction or disappearance of the mice. In the meantime the greatly harassed farmers have to get along as best they can till this slow method of procedure has dragged its weary length.

The sentiment and commiseration at present are all on the farmer's side, but it recalls to our mind the beautiful words of Burns, in his ode to a mouse, which he had turned up in a field with his plough; One of the verses runs as follows:—

"I'm truly sorry man's dominion
Has broken Nature's social union,
An' justifies that ill opinion
Which makes thee startle
At me, thy poor, earth-born companion
An' fellow mortal."

Burns lived for some time on the Borders, and the whole of his life in the south of Scotland. Had he been alive at the present day, it is a question what his version of the modern plague of mice might be. Another verse of the same poem, and which is often quoted, runs thus:—

"But, mousie, thou art no thy lane,
In proving foresight may be vain;
The best-laid schemes o' mice and men
Gang aft a-gley,
And lea'e us nought but grief and pain
For promised joy."

Cardiff Horticultural Society.—At the annual meeting of this Society, held last week, it was decided that the next show should be held on Tuesday and Wednesday, August 15th and 16th. The retiring chairman of the committee, Mr. Pettigrew, gardener Cardiff Castle, was accorded a vote of thanks engrossed on vellum.

GREEN FLY AND FROST.

Day after day witnesses the announcement of some new insecticide especially meant for the destruction of that troublesome aphis, the green fly. Will some one set about endeavouring to originate a green fly that is susceptible to frost? It is said that insects, one and all, are among the frailest of living creatures, and that this very frailness places them within the power of man; but I am troubled with a race that seems impervious to frost. If it be true that the tender body of the aphis is constantly affected by conditions unfavourable to its life, then frost scarcely appears to be one of them. On Christmas morning some common Auriculas in my cold house were frozen hard. There were some green fly on the under sides of the leaves which had escaped my notice as I went round the house a few days before, cleansing such plants from these insects as were in trouble through them; and though they seemed to have a dazed appearance in the morning, by midday, when the sun acting upon the atmosphere had raised the temperature, the green fly appeared to have recovered the temporary stupor and were as lively as ever.

I have noticed in previous winters that, let the frost be as severe as it will, the insects survive, though plants die. Are they frost-proof? I dare say the extreme cold makes them feel somewhat uncomfortable—I sincerely hope it does—but I very much doubt if it destroys them outright. Even our best endeavours to destroy, by washing, by fumigation, and by other means, appear of little value; for though the enemy appears to be effectually routed for a time, in a few days they are again present, so that its extinction seems impossible; and then there is its marvellous powers of reproduction. We are told there is no waste of energy in nature, and that everything has its proper work and service; and yet one wonders what possible service green fly can be to humanity. But that they terribly sour the temper and upset the philosophy of many good gardeners, nobody can doubt.

But some one may say what is the use of lamenting? Why don't you fumigate? Alas! I cannot with any advantage. I do not know who built the house in which I grow plants, but being in a very hot and sunny position—facing due south without the intervention of any friendly shelter—the builder apparently seeing the necessity for providing some roof ventilation, left an open space of 2 in. along the front of the house, where the lowest slope of the roof meets the uprights. Fumigation in such a house is a waste of time and material. The smoke rises and passes off to the open before the plants can get the benefit of it. This fact places the green fly at an advantage they appear to make the best use of, and so in carrying on a war of repression—I dare not say extermination — I have to fall back upon a less aggressive warfare. But it is a little unkind on the part of Mother Nature—who ought, I think, to have known better—not to have had more compassion on the gardener, and not made the green-fly frost proof. —*R.D.*

STREPTOGLOXINIA.

To Dr. Hanstein is due the honour of having shown the affinity between the members of Gesneraceæ proper and the members of the family Cyrtandraceæ now united with the former. M. Em. Rodigas, in *L'Illustration Horticole*, relates the experiments of an amateur, M. Maximilien Gheerbrant, of Douai, which goes far to justify the opinions of Dr. Hanstein and the authors of the *Genera Plantarum*. M. Gheerbrant, struck with the great analogy existing between the floral organs of Streptocarpus and those of Gloxinia, and desirous of obtaining other colours by means of seeds, has fertilised a white variety of the Kew hybrids of Streptocarpus with the pollen of a red variety of Gloxinia. That fertilisation has produced perfect seeds, some of which M. Gheerbrant was good enough to give to the writer above mentioned, who took care to have them sown immediately at the School of Horticulture at Ghent. Other seeds were sent to the establishment of Messrs. Thibaut & Keteleer, at Neuilly (Seine). The seeds have germinated, and the seedlings do not recall Streptocarpus, says M. Sallier, of the last-named establishment, but Gloxinia; whereas M. Gheerbrant had raised the seeds from Streptocarpus. The hybridisation has to all appearances taken effect, but the seedlings are yet too small to judge of their hybrid nature. M. Em. Rodigas, while waiting before pronouncing judgment upon them, adds that he had fecundated Streptocarpus Kewensis with the pollen of Isoloma hirsuta, and the latter inversely with the pollen of Streptocarpus Kewensis. He intends, however, to keep the reader posted up in the result of these experiments

CHRYSANTHEMUMS UNDER ARTIFICIAL LIGHT.

Artificial light of whatever nature has a very great influence over color; perhaps the arc electrical light exerts the least influence of any, but at best its influence is considerable and it is also objectionable. In a large display of flower color like that in a Chrysanthemum show, there is every reason why the exhibitor should arrange his colors with strictes deference to the illumination of the hall in the evening; unless he does so, he will be sure to find that under artificial light his flower groups have some surprises, and I will add, some disappointments in store for him. It is a fact that one often hears the remark "how *different* this looks under gas light." Well, i is quite possible that if no consideration is taken of the effects produced by artificial light, such a remark of sheer surprise must follow as a natural sequence. There are certain facts about colors which we must always bear in mind when gas light or electric light comes into consideration.

First, all artificial light in common use to-day throws more or less yellow on all surrounding colors. Theoretically, then, it would seem natural that a yellow object should appear yellower. That it is yellower is a fact, but that it *appears* yellower is not a fact; on the contrary, much of the yellow is gone, and why? Because we can have nothing perfectly white near by for comparative examination; we are dependent upon comparisons for most of our knowledge of things to-day. We know a very pretty girl is very pretty, because we have seen one that is less pretty, and we know a homely one is homely because we have seen a good looking one.

Yellow, then, under yellow light is less yellow because everything around it is more or less yellow. Produce for an instant white, say by magnesian light, and you will see where your yellow is. We must not forget, then, that our eyes have become so accustomed to yellow light every night that we have, as a consequence, lost all delicate appreciation of its color influence, and quite frequently we think it cuts some queer capers with colored objects.

Second, there is a glamour about artificial light not without its ardent admirers. There are many picture dealers who purposely exhibit the paintings of certain masters under artificial light only. It is possible to obtain concentration of light best by shutting out diffuse daylight and accenting the brilliancy of a coloured object by the aid of bright light and the contrast of a few dark corners. These are the only two matters of importance regarding colour under artificial light which claim our attention while studying Chrysanthemum colours. It does not concern us now what the true colours of the Chrysanthemums I mention really are; we want to know what they look like when the hall is lighted, and we will use colour names which will, so to speak, represent daylight colours. If we want to see what the rich red (not crimson; I hold red something very different from a crimson-red) of the Cullingfordii really is, now is our chance at night; put Cullingfordii right under the incandescent somewhere, and then see how gloriously he burns. The Miss Helyett, on the contrary, will not burn; she is pretty cold, yet she needs to be under strong light, but do not let her approach near the Cullingfordii. Her colour at night is deep maroon inside her petals and a cold dull pink of the maroonish order outside.

The fine needle petals of the Duchess of Albany are ruddy orange in colour, not clear and pure in tone, but hazy looking, a trifle uncertain withal; the delicate reflected deep brown-orange of the centre can not be called by any positive one-colour name. And Pedro Diaz, what a colour he has; there is deep red Spanish blood in his petals. I should call the colour a deep brown orange-red. The outside tips of the petals are of the same colour paler, inside they look actually crimson when examined closely, yet in effect the crimson colour savours more of maroon. Shenandoah is another kindred spirit, but not so intense in colour! Here again is a brownish orange on the inside lines, but the outside appearance is pale and yellowish, a colour not unlike the toned weak yellow on the Mrs. Frank Thomson's outer petals. Both these flowers guard and shield their inner colour tones very cleverly.—*American Florist.*

GARDENING MISCELLANY.

CHRYSANTHEMUM SALAD.

A JAPANESE horticulturist, M. S. Yoshida, recently communicated an article upon this subject to the *Moniteur d'Horticulture*, which we commend to the notice of Mr. Harman Payne. He states that in the preparation of Chrysanthemum salad they put vinegar into it, also a sort of liquid comparable to weak Madeira wine, and a sauce made with fermented Soja that is frequently replaced with salt. Sometimes this mixture is prepared several days before it is used, and when it retains its bitterness sugar is put into it. The heads or blooms of Chrysanthemums destined for consumption are gathered when fully expanded, cleansed in water successively renewed, and finally boiled in water. The salad is also often eaten in the raw state in the same sauce. On all occasions special varieties are reserved for this purpose. During the months of November and December the flowers washed and spread with care may be seen with the salad-purveyors of the Japanese towns. Small yellow flowers chiefly are used. The leaves are also stewed and used for culinary purposes. The flowers or the petals of the Moutan Pæony and Hemerocallis flava are utilised as culinary products after having been boiled in large quantities of water. The petals of the Pæony, according to M. S. Yoshida, are sweeter, more savoury, and more agreeable to the taste than the flowers of Chrysanthemums.

JAPANESE PLANTS AT THE WORLD'S FAIR.

A CORRESPONDENT of the *Florists' Exchange* states that on Dec. 1st a fine collection of plants was received at Chicago from the Botanic Gardens of the Imperial University, Tokio, Japan. This collection consists of many curiously trained plants, all bearing marks of the peculiar methods of plant-strangulation as practised by the Japanese. One Thuya obtusa, not more than 3 ft. in height, with a trunk 6 in. in diameter, is considered to be over 100 years old. Another, a specimen of Pinus parviflora, 2½ ft. high, is thought to be not less than seventy-five years old. Then there are fine specimens of Pittosporum Tobiri, Dendropanax Japonicum, Aspidistra lurida, Fatsia Japonica, Aucuba Japonica, Pieris Japonica, Osmanthus aquifolium, Trachelospermum Laurei, Ophiopogon Jaburan, Nandina domestica, Ternstrœmia Japonica, Sterculia platanifolia, Daphniphyllum macropodum, Daphniphyllum glaucescens, Quercus cuspidata, Sciadopitys verticillata, Larix leptolepis, Trachycarpus Fortunei, Rhapis flabelliformis and humilis, Metroxylon Rumphii, Arundinaria Japonica, Bambusa aurea and gracillima, and many other interesting plants, among which is what the Japs call Asplenium nidus, but which is distinct from those sent from Australia, being very much shorter in foliage and hardier.

DOUBLE CHINESE PRIMULAS.

I WAS glad to see the remarks of "A. D." in your issue of December 17 (p. 243) in favour of the finer varieties of Double Chinese Primulas. I am sure if they were better known they would be more largely grown than at present, as I don't think they are more difficult to propagate and grow than the old White, if the business is gone about in an intelligent way. The old Double White, he says, is not for a moment in it compared with such varieties as White Lady and Marchioness of Exter, which is quite true in my estimation; but everyone does not think so, as the judges at the last Edinburgh Chrysanthemum Show placed semi-double ones first, before such varieties as White Lady, Marchioness of Exeter, A. F. Baron, &c. Such judgment knocks my idea of a florists' flower completely on the head. Of course the semi-double ones had more foliage than the doubles, and there may be something in that which an ordinary mind cannot understand. I for one, however, would rather remain in ignorance than have such knowledge. It would be difficult to overestimate the value of a really good double, either as a house plant where flowering plants are in demand, or as cut flowers; they will last longer in good condition than most flowers that we can get at the present time, and by a little judicious feeding will continue flowering for a very long time. I am sure as they get better known they will be more largely cultivated, as I think they very well merit a place in any greenhouse.—*Redacre, Edinburgh.*

ANEMIA COLLINA.

YOUNG plants of this are very distinct from the commoner kinds we see in cultivation. Many, in fact most, of the young fronds are barren so that they have a leafy appearance quite concealing the surface of the pot. They are pinnate with oblong, falcate, obtuse pinnæ, auricled on the upper side and finely crenulate. The fertile branches are short, in pairs as usual, from the base of the lamina of the frond. A quantity of plants about 6 in. high may be seen in the nursery of Mr. H. B. May, Upper Edmonton. The species is considered rare in cultivation, but judging from the quantity of plants and their general vigour, it is not difficult to cultivate, and it has a more leafy and decorative appearance than the relatively plentiful A. Phyllitidis.

CELOSIA CARDINALIS.

THERE are about thirty-five species of Celosia, natives of Asia, Africa, and Tropical America. C. cardinalis is a new species from Central China, and has recently been distributed amongst the horticultural establishments of Europe by Messrs. Damman & Co., of Naples. The plant is of pyramidal habit, and grows to the height of a yard or more, and is therefore suitable for taking part in the formation of tall groups. The leaves are of a beautiful red, giving a bronzy reflection when the sun shines upon them. The stems and branches terminate in pyramidical panicles of brilliant reddish crimson flowers. A woodcut of the plant is given in the *Bulletin d'Arboriculture, &c.*, for December.

ASPLENIUM OBTUSILOBUM.

IN this we have a most interesting curiosity as well as a pretty stove fern that might be less rare in gardens than it is. The esteem in which it is held by some may be judged by the fact that it has a synonym in A. elegantulum, which would mean apparently the little, elegant Asplenium. The fronds are usually about 3 in. long and bipinnate with wedge shaped pinnules; they are lanceolate in outline, arching, and if their peculiarities ended here, the species might be compared to, although not exactly matched by, our native A. germanicum. Many of the fronds, however, merely form a greatly elongated midrib which may be compared to a runner inasmuch as plantlets here and there on them form little rosettes of leaves. Sometimes the base of the frond resolves itself into a few pinnæ at the base while the apex assumes the form of a runner. Owing to its dwarf habit it can be accommodated in very small space either as a pot plant or in a Wardian case. It is grown by Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, both in small pots, (often in fact no bigger than thumbs) as well as in miniature baskets which show off the runners to advantage. It is a native of the New Hebrides, requires stove treatment, and is also known under the name of Darea obtusiloba.

STRAWBERRIES ALL THE YEAR ROUND.

ACCORDING to M. Emle Rodigas in the *Bulletin d'Arboriculture* a supply of Strawberries can be kept up all the year round. In winter the Strawberries are forced, and in summer early and late varieties are grown, and some are retarded towards the end of summer. He indicates the rather complicated method of procedure pursued with considerable success in summer by M. Durand, the head gardener at Tautonville. The variety the latter employes is Belle d'Argenteuil. He trenches the ground deeply and gives it a good manuring. About the beginning of April the Strawberries are planted in four lines in beds about 16 in. apart each way. The beds are separated by alleys. This accomplished, the beds are mulched with manure three parts decomposed; abundant watering is given according to need, and the stolons are suppressed successively as they appear. M. Durand cultivates six beds, two of which he allows to flower freely in May, pinching off all the flowers from the other four. On the 15th of June he pinches off the flowers of the fifth and sixth beds, allowing the plants of the third and fourth beds to flower. The crop of the first two he obtains in May and June, the second crop in July and August, and the third in September and October. The secret of the successive fructification therefore consists in the suppression of the flowers of second and even a third flowering.

YELLOW-BERRIED HOLLY.

THE Hollies in the grounds of Gunnersbury House, Acton, are one of the finest features of the place at this season of the year, for they together with the Evergreen shrubs and some Conifers serve to give the garden a pleasing appearance. In spite of the open weather which prevailed lately the blackbirds were punishing the berries of the red-berried varieties severely. Besides the common red-berried form there are or have been in cultivation at one time or other, a yellow, white, and a black-berried variety. Some of the variegated sorts have also yellow or white berries; but there is a yellow fruited variety of the type, namely, Ilex Aquifolium fructu luteo, in the grounds of Gunnersbury House and close to the mansion. The tree stands about 35 ft. high, and somewhat cylindrical or columnar in outline. Being near the gravel pathway as well as the house there is no room to allow of the tree assuming its natural and somewhat pyramidal habit of growth.

SPILLING THE BUTTER-BOAT.

PROF. MICHAEL FOSTER is responsible for the following amusing anecdote:—It was at a meeting of the British Association, of which he was then an officer, in a provincial city, that he happened to sit next to the mayor, one of the well-known type who have risen by dint of their own energy and shrewdness, though it appeared that this gathering was his first introduction to science. There were certain formalities to be gone through. The retiring president gave way to the president-elect, and in doing so explained what a wonderful man the president-elect was; how astonishing it was that he should not have been chosen before him. Then the president-elect got up and said what an admirable person his predecessor was; that he was just worthy to loosen his shoe-latchet, and nothing more. Then there were some other officers to be elected, and there was the same strophe and antistrophe as before. "I saw," says Professor Foster, "the mayor was getting very fidgetty; he pulled his waistcoat and screwed up his mouth, and then turned to me and said: 'Well, you men of science do know how to spill the butter-boat.'"

APPLE ELIZA RATHKE.

THE variety above named has been put into commerce by M. Rathke, a nurseryman of Danztig, and a beautifully coloured illustration of it is given in the *Bulletin d'Arboriculture, &c.*, for December. Judging from the illustration and the account given of it, the tree must be highly ornamental, more especially when laden with its fruit. In the younger stages, the branches have a spreading habit, like the horizontal Elm and the weeping Bigarreau; but as it advances in age, the branches, aided by the weight of the fruit, assume a decidedly pendent habit. M. Fred. Burvenick, sen., is strongly of the belief that the Apple Eliza Rathke must have come from seeds of Brabant Bellefleur, the tree of which is distinguished above all others by its spreading branches. The fruit is of medium size, conical, with pale lines on a green ground, and striped with crimson on a red ground, recalling very much the little Bellefleur. The greenish white flesh is said to be good and of light consistency, but not very refined to the taste. The tree, however, is highly ornamental, very prolific, and well suited for cultivation in the form of horizontal cordons, espaliers, and other trained shapes, as well as in the form of a weeping pyramid. The fruits keep till December or January, some say longer.

PRUNING THE GOOSEBERRY.

THERE are differences of opinion as to the best time to prune the Gooseberry. Some prune as soon as frosty weather sets in after Christmas; some defer the work until much later, and among those who do so are they who adopt the practice of gathering the branches of their Gooseberry tree together in the form of a bundle and tying them together, passing some stout cord about them, the reason assigned for this being that the birds are unable to reach the buds in the centre of the trees, and can take those only which are outside. This is no doubt a sensible plan in localities where the birds are troublesome. The bushes are not untied until the leaves begin to appear, and when the danger of injury from the birds has to some extent passed away. There is this

disadvantage about proceeding in this way, that it throws the work on to a season which is always a busy one in the garden, and to that many object.

Those who prune early adopt the practice of making a kind of paint which they lay upon the branches of the trees. They take lime and soot, double the quantity of the latter to the former, mix them together with water, and then add sufficient clay to make a fairly thick paint, and with this they paint over the branches of their Gooseberry trees, doing this two or three times at least, and the birds rarely attack the trees so painted. There is probably a bitterness about the taste of buds so treated which is objectionable to the bullfinches. Some who do not dress their trees in this way or take any precautions to guard against the destruction of buds by birds simply defer pruning until March, trusting to good fortune to give them a crop of Gooseberries.

Many Gooseberry trees are left far too much crowded with wood, and especially is this true of cottage and farmhouse gardens. It is a great mistake to have the trees too much crowded, as the fruit is generally small upon neglected trees, and when they are crowded with branches it is very difficult to gather the berries. The London market gardeners prune somewhat severely, as if cognisant of the value of light and air circulating among the branches. They thin out the old wood, and of the young growths they leave the leading ones that will be fruitful, shortening back all side growths to one or two eyes.

We are to a large extent wedded to the type of bush tree; but the trellis method of growing Gooseberries is one so highly spoken of by those who adopt it that one wonders it is not more generally followed. I was on one occasion in a garden near Nottingham, where all the Gooseberries were grown in this way, and being there just as the fruit was ripening, I was struck with the remarkable crops of fine fruit. All parts of the trees were in full bearing, and no part appeared to be hidden from the effects of sunshine and air, and the gardener said that for some reason the trellis trees were not nearly so much robbed of their buds by birds as the bush trees next the walks. The branches were trained horizontally and the line of trellis presented a remarkable sight to view while the trees were laden with fruit.—*R. D.*

THE VEGETABLE GARDEN.

Early Vegetables.

THE new year is now close upon us, and during the next month a good few vegetables must be sown in heat for the early supply. A few Cucumber seeds can be sown at once in some light soil, one seed in the centre of thumb-pots. Allow the seeds to just start into growth, and then care must be taken to keep the young plants near the glass, or they will become drawn. One or two of the earliest varieties of Lettuce should be sown thinly in pans or boxes, and placed near the glass in a newly-started vinery or Peach house. A sowing of one of the early forcing Cauliflowers should also be made as advised for Lettuce. These may be potted, when large enough, in small pots, and then potted on into 48's or 32's, and put out of these into the open ground at the end of March, or early in April. Some hotbeds should be built up with a good proportion of leaves, oak leaves if possible, for the early Potatos, Carrots, and Radishes. The seed Potatos for early frames may be placed in boxes in the early vinery in a little leaf-soil; they will then be ready for planting when the hotbeds are fit to receive them.—*G. H. S.*

ORCHID NOTES AND GLEANINGS.

Cypripedium Cardinale.

THE contrast between the dark lip and the rest of the flower makes this hybrid a favourite with growers. Its parentage is rather complicated from the fact that it was raised from C. Sedenii, itself a hybrid, crossed with C. Shlimii albiflorum. The dark colour of the lip is the more surprising considering that the white variety was used as the pollen parent. The parentage of C. Sedenii is also somewhat complicated, inasmuch as the reciprocal cross between two species was made. In like manner we find variations in C. cardinale, and although none of them are really bad flowers, yet some of them are so good as to make the others appear bad by comparison. We noted a very fine one in the nursery of Messrs. Hugh Low & Co., Clapton. The upper sepal was white or faintly tinted with blush. The petals had a rosy edge and similarly coloured hairs at the base. The lip was of an intense rosy-carmine and somewhat paler inside of the pouch, and its high-class quality could be best seen by comparison with another variety alongside of it.

Cypripedium Chamberlainianum.

THERE are good and bad varieties of this recently introduced species, and although some of them are rather dull in colour, they are all interesting from their peculiar quaintness, and are certainly distinct from those of any other species in cultivation. There are some beautiful varieties in the large collection of Messrs. H. Low & Co., Clapton, where the importations of it are extensive. The upper lip of the finer ones has a two-lobed black blotch, with three to four black lines radiating from each. The horizontal, twisted petals are conspicuously ciliated on the margins, greenish yellow and spotted with crimson. The lip is bright purple from the number of spots on it, and pale yellow round the mouth of the pouch. The darker varieties are considered the best of this species.

Lælia anceps Morada.

THIS fine variety has been named after the locality from whence it was obtained, and has large, richly-coloured flowers. The sepals and petals are bright purple. The lip is of an intense purple especially the terminal lobe, with a bright yellow ridge along the centre. The segments, but more especially the sepals and petals, are unusually long, although neither are remarkable for breadth. A large piece of it was flowering recently in the establishment of Messrs. H. Low & Co., Clapton.

Cattleya labiata alba.

IN reference to the paragraph on p. 264 of our last issue we now learn from M. Lucien Linden, Brussels, that there already exist several plants of this beautiful white Cattleya under the name of C. Warocqueana alba. We are informed that the first white variety flowered with M. Warocqué, at Mariemont, in January, 1891, as recorded in the *Journal des Orchidees* for March 1st of that year. It was pure white without any admixture of rose, and was the admiration of all amateurs who saw it. In the same journal for the 1st of March, 1892, we learn that two specimens of the white Cattleya flowered in England in the course of 1891—one of them with J. Connell, Esq, of Bushy Down, Tooting, and the other with C. Ingram, Esq. (gardener, Mr. Bond), of Godalming. The first plant was bought directly from L'Horticulture Internationale, Brussels, and the second was bought at a sale from the same establishment at Stevens' Rooms, Covent Garden. The last-named piece was obtained by the division of a piece which flowered in 1891 in the noted establishment at Brussels.

Dendrobium Treacherianum.

THE flowers of this species are very different from those of any we have seen in cultivation, and are borne in racemes. The sepals are lanceolate, long-pointed, the petals linear, and all are pale rose with a slightly darker mid-rib. The lip is three-lobed, the side lobes and the basal portion being of an intense crimson; the terminal lobe is relatively large, flat, ovate, acutely pointed, and rose, with a deeper band in the centre. It received a Botanical Certificate at the last meeting of the Orchid Committee when shown by W. E. Brymer, Esq. (gardener, Mr. J. Powell), Puddletown, Dorchester.

Pleurothallis punctulata.

THE leaves of this curious and interestiug species are oblong-lanceolate, leathery, and of a deep green, but hoary and powdery on the under-surface. While still quite young, the upper surface is also covered with this hoary powder, which disappears as the leaves get old. The stems are very slender, about 6 in. long, and bear a solitary leaf each. The dorsal sepal is oblong, straw-yellow, and punctated with crimson; the lower sepals are much broader and oval, but similarly coloured. The petals are linear, very small, and heavily spotted with crimson. The lip is concave, three-lobed, the side lobes being very small, and the whole is of a deep crimson, or almost black. A Botanical Certificate was awarded it when shown at the last meeting of the Orchid Committee, by R. J. Measures, Esq. (gardener, Mr. H. Simpkins), Camberwell.

WHAT TO DO IN THE GARDEN.

Eupatoriums.—Even when kept under moderately cool conditions, the flowers of E. riparium will now be fit to supply the place of E. odoratum, now mostly out of season. E. Weinmannianum will not flower for some time, but should be kept close to the glass to prevent it becoming drawn. Both species are thirsty plants, and require large supplies of water to keep their foliage in a healthy condition. They would also be benefited by weak liquid mannre till the flowers expand.

Nerines.—Late potted bulbs of this genus, and which are now pushing up their flower spikes, should be kept as near the glass as possible, and not hurried on too rapidly by hard forcing, otherwise the flowers will be small and of short duration.

Gladioli.—If a batch is potted now, the plants can be brought into bloom very early compared with those in the open ground. Single corms when of large size should be potted singly in 48-size pots, and placed on the shelves of a greenhouse or other structure in which forcing is not being carried on. The beautiful varieties of G. Colvillei may be potted at the same time, putting three corms in the pot, or five in a 32-size pot.

Auriculas.—The weather having been so mild hitherto, all that requires to be done is to keep the frames well ventilated, so as to render the plants as sturdy as possible. Remove decayed leaves from the crown at frequent intervals. Should the weather continue as open as it has been, the plants will soon commence growing if they have not done so already. This is undesirable at this early period, so that on all favourable occasions the sashes may be removed during the day.

Pansies and Violas.—Whether the stock is grown in pots or planted out in the frames, they will be more or less liable to attacks from slugs. In the case of valuable and rare sorts it will be worth while to go round at nights with a lantern and look for the depredators. A large slug will do a considerable amount of mischief in a single night, by merely cutting through the slender young shoots.

Chrysanthemums.—Embrace the first opportunity of getting some soil under cover, so that it may be dry for the potting of the early struck cuttings. Other materials should also be got together and the whole thoroughly mixed, provided it is in a sufficiently dry condition, otherwise it should be allowed to lie in a dry place till it becomes more workable. The present is an opportune time to give some attention to the planting of Chrysanthemums in the open air. Those who have taken the trouble to plant some for that purpose will be gratified at the success of the experiment. The past three months, however, have been exceptionally mild. Still by making a judicious selection of old stools of certain suitable varieties, a large quantity of useful flowers for cutting may be obtained next year. If any spare wall space can be afforded them, their success will be rendered more certain.

Vines.—Grapes that are intended to be kept till April or May should be cut from the Vines early in January. Previous to this the Grape room should receive a thorough overhauling to make it thoroughly clean and free from dust. The heating apparatus should also be set to work to clear away any dampness that may be in the atmosphere. Then fill the bottles with soft rain water, putting a few small pieces of charcoal in it. When the Grapes are cut, prune the Vines and keep the latter perfectly at rest for the next two or three months, by ventilating freely and keeping the temperature low.

Raspberries.—The plantations of this fruit should have been made in October or November, but it may still be done where necessary. Plantations should be made on well trenched and highly manured ground. Old plantations should also be put in order by cutting away the old stems where they still remain, thinning out the weak and useless canes and tying the rest up. Some prefer to shorten the canes at once, but other gardeners think that when cut at this season of the year they are liable to be injured by frost. Give the ground a good mulching of well decayed manure or decayed vegetable mould.

Red and Black Currants.—Both Red and White Currants should be spur pruned, cutting back all the young growths to within half an inch of the base, with exception of the terminal shoots

which should be shortened. The Black Currants should be thinned out, giving preference to young branches when they can be made to take the place of old ones. The strong shoots may also be shortened on young bushes.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "THE EDITOR" or "THE PUBLISHER," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa, London."*

ROSES IN POOR SOIL.—*Amateur*: You cannot do better than make beds for the Roses in your poor sandy soil in the way you propose, getting as stiff a loam as you can. There will be no necessity to use slates in order to prevent the roots from getting out of bounds; they will not go far from the good soil. It is poverty that drives them afield now. Heavy mulching with manure in such soils is a *sine qua non* if good Roses are wanted.

ERRATUM.—In our report of the last meeting of the Royal Horticultural Society (p. 247), owing to the absence of a card bearing the exhibitor's name, we were led into error in saying that a Bronze Medal was awarded to Phillip Crowley, Esq., for some huge pieces of Cypripedium insigne and Zygopetalum Mackayi. The Bronze Medal was really awarded to S. G. Lutwyche, Esq. (gardener Mr. J. May), Oakfield, Eden Park, Beckenham.

COCKCHAFERS IN NURSERY GROUND.—*A. Chapman*: So long as the ground is occupied by young trees, it is very difficult to deal with the enemy. Whenever a piece of ground gets cleared, you could give it a good sprinkling of gas lime and allow the ground to lie vacant for six or eight weeks before putting anything into it. A very good plan, however, would be to dig it over once or twice so as to turn up the grubs, at the same time encouraging poultry, starlings, tame gulls, or other birds of that kind to follow the spade so as to pick up the grubs. A boy might even accompany two or more men digging so as to collect the grubs into a basket, and afterwards destroy them.

HELLEBORE POWDER.—*J. Warder*: The Hellebore Powder so called is not obtained from the Christmas Rose (Helleborus), but from several species of Chrysanthemum, of which C. roseum, better known as Pyrethrum roseum, is the most important. In some parts of California it is largely known for the purpose of making the insect powder grown under the above name. In gardens it is well known as single and double Pyrethrums, which flower in May, June, and July in different parts of the country.

NAMES OF PLANTS.—*A. S.*; 1, Sericographis Ghiesbreightii; 2, Libonia floribunda; 3, Rivina flava; 4, Eriostemon buxifolius; 5, Epacris Eclipse. —*R. J.*: 1, Jasminum nudiflorum; 2, Petasites fragrans: 3, Arabis procurrens; 3, Erica herbacea.—*F. G.*: 1, Cytisus racemosus, frequently called Genista racemosa or G. fragrans; 2, Cytisus canariensis; 3, Selaginella Martensi robusta; 4, Pteris longifolia; 5, Pteris hastata macrophylla; 6, Adiantum formosum; 7, Polypodium Billardieri.—*R. B.*: 1, Abies brachyphylla; 2, Abies nobilis; 3, Pseudotsuga Douglasii; 4, Picea orientalis.

COMMUNICATIONS RECEIVED.—G. D. C.—L. L.—J. B.—J. W.—A. F. B.—D. C.—J. C.—W. S.—Lotus.—E. S. D.

TRADE CATALOGUES RECEIVED.

DICKSON, BROWN & TAIT, 43, 45, Corporation Street, Manchester.—Vegetable and Flower Seeds, and Garden Requisites.

HURST & SON, 152, Houndsditch, London.—Trade Catalogue of Vegetable, Flower and Farm Seeds.

CHARLES SHARPE & Co., Sleaford, Lincolnshire.—Garden and Farm Seeds.

H. CANNELL & SONS, Swanley, Kent.—Descriptive List of Chrysanthemums.

J. CHEAL & SONS, Lowfield Nurseries, Crawley, Sussex.—Seed List for 1893.

JOHN LAING & SONS, Forest Hill, S.E.—Flower and Vegetable Seeds, Begonias, etc.

DOBBIE & Co., Rothesay, N.B.—Catalogue of Seeds and Competitors Guide.

THOMAS METHVEN & SONS, 15, Princes Street, Edinburgh.—Garden Seeds, Implements, &c.

KELWAY & SON, Langport, Somerset.—Manual of Horticulture and Agriculture for 1893.

COVENT GARDEN MARKET.

December 28th.

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
ArticbokesGlobe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, French, perlb.	1 0		Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per buncb	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per buncb	0 6	
Carrots ... per buncb	1 0		Radishes... per dozen	1 6	
Cauliflowers, Eng.dz.	3 0	5 0	Seakale .....per bkt	3 6	
Celery.....per bundle	2 6		Smallsalading,punnet	0 4	
Cucumbers .....eacb	0 3	0 6	Spinacb ... per strike	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 9	1 0
Herbs .....per buncb	0 2	0 6	Turnips ..... per bun.	0 6	
Horse Radisb, bundle	2 0	4 0			

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d	s. d.		s. d.	s. d.
Grapes..... per lb.	0 6	2 0	Pine apples.		
Kent Cobs...100 lb.	120 0	150 0	—St. Michael's, eacb	2 6	6 0
Peaches ... per dozen			Apples...per ½ sieve	1 0	3 6
Melons ... . each			Plums...per ½ sieve		

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d
Azaleas ... per doz.	42 0	60 0	Chrysanthemum, doz.	4 0	9 0
Cyclamen per doz....	9 0	24 0	Foliage Plants, doz.	12 0	60 0
Cyperus .....per doz.	4 0	12 0	— large. doz.....	12 0	30 0
Dracæna term., doz.	24 0	36 0	Marguerites, perdoz.	6 0	12 0
Dracæna viridis,doz.	9 0	18 0	Palms in variety,eacb	2 6	10 0
Erica Hyemalis, doz.	12 0	18 0	Palms, Specimen ...	15 0	63 0
,, Gracilis, doz...	9 0	12 0	Poinsettia ..per doz.	10 0	15 0
Evergreens,invar.doz	6 0	24 0	Primula Sinensis per doz.	4 0	6 0
Ferns, invar.,per doz.	4 0	18 0	Solanums.....per doz.	9 0	12 0
Ferns, small, per 100	6 0	10 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s d		s. d.	s. d
Azalea doz sprays.....	0 9	1 6	Marguerites, 12 bun.	4 0	6 6
Arum Lilies, 12 blms.	4 0	8 0	Mimosa (French)p.bh.	1 0	1 6
Bouvardias, per bun.	0 6	1 0	Mignonette... 12 bun.	0 9	1 0
Carnations, 12 blooms	1 0	3 0	Pelargoniums, 12 sps.	0 9	1 0
Chrysanthemum,dz bn	6 0	15 0	—scarlet.....12 bchs.	6 0	8 0
— .....doz. blooms	1 0	6 0	Primula, double, bun.	0 6	1 0
Camellias doz blooms	1 0	4 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Cyclamen doz bloomso	6	0 9	Roses, yellow, dozen	3 0	6 0
Eucharis ...per doz.	5 0	6 0	— French, per bnch	1 6	4 0
Gardenias 12 blooms	6 0	10 0	— French, 100 blms	6 0	12 0
Heliotropes, 12 sprays	0 6	0 9	— Red..... doz. blms.	1 0	2 0
Hyacinths Roman doz. sprays	0 6	1 0	— Saffrano...per doz.	2 0	3 0
Lilac, Wbite, French, per bunch...	5 0	6 0	— Tea ..... per dozen	1 0	3 0
Lilium Harrisii, doz. blooms	6 0	9 0	Tuberoses, per doz	0 6	1 0
Liliums var., dz.blms.	2 0	4 0	Violets,Parma,French per bunch ..	6 6	7 0
Lily of the Valley dz.sps.	3 0	9 0	—Czar, French, bun.	2 0	4 0
Maidenhair Fern, 12bs.	4 0	6 0	—Small ,, doz. bun.	1 6	2 6

Holly and Mistletoe, very good.

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FLOWER SHOWS, 1893.

[The Editor will be greatly obliged if Secretaries of societies will communicate to him the dates of their exhibitions as soon as fixed.]

JANUARY.

17.—Royal Horticultural Society, Drill Hall.

FEBRUARY.

14.—R.H.S., Drill Hall.

MARCH.

14.—Flower Show in Manchester Town Hall.
14,28.—R.H.S., Drill Hall.
22.—Royal Botanic Society.

APRIL.

5,6.—Royal Caledonian Horticultural Society.
11,25.—R.H.S., Drill Hall.
25.—Flower Show in Manchester Town Hall.
26.—Royal Botanic Society.
26,27.—Ancient Society of York Florists.

MAY.

9.—R.H.S., Drill Hall.
17.—Royal Botanic Society.
19.—Orchid Show at Old Trafford.
25,26.—R.H.S., Temple Show.

JUNE.

6,20.—R.H.S., Drill Hall.
14,15,16.—York Floral Fete.
20.—National Rose Show at the Drill Hall.
21.—Royal Botanic Society.

JULY.

1.—National Rose Show at the Crystal Palace.
5.—Royal Botanic Society.
11.—R.H.S., Chiswick.
12,13.—Royal Caledonian Horticultural Society.
13.—National Rose Show at Worksop.
22.—Rose Show at Old Trafford.
25.—R.H.S., Drill Hall.

AUGUST.

8.—R.H.S., Drill Hall.
18.—Devon and Exeter Horticultural Society.
29,30,31.—R.H.S., Agricultural Hall.

SEPTEMBER.

6,7,8.—National Chrysanthemum Society at the Aquarium.
12,26.—R.H.S., Drill Hall.
13,14.—Royal Caledonian Horticultural.

OCTOBER.

10,24.—R.H.S., Drill Hall.
11,12,13.—National Chrysanthemum Society at the Aquarium.

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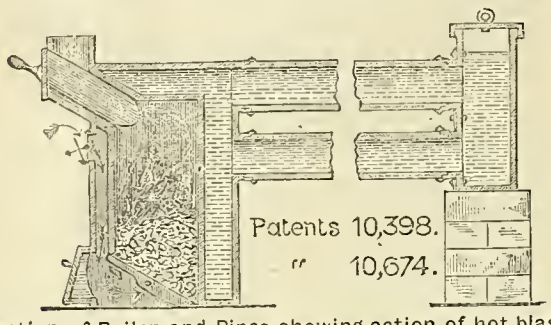

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THE GARDENING WORLD

ALMANACK FOR 1893.

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And so on at the rate of ½*d.* for every additional 2 ozs. No letter to be above 18 in. in length, 9 in. in width, and 6 in. in depth.

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For a packet weighing more than 4 oz. but not more than 6 oz. ... 1½*d.*
For a packet weighing more than 6 oz. but not more than 8 oz. ... 2*d.*
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No packet of Newspapers to be above 14 lbs. in weight, 2 ft. in length, 1 ft. in width, and 1 ft. in depth.

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For each additional 1 lb. up to 11 lbs. ... ... 1½*d.*
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The dimensions allowed for an Inland Postal Parcel are:—
Greatest length ... ... 3 ft. 6 ins.
Greatest length and girth combined ... 6 ft.

MOON'S CHANGES.

JANUARY.
Full M. 2nd, 1.41 p.m.
Last Q., 9th, 10.28 p.m.
New M., 18th, 1.28 a.m.
First Q., 25th, 6.27 a.m.

FEBRUARY.
Full M., 1st, 2.11 a.m.
Last Q., 8th, 8.12 p.m.
New M., 16th, 4.17 p.m.
First Q., 23rd, 2.14 p.m.

MARCH.
Full M. 2nd, 4.3 p.m.
Last Q., 10th, 5.14 p.m.
New M., 18th, 4.34 a.m.
First Q., 24th, 9.34 p.m.

APRIL.
Full M., 1st, 7.18 a.m.
Last Q., 9th, 11.35 a.m.
New M., 16th, 2.35 p.m.
First Q., 23rd, 5.26 a.m.
Full M., 30th, 11.23 p.m.

MAY.
Last Q., 9th, 2.24 a.m.
New M., 19th, 10.47 p.m.
First Q., 22nd, 2.52 p.m.
Full M., 30th, 3.23 p.m.

JUNE.
Last Q., 7th, 1.43 p.m.
New M., 14th, 5.51 a.m.
First Q., 21st, 2.37 a.m.
Full M., 29th, 6.25 a.m.

FLOWER SHOWS, &c.

JANUARY.
17, R.H.S. Drill Hall.

FEBRUARY.
14, R.H.S. Drill Hall

MARCH.
14, Manchester Town Hall.—14, 28, R.H.S. Drill Hall.—22, Royal Botanic.

APRIL.
5, 6, Royal Caledonian Horticultural. — 11, 25, R.H.S. Drill Hall.—25, Manchester Town Hall. —26, Royal Botanic.—26, 27, York Florists.

MAY.
9, R.H.S. Drill Hall.—17, Royal Botanic.—19 Orchid Show at Old Trafford.—25, 26, R.H.S. Temple Show.

JUNE.
6, 20, R.H.S. Drill Hall. —14, 15, 16, York Floral Fete.—20, N. Rose Show at Drill Hall.—21, Royal Botanic.

JULY.
1, N. Rose Show at Crystal Palace.—5, Royal Botanic. — 11, R.H.S. Chiswick.—12, 13, Royal Caledonian Horticultural.—13, N. Rose Show at Worksop.—22, Rose Show at Old Trafford.—25, R.H.S. Drill Hall.

JANUARY.						
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OCTOBER.						
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24	25	26	27	28	29	30
31	..	..	..	..	..	..

MOON'S CHANGES.

JULY.
Last Q., 6th, 10.5 p.m.
New M., 13th 0.47 p.m.
First Q., 20th, 5.3 p.m.
Full M., 28th, 8.10 p.m.

AUGUST.
Last Q., 5th, 4.23 a.m.
New M., 11th, 8.48 p.m.
First Q., 19th, 5.52 a.m.
Full M., 27th, 8.43 a.m.

SEPTEMBER.
Last Q., 3rd, 9.42 a.m.
New M., 10th, 7.5 a.m.
First Q., 18th, 4.19 a.m.
Full M., 25th, 8.23 p.m.

OCTOBER.
Last Q., 2nd, 3.19 p.m.
New M., 9th, 8.27 p.m.
First Q., 17th, 11.20 p.m.
Full M., 25th, 7.28 a.m.
Last Q., 31st, 10.42 p.m.

NOVEMBER.
New M., 8th, 0.57 p.m.
First Q., 16th, 5.45 p.m.
Full M., 23rd, 6.8 p.m.
Last Q., 30th, 9.8 a.m.

DECEMBER.
New M., 8th, 7.40 a.m.
First Q., 16th, 10.21 a.m.
Full M., 23rd, 4.37 a.m.
Last Q., 29th, 11.18 p.m.

FLOWER SHOWS, &c.

AUGUST.
8, R.H.S. Drill Hall.—29, 30, 31, and Sept. 1, R.H.S. Agricultural Hall.

SEPTEMBER.
6, 7, 8, N.C.S. Show at Aquarium. — 12, 26, R.H.S. Drill Hall.—13, 14, Royal Caledonian Horticultural.

OCTOBER.
10, 24, R.H.S. Drill Hall. —11, 12, 13, N.C.S. Show at Aquarium.

NOVEMBER.
1, 2, Kent County Chrysanthemum Show.—7, 8, 9, N.C.S. Show at Aquarium.—7, 8, Kingston Chrysanthemum Show. —8, 9, Bournemouth Chrysanthemum Show. —8, 9, Croydon Chrysanthemum Show.—10, Exeter Chrysanthemum Show.—14, 28, R.H.S. Drill Hall.—15, 16, Birmingham Chrysanthemum Show.— 15, 16, Bristol Chrysanthemum Show.-21, 22, Manchester Chrysanthemum Show.

DECEMBER.
5, 6, 7, N.C.S. Show at Aquarium.—12, R.H.S. Drill Hall.

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Established 1884.

PUBLISHED EVERY THURSDAY FOR SATURDAY.

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	equal
62·726 sq. inches	1 sq. link.
2·295 sq. links	1 sq. foot.
20·661 sq. links	1 sq: yard.
625 sq. links	1 sq. pole or pch.
40 sq. pls.(pchs.)	1 sq. rood.
4 sq. roods	1 sq. acre.
10 sq. chains	1 sq. acre.

SCOTCH LAND MEASURE.

346 sq. feet (Eng.)	1 sq. fall
14 sq. falls	1 chain, English.
2½ Gunter's chns.	1 sq. rood.
4 rds(6150½ yds)	1 sq. acre.

An Irish acre is equal to 1 acre 2 roods 19¼ poles.

A Welsh acre is equal to 2 English acres.

30¼ sq. yards make 1 sq. rod; 40 sq. rods make 1 sq. rood; 4 sq. roods, 1 acre; 640 acres, 1 sq: mile; 4,840 sq. yards, or 160 rods, make 1 acre. In measuring an acre by yards, the usual practice is to trace off 70 yards in length and 70 yards in width. This, in a rough way may be considered near enough for practical purposes; but as 70 yards either way make 4,900 square yards, it exceeds 1 acre by 60 yards. To determine an accurate acre, it may be measured 70 yards in length by 69 1-7th yards in width. The same result may be arrived at by measuring 220 feet. in length and 198 feet in width, or by measuring 73¼ in length by 66 yards in breadth.

	Sq. Yds.		Sq. Yds.		Sq. Yds.
Statute Acre	4,840	North Wales (customary)	3,240	Westmoreland	6,760
Leicestershire	2,308¾	Ditto (erw)	4,320	Irish	7,840
Herefordshire	3,226⅔	Cornish	5,760	W. Derby	9,000
Wiltshire	3,630	Cunningham	6,250	Cheshire	10,240
Devonshire	4,000			Scotch	6,150

English mile equal to 1,760 yards; Scotch mile equal to 1,984 yards; Irish mile equal to 2,240 yards.

A TABLE FOR PLANTERS.

SHOWING THE NUMBER OF TREES REQUIRED PER IMPERIAL ACRE, AT FROM 1 TO 30 FEET DISTANCE BETWEEN EACH PLANT.

Distance.	Number.	Distance.	Number.	Distance.	Number.	Distance.	Number.
1	43,560	6½	1,031	12	302	17½	142
1½	19,360	7	889	12½	270	18	134
2	10,890	7½	774	13	257	18½	127
2½	6,970	8	680	13½	239	19	120
3	4,840	8½	603	14	222	19½	114
3½	3,556	9	537	14½	207	20	108
4	2,722	9½	482	15	193	22	90
4½	2,151	10	435	15½	181	24	75
5	1,742	10½	395	16	170	26	64
5½	1,440	11	360	16½	164	28	55
6	1,210	11½	329	17	150	30	48

TABLE OF INCOME OR WAGES.

Per Year.		Per Mon.		Per Wk.		Per Day.		Per Year.		Per Mon.		Per Wk.		Per Day.		Per Year.		Per Mon.		Per Wk.		Per Day.		Per Year.		Per Mon.		Per Wk.		Per Day.	
£	s.	s.	d.	s.	d.	s.	d.	£	s.	£	s.	d.	s.	d.	s.	d.	£	s.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
1	0	1	8	0	4½	0	0¾	8	8	0	14	0	3	2¾	0	5½	18	18	1	11	6	0	7	3¼	0	1	0½
1	10	2	6	0	7	0	1	8	10	0	14	2	3	3¼	0	5½	19	0	1	11	8	0	7	3¾	0	1	0½
2	0	3	4	0	9¼	0	1¼	9	0	0	15	0	3	5½	0	6	20	0	1	13	4	0	7	8¼	0	1	1¼
2	2	3	6	0	9¾	0	1½	9	9	0	15	9	3	7½	0	6¼	30	0	2	10	0	0	11	6½	0	1	1¾
2	10	4	2	0	11½	0	1¾	10	0	0	16	8	3	10¼	0	6½	40	0	3	6	8	0	15	4½	0	1	7¾
3	0	5	0	1	1¾	0	2	10	10	0	17	6	4	0½	0	7	50	0	4	3	4	0	19	2¾	0	2	2¼
3	3	5	3	1	2½	0	2	11	0	0	18	4	4	3¾	0	7¼	60	0	5	0	0	1	3	1	0	2	9
3	10	5	10	1	4¼	0	2¼	11	11	0	19	3	4	5¼	0	7½	70	0	5	16	8	1	6	11	0	3	3½
4	0	6	8	1	6½	0	2½	12	0	1	0	0	4	7½	0	8	80	0	6	13	4	1	10	9¼	0	3	10
4	4	7	0	1	7½	0	2¾	12	12	1	1	0	4	10¼	0	8¼	90	0	7	10	0	1	14	7½	0	4	4½
4	10	7	6	1	8¾	0	3	13	0	1	1	8	5	0	0	8½	100	0	8	6	8	1	18	5½	0	4	11¼
5	0	8	4	1	11	0	3¼	13	13	1	2	9	5	3	0	9	200	0	16	13	4	3	16	11	0	5	5¾
5	5	8	9	2	0	0	3½	14	0	1	3	4	5	4½	0	9¼	300	0	25	0	0	5	15	4½	0	10	11½
5	10	9	2	2	1½	0	3½	14	14	1	4	6	5	7¾	0	9¾	400	0	33	6	8	7	13	10¼	0	16	5¼
6	0	10	0	2	3¾	0	4	15	0	1	5	0	5	9½	0	9¾	500	0	41	13	4	9	12	3¾	1	1	11
6	6	10	6	2	5	0	4¼	15	15	1	6	3	6	0¾	0	10¼	600	0	50	0	0	11	10	9¼	1	7	4¾
6	10	10	10	2	6	0	4½	16	0	1	6	8	6	4¾	0	10½	700	0	58	6	8	13	9	2¾	1	12	10½
7	0	11	8	2	8¼	0	4¾	16	16	1	8	0	6	5½	0	11	800	0	66	13	4	15	7	8¼	1	18	4¼
7	7	12	3	2	10	0	4¾	17	0	1	8	4	6	6½	0	11¼	900	0	75	0	0	17	6	1¾	2	3	10
7	10	12	6	2	10½	0	5	17	17	1	9	9	6	10½	0	11¾	1000	0	83	6	8	19	4	7¼	2	9	3¾
8	0	13	4	3	1	0	5¼	18	0	1	10	0	6	11	0	11¾									2	14	9½

TO ASCERTAIN, BY WEIGHING 20, THE WEIGHT PER ACRE OF POTATOS, TURNIPS, CARROTS, &c.

Inches between plants.	No. of plants per acre	1400 lbs. per acre.	2800 lbs. per acre.	4200 lbs. per acre.	5600 lbs. per acre.
		lbs.	lbs.	lbs.	lbs.
6	174,240	0·160	0·320	0·482	0·642
7	128,013	0·218	0·437	0·656	0·874
8	98,010	0·285	0·571	0·856	1·142
9	77,440	0·361	0·723	1·084	1·446
10	62,726	0·449	0·892	1·388	1·785
11	51,840	0·540	1·080	1·620	2·160
12	43,560	0·642	1·285	1·927	2·571
13	37,116	0·754	1·508	2·262	3·017
14	32,003	0·874	1·749	2·624	3·449
15	27,878	1·005	2·010	3·015	4·021
16	24,502	1·142	2·285	3·427	4·571
17	21,704	1·290	2·580	3·870	5·160
18	19,360	1·445	2·891	4·336	5·782
19	17,375	1·611	3·223	4·834	6·446
20	12,681	1·785	3·571	5·356	7·142

Example.—If the produce of 20 Potato stools, or if 20 Turnips, growing 12 inches apart from each other, weigh 0·642 of a lb., then the produce per acre is 1400 lbs.; if 1·285, then 2800 lbs. per acre; and so on. The second column shows the number of plants per acre; at 12 inches distance each way, the number is 43,560.—*Garden Annual.*

TABLE SHOWING EQUIVALENT OF INCHES OF RAIN IN GALLONS AND WEIGHT PER ACRE.

Inches of rain	0·1	0·2	0·3	0·4	0·5	0·6	0·7	0·8	0·9	1 in.
Tons per acre	10	20	30	40	50	61	71	81	91	101
Gallons per acre	2,262	4,525	6,787	9,049	11,312	13,574	15,836	18,098	20,361	22.623

TIMBER MEASURE.

To Find the Area of a Board or Plank.—*Rule.*—Multiply the length by the mean breadth of the area. *Note.*—When the board tapers, add the breadth at the two ends together, and take half the sum for the mean breadth.

To Find the Solid Contents of Squared Timber.—*Rule.*—Multiply the mean breadth by the mean thickness, and the product by the length, for the contents.

To Find the Solidity of Round or Unsquared Timber.—*Rule I.*—Multiply the square of one-fourth of the mean circumference, or of the mean quarter girth, by the length, for the contents. *Rule II.*—Find the area corresponding to the quarter girth in inches, and multiply it by the length of the tree or piece of timber in feet, then will the product be the solidity in feet, and decimal parts of a foot, according to Rule I.

Note.—When a tree tapers regularly the girth may be taken at the middle for the mean girth, or it may be taken at both ends, when half the sum will be the mean girth. When a tree tapers irregularly, being thick in some places and small in others, the girth may be taken at the ends, and at equal intervals, then the sum of the girths, divided by their number, will be the mean girth; or the tree may be divided into several lengths, and the contents of each part computed separately, then their sum will be the contents of the whole tree.—*Purdon's Almanack.*

AMOUNT OF SEEDS FOR DIFFERENT AREAS.

Asparagus bed of 15 square yards	1 pint
Beans, Broad, row of 80 feet	1½ quart
Beet, row of 50 feet	2 ounces
Broccoli, 4 square yards	1 ,,
Brussels Sprouts, 4 square yards	1 ,,
Cabbage, bed of 8 square yards	1 ,,
Carrots, drill of 120 feet	2 ,,
,, bed of 12 square yards	2 ,,
Cauliflower, 4 square yards	1 ,,
Celery, 4 square yards	1 ,,
Cress, 3 square yards	2 ,,
Endive, 4 square yards	1 ,,
Kale, 4 square yards	1 ,,
Kidney Beans, row of 80 feet	1 pint
Leek, 2 square yards	1 ounce
Lettuce, 4 square yards	1 ,,
Mushrooms, 7 square yards ..spawn	1 bushel
Onions, 9 square yards	2 ounces
Parsley, row of 80 feet	1½ ,,
Parsnip, drill of 200 feet	2 ,,
Peas, early, row of 60 feet	1½ pint
,, large, late, row of 80 feet	1½ ,,
Potatos, row of 30 feet	½ peck
Radishes, 4 square yards	1½ ounce
Savoy, 4 square yards	1 ,,
Spinach, 10 square yards	2 ,,
,, drill of 120 feet	2 ,,
Turnip, 4 square yards	1 ,,

SEEDS REQUIRED TO SOW AN ACRE.

Barley, 2½ to 2¾ bushels
Beans, 2 to 2½ bushels
Beet, 12 lbs.
Bromus Schrœderi, 60 lbs.
Broom (for Cover), 20 lbs.
Buckwheat, 2 bushels
Burnet, 40 lbs.
Cabbage, in drills, 5 to 6 lbs.
,, for transplanting, 1 lb.
Canary, 3 pecks
Carrot, 8 to 10 lbs.
Chicory, 8 lbs.
Clover, 16 lbs.
Gorse for Cover, 30 lbs.
,, for Cutting, 50 lbs.
Kohl Rabi, to transplant, 1 lb.
,, in drills, 4 lbs.
Lucerne, 20 lbs,
,, drilled, 15 lbs.
Lupin, 3 bushels
Mustard, 3 galls., or 20 lbs.
Oats, 3 to 4 bushels
Parsnips, 8 lbs.
Peas, 3 bushels
Potatos, about 24 bushels
Rape, 1 gallon
Rye, 2½ to 3 bushels
Rye-grass, 3 bushels
,, drilled, 2½ bushels
Rye-grass and Clover, 1 peck
Sainfoin in husk, 5 bushels
,, milled, 56 lbs.
Sunflower, 8 lbs.
Swedes, 3 lbs.
Tares, spring, 2 to 2½ bushels
,, winter, 2½ bushels
Trifolium, 24 lbs.
Turnips, yellow-fleshed, 3 lbs.
,, white-fleshed, 3 to 4 lbs.
Wheat, 2 to 2½ bushels.

ARTIFICIAL MANURES AND THEIR APPLICATION.

Manures.	Applied to	Weight per acre.
Guano	All crops	1 to 3 cwt.
Superphosphate of Lime	Turnips, Barley, Oats	3 ,, 5 ,,
Common Salt	Grain and Wurzel	1 ,, 2 ,,
Soot	Grain and Potatos	30 ,, 40 bushels.
Sulphate of Ammonia	Grain crops, with common salt	1 ,, 1½ cwt.
Nitrate of Soda	Ditto do.	1 ,, 1½ ,,
Gypsum	Clover, Potatos, &c.	10 ,, 20 ,,
Rape Cake	Grain crops, &c.	6 ,, 8 ,,
Bone Dust	Turnips, grass lands	12 ,, 16 bushels.

Soluble manures should be applied during growth.—*Garden Annual.*

The Gardening World.

SCALE OF CHARGES FOR ADVERTISEMENTS.

Small Advertisements, solid type, 6d. per line of about nine words, Displayed Advertisements, per inch, 6s.; per column (12 ins. long), £3 5s.; per half page, £5; per page, £9. Special Quotations given for a Series. Gardeners and others Wanting Situations, thirty words for 1s. 6d., prepaid.

*** Advertisements for the current week, and also "Stop Orders," must reach the Office not later than the first post on Wednesday Morning.

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(By Royal Warrant Nurserymen and Seedsmen to the Queen)
BEG TO INTIMATE THAT THEIR DESCRIPTIVE PRICED

Catalogue of Garden and Flower Seeds,

IMPLEMENTS, GLADIOLI, &c., for 1893
Is NOW READY, and may be had FREE on application.

METHVEN'S JUNE BROCCOLI,
In Sealed Packets only, per packet, 1s. 6d.

EAST LOTHIAN INTERMEDIATE STOCK (Methven's Choice Strain),
White, Purple, Scarlet, Crimson and Snow White, Wall-leaved. In Packets, 1s., 2s. 6d. and 5s. each colour.

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FOR 1893.

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Laxton's Novelties & Specialties, 1893.

The Earliest Large-podded Pea—LAXTON'S GRADUS.
The Earliest Pea—LAXTON'S SELECTED EARLIEST OF ALL.
The Earliest and Best Early Potato—THE EARLY LAXTON.
The Earliest and Best Tomato—LAXTON'S OPEN-AIR.
The Earliest and Best Radish—THE EARLY WONDER.
The Best Show and Quality Pea—LAXTON'S ALDERMAN.
The Largest Scarlet Runner Bean—LAXTON'S TITAN.
The Finest Main-crop Onion—LAXTON'S SANDY PRIZE.
The Best Carrot—MILES' PERFECTION.
The Best Second Early Potato—LAXTON'S VICTORIOUS.
The Best Main and Late Potato—LAXTON'S GENERAL.
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THE BEST NEW SWEET PEAS
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B. S. WILLIAMS & SON

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SEED CATALOGUE
For 1893

To all their Customers. Another Catalogue will be forwarded on application to any who may not yet have received a copy.

Victoria & Paradise Nurseries,
UPPER HOLLOWAY, LONDON, N.

READERS of THE GARDENING WORLD will greatly oblige the Publisher by mentioning this Paper when writing to Advertisers.

VEITCH'S PROLIFIC TOMATOES.

HAM GREEN FAVOURITE.

First-class Certificate Royal Horticultural Society.
Quality and flavour unsurpassed. The variety held in highest esteem for profit at Chiswick. **Per Packet, 1s. 6d.**

ACQUISITION.

The first of a new race of Tomatoes, of dwarf, compact, stout growth, and scarcely needs any support to carry the heavy crop of fruit produced. The fruit is of a bright red colour, handsome shape, smooth, nearly round, and of excellent quality. **Per Packet, 2s. 6d.**

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Two First-class Certificates Royal Horticultural Society.
A very handsome and heavy cropping Tomato. Quality and flavour unsurpassed. **Per Packet, 1s.**

"LADY BIRD," New.

First-class Certificate Royal Horticultural Society.
A new variety of great merit, specially recommended for winter work. **Per Packet, 2s. 6d.**

For full descriptions of the above and other Choice Novelties see SEED CATALOGUE *for* 1893, *forwarded gratis and post free on application.*

JAMES VEITCH & SONS,
Royal Exotic Nursery, CHELSEA, S.W.

SUTTON'S PEAS:

The Best for Exhibition.

THE
Exhibitor's Collection,

Consisting of Seven most suitable varieties, one packet of each,
PRICE **10/6,** POST FREE.

"SUTTON'S EXHIBITION MARROWFAT is a wrinkled Pea, and the grandest variety I ever grew, either for table or exhibition. It grows about 4 feet high, is exceedingly prolific, and the pods contain from 8 to 12 peas of the best flavour and colour.—A. C. GRANT."—Gardening World, Sept. 24th, 1892.

"Your PERFECTION PEA took First Prize at our Show in a large class. It will be difficult to improve on this variety."—J. A. HORNE, Esq., Periton Court.

SUTTON'S SEEDS
GENUINE ONLY FROM SUTTON & SONS, READING.

For Index to Contents see page 293.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Jan. 9.—Sale of Roots for Forcing, etc., at Protheroe & Morris' Rooms.
TUESDAY, Jan. 10th.—Sale of Orchids, weather permitting, at Protheroe & Morris' Rooms.
Sale of Plants at Blenheim Palace Gardens, by Protheroe & Morris (2 days).
WEDNESDAY, Jan. 11th.—Adjourned Meeting of the Nursery and Seed Trade Association at 6 p.m.
Sale of Lily Bulbs at Protheroe & Morris' Rooms.
FRIDAY, Jan. 13th.—Sale of Imported Orchids at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.
SATURDAY, JANUARY 7th, 1893.

REAL WINTER.—After all we did not emerge from out of the old year without having to pass through, not the ordeal of fire, but of frost. The diminution of intensity that exhibited itself on New Year's Eve was regretful only to the young, who found. during Christmas week almost unusual facilities for enjoying themselves on the ice. The change to a softer temperature, however, was short lived, acceptable as it was to all but the young. We soon get tired of the enforced idleness that the frost brings to so many workers, and especially to all who cultivate the soil. Probably the frost could not have come to us at a better time, for the festive season of Christmas invariably interferes with work of all descriptions materially, and therefore was productive of less hindrance than would have been the case had it come earlier or later.

THE CHAMPION CRIMSON SEEDLING

NEW CHRYSANTHEMUM,

GEORGE W. CHILDS.

We hold the Largest Stock in Europe, and were awarded two First Class Certificates for this totally distinct Crimson Exhibition variety.

Illustrated Novelty Catalogue, ready in January, free on application.

PITCHER & MANDA,
The United States Nurseries, HEXTABLE, SWANLEY, KENT.

There can be no doubt but that up to Christmas we had enjoyed a glorious autumn, and work had been proceeding at such a pace that some enforced rest for a week or two was in some respects welcome. Such frosts as we have had, occasionally very sharp, yet none too severe for certain purposes, has probably done little harm. What is to be feared rather is that should more frost ensue the repeated attacks might do much harm to vegetation; or, on the other hand, should soft mild weather follow, the frost may be followed by abnormal precocity of growth, and then very much mischief would ensue. We, however, earnestly hope to be saved from either of these alternatives.

That much of the hard weather has been well utilised in gardens, to get out manure, clean up and cart leaves, prepare stakes and labels, and other useful work, there can be no doubt, so that when spring comes at last it is not probable that work will have been found materially hindered. There can be no doubt but that in certain directions hard frosty weather, if painful to endure, yet does much good, and helps to mature or ripen in ways of which we have but indifferent conceptions.

The Eternal Round.—If the work of the gardener be increasing, happily it is not a weary round of labour. The man who is by virtue of his vocation always engaged in making or laying bricks, hewing stone or in some other monotonous employment, may sometimes complain of the weary round of labour and of life, which brings to him so little of change or variety. The gardener is better placed, for his labours if ever moving in the same direction are yet so very varied that his work may be no two days alike, and each season brings with it its variations and its diverse occupations.

When the winter approaches we are apt to regard the coming time as of a restful nature, but the rest never comes, for gardening is an eternal round, only alternating and changing, but never ceasing. And indeed herein lies one of the great charms of gardening, that whilst it always furnishes occupation it is ever on the move, ever changing. Thus it is always the case that the higher the aspect of gardening practised the greater the variation of labour, and the greater are its necessities. The poor labourer who does but dig and delve is but a hewer of wood and drawer of water for those of his kind who having made in earlier life better use of their opportunities, become less artisans than artists in their vocation, and aided by such surroundings as glass-houses, frames, heating and other appliances can give, commands, or indeed controls, nature for their own objects, and orders her operations even when externally all seems to be asleep.

Let those who understand only the old order but enter these glass laboratories, where the force of heat and light, combined with human skill, do control nature, and they will then perceive, how amidst the winter of our discontent perennial summer still reigns triumphant. Gardeners do not always take so lofty, we might almost say so romantic, a view of their profession as is thus propounded; but the more they dwell upon it, the more they comprehend the sweetness and beauty that attaches to gardening, the more will they feel disposed to set it upon a high pedestal amongst the vocations of the earth.

Damsons.—Whilst plenty of persons doubtless have been enjoying stewed French Prune Plums during the recent festive season, few perhaps have been partaking of real English grown Prune Damsons in a preserved state, so that they were as fresh and as luscious as if just gathered and cooked in October. A gardening friend of ours had a quantity of Damsons in the autumn, and a few gallons were put down in large jars, then par-boiled, tied down, and in that simple fashion preserved. The Damson alone when made into tarts is rather a strong flavoured fruit, therefore our friend prefers to partake of them when mixed with Apples, when the combination is delicious.

One may well ask whether what is done in a small way so successfully may not in seasons of great Damson abundance be also largely done for commercial purposes, and that it may be possible to obtain a quart if needed of fruit and juice at the grocer's in winter, just as easily as French dried Prunes are obtained. The Farleigh Prolific, the Frogmore, and the Prune Damson, being all very firm of flesh, are specially suited for this sort of preserving. The drying process in this country, even with the most modern appliances, is necessarily costly, and at the same time comparatively few of our English Plums or Damsons seem suited for that form of manipulation. Perhaps the simplest method of dealing with Damsons is to Can them, but there are some natural objections to canned fruits of the highly flavoured forms found in Damsons, which is less observant in Apricots, Gage and other sweet Plums.

Bottling may perhaps be the best preserving method, but in the ordinary long-necked and not very large receptacles commonly employed the product is small and expensive. Good broad-necked bottles holding a quart each of Damsons should be purchasable at very modest prices, especially when as often happens in abundant years, the fruits may be purchased wholesale at one penny per quart. Who would object to pay sixpence for a quart of such fruit at Christmas?

Show Boards.—Our readers will not fail to have noticed that the National Chrysanthemum Society has practically rejected the decision of the Society's October Conference on the subject of the enlargement of Show Boards, and the decision practically is "as you were." We believe that decision will prove eminently satisfactory generally, because the proposed alteration after a fuller discussion, especially in the provinces, did not meet with approval. Probably the objectors thought that it was not the duty of exhibition committees either to encourage or cater for very large flowers, but rather to favour the highest quality. The decision to forbid the use of wire or card supports, and cups of a large character, will prove most instrumental in encouraging quality especially in depth of bloom, and we shall see in the Society's Shows far less of crowding than has hitherto been evidenced. We hope that all committees will prior to the issue of their next schedules agree to adopt the regulations of the N. C. S. in connection with artificial supports to blooms, as it naturally grows out of the objections to enlarged show boards.

Glasgow Parks Superintendentship.—The Parks Committee of the Glasgow City Council, out of nearly one hundred applicants, have made a short leet, the following being the selected candidates:—Mr. D. Dewar, Kew; Dr. Wilson, Edinburgh Botanic Garden; Mr. McHattie, Newbattle Abbey, Midlothian; and Mr. Whitton, Glamis Castle, Forfar.

Death of Professor Westwood.—We regret to hear of the death on Monday afternoon, at the advanced age of 88 years, of Professor John Obadiah Westwood, the eminent entomologist of Oxford. A native of Sheffield he was educated at Lichfield, and published the "Entomologist's Text Book" so far back as 1838. Other important works on entomology followed, and in 1861 he was elected professor of Zoology in the university of Oxford. Horticulturists owe a deep debt of gratitude to Professor Westwood for his invaluable contributions on the insect enemies of the garden to *The Gardener's Chronicle*, the publication of which commenced with the establishment of that journal in 1841. Of late years the familar signature "I. O. W." has not been seen so frequently, and now, alas! we shall know it no more.

Shropshire Horticultural Society.—The spring show of this society will be held on March 23rd, and the great summer show and gala on August 23rd and 24th.

L'Orchideenne.—In order to avoid clashing with the new year festivities, and the meeting at Ghent, the 41st meeting of this society of amateur orchidists has been postponed from the 8th to the 15th inst.

The Seed Trade in Wolverhampton.—The old-established seed and nursery business carried on by Mr. R. Lowe, at 32, Queen Square, Wolverhampton, has passed into the hands of Messrs. Tom B. Dobbs & Co, who have just issued their first seed catalogue, which is a distinct advance on anything of the kind which has reached us from Wolverhampton before. Mr. Tom B. Dobbs is a son of Mr. T. Dobbs, auctioneer and seedsman, of North Devon, and was for many years with Messrs. Hurst & Son. The new firm has our good wishes for its prosperity.

Messrs. Dobbie & Co.'s Employees held their annual social meeting at Rothsay on the 30th ult. In the course of the evening the senior partner, Mr. Cuthbertson, addressed the gathering in cheery and hopeful terms. Referring to the eight hours question Mr. Cuthbertson said that if an eight hours day were universal there would not be so much difficulty in carrying out the principle, but if it was adopted by one town, or even by one country, and not by others he did not see how it could be other than ruinous. He referred to the request made by their workpeople for the concession of a Saturday afternoon holiday, which was very unusual in the trade, but while at a pecuniary sacrifice they had been able to grant it, he believed they had not lost by it. Mr. Cuthbertson also expressed his belief that the horticultural trade was on the eve of a very great development. There was a cry for fruit culture, small holdings, allotments, &c., and it might be the duty of the horticulturist to take from the land that successful result which the farmer had failed to secure.

Gardeners' Orphan Fund.—At a meeting of the committee held on the 29th ult., Mr. H. Herbst presiding, the honorary secretary announced the receipt during the previous month of the following sums:—£20 from the Reigate Chrysanthemum Society; £9 2s. 9d. from the Rugby Chrysanthemum Society, per Mr. Bryan; £20 realised from the sale of flowers at the Edinburgh Chrysanthemum Show by Mr. Tod; £5 from the Midland Carnation and Picotee Society, per Mr. Robert Sydenham; £2 10s. obtained by opening the gardens at Stanton-in-Peak, Bakewell, per Mr. Harvey; and the following amounts collected in money boxes:—Mr. Herbst, £3 10s. 4d.; Mr. G. W. Cummins, £2 6s.; Mr. Marshall, £1 7s. 3d.; Mr. C. Gibson, Morden Park, 18s.; Mr. A. Waters, Hopwood Hall, Middleton, 15s.; Mr. R. Scott, Bradford, 5s.; and Mr. A. Read, Grittleton. It was arranged that the annual meeting shall be held at the Cannon Street Hotel, on Friday, February 3rd, when an election will take place for eight children. The number of applicants is fifteen. Sir James Whitehead, Bart., M.P., was unanimously elected a vice-president.

The Society of American Florists.—The bill to incorporate the Society of American Florists was passed in the third week in December. The society is incorporated for the elevation and advancement of horticulture in all its branches. The principal office of the association is to be in New York, but annual meetings may be held elsewhere. The association is obliged by the bill to make an annual report to the Secretary of Agriculture, who shall transmit it to Congress. The incorporators are: Jas. Dean, of Bay Ridge, N.Y.; Wm. J. Stewart, Michael H. Norton, and Patrick Welch, of Boston, Mass.; Edward G. Hill, of Richmond, Ind.; John N. May, of Summit, N.J.; Wm. R. Smith, John Saul, and Benjamin Durfee, of Washington, D.C.; Myron A. Hunt, of Terre Haute, Ind.; John Thorpe, Joseph T. Anthony, and Joseph C. Vaughen, of Illinois; Robert Craig, Edwin Lonsdale, and John Burton, of Philadelphia; Alexander Murdoch, of Pittsburg, Pa.; John M. Jordan, of St. Louis, Mo.; John T. Temple, of Davenport, Iowa; Charles W. Hoitt, of Nashua, N.H.; Wm. Falconer, of Glen Cove, and Daniel B. Long, of Buffalo, N.Y.; and W. Albert Manda, of Short Hills, N.J.

NEMESIA STRUMOSA SUTTONI.

The most striking novelty in its way that appeared before the public for the first time last summer was the subject of this note. Even those who know little about annuals generally were much struck with the quantity, the size and richly varied colours of the flowers. Seeds were sent home from Africa by a correspondent of Messrs. Sutton & Sons, Reading, to whom we are indebted for the present opportunity of figuring the plant. Some seeds were sent to various seed growers on the Continent, in order to try the plant, but chiefly for the production of seeds to ensure that the plant would not get lost. Luckily for us, the seeds sown at Reading did better than those on the Continent and a fine lot of seeds was produced, making certain that the plant can readily enough be perpetuated in Britain in the open air. The plants are about a foot high, more or less according to the treatment given them and the richness of the soil. The flowers are of peculiar form, and most varied in colour, ranging from pure white through yellow to the deepest shades of that hue, and from rose to magenta, and carmine or crimson. Many of the flowers are striped especially on the back of the upper lip of the corolla. In fact the general appearance of a bed or batch of plants would lead one to suspect that it was an old, established and much improved garden plant, instead of being a new thing as it really is. For early flowering the seeds must be sown in March under glass in a compost of light, sandy loam, with plenty of fibre in it. Prick off the seedlings as soon as fit to handle, and when established, gradually harden them off till fit to plant out in the open ground in May. Seeds may also be sown in the latter month where they are to bloom, ultimately thinning them out to 6 in. apart, to enable them to make good growth.

Nemesia strumosa Suttoni.

THE CHRISTMAS TREE.

It is interesting to note how the common or Norway Spruce Fir has come to be acknowledged universally as the Christmas tree. It is *Picea excelsa*, a native of Europe, not indigenous to Britain, Ireland, Denmark, or Holland, but introduced to England at a very early date, and planted in this country more for purposes of utility than for ornament. So its fine proportions when as a large tree it has become fully developed are seldom seen to the best advantage; but if planted and grown under conditions favourable to its full development, it is one of the handsomest of conifers for the decoration of the park and landscape when so grown. Standing singly, when it has reached its maturity, its lofty trunk is feathered with branches from the base to the summit, the lower ones decumbent by the weight of their numerous branchlets, those higher up being horizontal, while the uppermost whorls are slightly inclined upwards. It is this habit of growth that so well fits it to serve the purpose of a Christmas tree. It must be admitted that the aspect of the tree is somewhat sombre on account of its dense foliage, which is lighter or darker in colour according to the soil or the situation in which the tree is growing. Our common Spruce Fir is known as the White Spruce, but there are the black and red varieties also. It is the wood of the Spruce Fir which is so largely imported from the Baltic under the name of white deal.

Why called Spruce Fir? Because the essence of spruce, from which spruce beer is made, is obtained from the branches. The young branches are boiled in water, and by the evaporation of the decoction the essence is obtained, somewhat of the consistency of honey.

By the Egyptians the Fir cone was adopted as the symbol of their Goddess Isis. She taught them agriculture, and governed the people with mildness and equity. The Fir cone has been regarded with interest, if not with reverence, by other nations, and a great deal of traditional lore has gathered about it. Thorpe relates a singular legend from the Norse mythology. The hill of the Harz was covered with Holy Firs, amidst which a village nestled, and two explanations were offered to account for its existence; one to the effect that it was flung by a giant out of his shoe as a grain of sand which hurt him; the other set forth that the mountain floated there during the Deluge. But it does seem beautiful Firs cones are found there, which are wrought into various ornaments. On one occasion the wife of a poor and sick miner went to gather Fir cones, to sell them, as a last resourse against the starvation of her family. She met a little man in the forest having a long white beard, who told her where she could get the best cones. When she reached the point indicated, the cones fell so thickly that, being frightened, she ran away. Nevertheless, the cones had fallen into her basket, and this basket, as she went homeward, grew constantly heavier, Well it might, for the cones turned out to be pure silver. Going to the wood the next day in a fright at having the silver cones, she found the little man again, and he then added to the wealth he had given the woman, some plants, which restored her husband to health; and it is said one of the silver cones was preserved, and may be found in the Grund to this day!

It would appear that the use of the Fir as a Christmas tree was customary in Denmark, Russia, and Germany before it was employed in England. In Italy the Christmas tree is no longer popular, and only occasionally used, its place being taken by the Maypole and its accompanying floral festivities; but it is said the symbolism is exactly the same as that associated with the Christmas tree. At the same time, very clear traces are found that the Christmas tree was once as popular in Italy as in this country.

Fir means Fire tree, because the Fir is one of the most inflammable of woods. Old Gerarde wrote of Firs in Cheshire, Staffordshire, and Lancashire, "where they great in great plenty, as is reputed, before Noah's floud; but then being overturned and overwhelmed, have lien since in the woods and waterie moorish gorunds, very fresh and sound until this day; and so full of a resinous substance that they burne like a torche or linke, and the inhabitants of those countries do call it Fir wood and Fire wood untill this day."

In the traditions of northern countries the Fir occupies a lofty position, it is the King of the Forest; and so in Switzerland and the Tyrol, the Geni of the Forest are always represented with an uprooted Fir tree in their hands. These Geni dwell by preference in the Fir, and especially love old trees. When one of these trees is cut down, the Geni grieve and plead for its life. In many parts of Germany, on Christmas night, the inhabitants take branches of Fir and beat the fruit trees with them, so that they may produce a crop. Sometimes branches of Rosemary are employed as well as Fir. In Austrian Silesia the Maypole is always of Fir, probably because it is plentiful and readily obtained. At Weimar and other places, Fir trees are planted before a house where a wedding has taken place, and it seems to be associated to some extent with a desire for children. In northern Germany, when they drive the cattle to pasture for the first time, they often decorate the last cow with small branches of Firs, as showing their wish for a pasturage favourable to the fecundity of the cattle.

In the West of England, where the annual flower show is regarded as a district holiday, it is a custom to decorate the streets and plants of Spruce Fir are cut off close to the ground, and placed along the road sides, and frequently decorated will small paper lamps. Considerable sums are expended on street decorations, and the people who come in from the country villages are hugely delighted with all this ornamentation; the love of sight seeing, so strong in most of us, is with them a kind of passion. —*R. D.*

A National Flower for America.—Congress has had the national flower question brought before it. Congressman Butler, of Iowa, has introduced a resolution that the Pansy be adopted as the national flower, and that the stars on the national flag be arranged in the form of this flower. The resolution also provides that the change in the flag be made at the time of opening the World's Columbian Exposition at Chicago.—*American Florist.*

EUCHARIS ALWAYS GROWING.

It is the custom of many cultivators to withhold water and even to place their plants in a cooler house after flowering, to induce them to go to rest; and after continuing in this dormant condition for a time they are then brought back into heat. This practice is never pursued by Mr. G. Reynolds, gardener to the Messrs. de Rothschild, at Gunnersbury Park, Acton, yet he never fails to get plentiful supplies of flowers. For some time previous to Christmas a succession of flowers was being produced, as well as a supply for Christmas.

The plants are always kept in the same stove from one year's end to the other, without any variation in temperature, except that between the night and day temperature for the different seasons of the year, in fact just those variations which are customary. Under this treatment the plants keep on growing and flowering at all times. Probably the bulbs never all flower at the same time; but the mere fact of their keeping up a succession of bloom is quite satisfactory inasmuch as a supply is always to hand for cut flower purposes. A bed of fermenting leaves is made up, and through this runs a flow and a return pipe from the main pipes heating the body of the house. The fermenting leaves and the hot water pipes therefore maintain a regular and appreciable bottom heat. The pots are stood on the surface of the bed, not plunged in it; but after having stood for some weeks in this position, they gradually sink into it more or less, thus making up for the decline of heat in the leaves.

The secret of success Mr. Reynolds considers to be the pot bound state of the roots. There is very little soil in the pots, the space being chiefly occupied by roots and bulbs; the latter are pushing one another up out of the pots. The bulbs are fed chiefly with soot water and a little weak liquid manure. The foliage is of a rich dark green and always appears healthy. Should the Eucharis mite ever be present it never succeeds in undermining the health of the plants nor in reducing the amount of healthy foliage. This status has been maintained for a considerable number of years, so that no plea can be made out against the suitability of the treatment.

GARDENERS IN COUNCIL.

(*Continued from p. 277.*)

Carnations.

This being one of the best of the florist's flowers it does seem to me a great pity that it has not a wider cultivation, and that in nine cases out of ten where it is taken in hand that it is doomed to be grown in masses. To me the greatest enjoyment of flowers is their endless variation, and to come upon them as it were unexpectedly and in spots where least expected. This of course applies especially to such things as may be grown outdoors, it is therefore easy to understand why beds and masses of the Carnation do not commend themselves to every one. Comparisons are odious, consequently unless all your varieties are equal in point of perfection, both as to form and colour, some must suffer; whereas if planted in small groups all would come in for a full share of admiration and enjoyment.

Although I believe there is an endless amount of pleasure to be obtained from the cultivation of the Carnation, I cannot go so far as to say that I should prefer one plant to a gold watch set with diamonds. Possibly this is my bad taste, which I often feel has but little distinction for anything that appears good and beautiful; it has in fact, to be honest, a morbid craving for the possession of all of them, and while at present I find it impossible to attain the one I have the good sense to be content with the other.

Mr. Landsdale gives us an idea of what a perfect Carnation should be. It has always been a mystery to me why, in flowers—and I have that same opinon as regards animals—these limits to perfection should he so placed. To me a flower that, taken as a whole, is pleasing and beautiful to the eye is in itself simply perfection.

Many of our most beautiful acquisitions are discarded because they have blemishes either in form or marking, which are said should not appear in perfect flowers. Yet these very flowers would more than gladden the heart of such a poor judge of perfection as myself, I should like to say a few words as to the dressing of flowers for exhibition. There is nothing which offends my eye so much, and which I consider tends to destroy the perfect, especially in a Carnation flower, as this pernicious dressing; it certainly gives to the flowers an uniform and symmetrical appearance, and so does the garb provided by our wise authorities for those who find them selves compelled to take shelter in our Unions, and either is just as pleasing and natural as the other. Had nature considered this necessary to perfection, depend upon it the petals would have been so dressed without any artificial aid. This treatment should, to my mind, be in every way discouraged, as tending to destroy all that is natural and artistic in the formation of the flower.

Daffodils.

The paper of Mr. Hope's not only contained much instruction as to the best varieties to cultivate and the best recognised modes of doing so, but came somewhat as a charm and led us as it were quite out of ourselves into the realm of love and beauty which had been created so to speak for this most charming of all our spring flowers by the olden time poets, of which they seemed never tired of singing. To flowers of any kind these old world legends seem to add undoubted charms, and if were possible make them appear even more lovely than they are. With the Daffodil this would seem hardly possible; coming as it does in the early spring tide when outside flowers are rare, it cannot fail to awaken a sense of of endless joy that speaks of winter past and summer joys to come. No garden, however small, can be perfect without the charm even of one single clump of this lovely flower to gladden the heart and eyes of its possessor, and to the cultivator for market its endless varieties present a most useful contingent, and must add greatly to the income of those who have the good sense and means to cultivate it in quantity.

Wordsworth, in his "Ode to Daffodils," leads us to believe that its greatest charms lie in cultivating it in masses. I hope I may be forgiven if my taste tells me otherwise. Certainly when grown in this way they are a sight scarcely to be forgotten, hut here the interest fades; and to be as Keats says, "A joy for ever," they must be seen singly. My greatest charm in flowers of any kind is to come upon them in this way unexpectedly, in a sheltered nook, in the bend of a walk placed as it were by nature, blooming in all its peerless glory, and it is in this way I would lead the ordinary cultivator to grow them. Every one has not the space at his command to do this and must therefore be content to do otherwise, yet the charm need not be less on this account. The greatest charm in a small garden is not to have too much of one thing, and so make it monotonous, bnt rather to have variety, and this so arranged as to carry interest right through the whole year. In this way a small garden may be of endless joy and interest.

Truly has Mr. Hope said the Daffodil is unsurpassed as a decorative flower. Especially so is this the case at the special season of its flowering, but as is the case with most flowers it requires carefully handling; like the Primrose it becomes hideous in large bunches crowded together as we mostly see them on the market stalls—pleasing probably to the lovers of mass and those who think only of the quantities they get for their money, but not so to those who love rather elegance and artistic arrangement. This applies specially to the Narcissus, but is true also of all flowers, and it is most pleasing to those who think so, to find the taste of our best florist tending in this direction.

VEGETABLES FOR EXHIBITION.

Potatos.

In dealing with the Potato, it is important to have the sets thoroughly prepared in shallow boxes as soon as possible after the crop is lifted from the open ground. The sets, which should be of uniform size, and as large as a hen's egg, should be placed on their ends with the eyes upwards, and put in a cool position where they will be safe from frost, and will receive as much light and air as it is possible to give them. In the early spring they will begin to grow, and on the top of each set will be found one strong stem, with probably several weaker ones. These latter should be rubbed off, thus concentrating the sap towards the strong one. If the best results are desired Potatos for planting, especially for exhibition, should never be clamped or thrown together in a heap, as they are sure to sprout prematurely, this causing the stems to be weak, and the haulm to become a ready prey to the disease. By keeping them in boxes quite cool, with plenty of light and air and one strong stem, an excellent foundation is laid for a crop of exhibition tubers. The preparation of the soil next demands attention. This is best done in the autumn, or early winter, by thoroughly trenching to the depth of two feet. If the bottom spit is not so good as the top it is better not brought to the surface. If the ground has been manured for the previous crop none will be required, but should it be in poor condition a dressing of leaf soil will be found beneficial. Fresh manure from the farmyard induces soft and sappy growth. It is much better to add to the soil such ingredients as will encourage strong, stocky growth, with firm leathery foliage. Probably notbing better can be had for this purpose than a good dressing of wood ashes, and if the soil is heavy and stiff a sprinkling of hot lime just before forking the ground over will be of great service not only in improving the soil but in killing little insects.

After the ground has been thoroughly forked over, the lines should be drawn to the depth of 6 in., and at least 3 ft. apart for strong sorts, and 3 in. less for smaller. The sets should not be planted closer in the lines than 2 ft., in fact 6 in. more would be better for robust sorts. This may seem waste of ground, but one cannot get well-formed tubers when they are planted closer, because the leaves are so crammed together that it is impossible for the sun and air to reach them, and if the leaves and stems are not properly matured it is impossible to have tubers of first-class quality. In many soils it is difficult to get the tubers with clear skins. When this is the case, wood ashes, burnt soil, and a little soot form an excellent mixture to place over the sets when planting. Where the soil is of a light sandy loam, this is, perhaps, not required. The soil should be drawn over the sets in the form of a ridge, when nothing more will be required except keeping the ground well stirred and free from weeds till the haulm has reached the height of 9 in. or 10 in., when they should be finally earthed up. When lifting the crop great care is necessary not to prick any of the tubers, nor in rubbing off the skins. The tubers should be selected of a uniform size, and if the show is near at hand they should be carefully washed, before the soil becomes dry, with soap and water and a sponge. As soon as dry they should be wrapped in soft paper and placed in a drawer. As regards varieties, much depends on the season at which they are wanted. For early shows, Snowdrop and Sutton's Seedling are two of the best, and "Satisfaction" may be sown for later purposes.

Peas.

Many different ways are adopted in growing Peas for exhibition, but none is better than growing them in trenches prepared as if for Celery. The trenches should not be less than 2½ ft. deep, and the same in width, and filled in with well-rotted farmyard manure mixed with part of the soil taken from the trench. If plenty of wood ashes could be had they would be an excellent addition to the soil, as they generally contain potash, which the Pea is much benefitted by. Three inches of soil should be placed on the top of the manure, bringing up the trench level with the surface. As regards sowing, much will depend on the time they are wanted, but the careful exhibitor will seldom trust to one sowing of the variety he wants to exhibit, for the seasons vary so much that one sowing might either be too early, or, what is worse still, too late. It is best, therefore, to make two or three sowings at intervals of eight days. Three inches will be quite deep enough for the seed, and the Peas should not be closer than 2½ in. They require plenty of room to develop, and in allowing plenty of room you not only get as many and more pods, but they are handsome and of better flavour. It is a good plan to pinch out the top of some of the stems after they have made three or four trusses of hloom, as the sap gets checked, and larger pods are obtained. Feeding should commence as soon as the pods begin to set, and may be continued as long as they throw up flower. The Peas like plenty of water, and should never get dry at the roots. Soot is an

* A paper read by Mr. James Gibson, gardener to Mrs. Berkeley James, The Oaks, Carshalton, at a recent meeting of the Croydon Gardeners' and Amateurs' Mutual Improvement Society.

excellent stimulant. If the season is a dry one the lines should be top-dressed with long litter, which prevents the sun from drying up the moisture. If an exhibitor finds that his Peas are too early he can keep them from eight to twelve days by adopting the following method: Fill a pan full of wet sand, pick off the best pods, and immerse the small stalks only in the sand, taking great care not to rub off the blooms, place the pan in any cool dark cellar, and they will keep there perfectly safe for the time mentioned. A good dish of Peas when well staged should not bear a trace of rubbing. There are many varieties suitable for exhibition, but none seem to find more favour than the Duke of Albany. Sharpe's Queen is rapidly becoming popular.

BEANS.

Runner Beans should be treated like Peas, except in a few details. The seed should be planted about 8 in. apart, and should not be planted outside earlier than the last week in April. Should they be required early they should be sown in pots, placing two seeds or three in each in a cold house or frame, and planted out when about 3 in. high. This will make a difference of from a week to ten days in gathering. Ne Plus Ultra and Sutton's Prizewinner are both excellent varieties. French Beans should be treated in the same manner as the Runner, only no staking will be required. Ne Plus Ultra and Canadian Wonder are chiefly grown for exhibition.

(*To be continued.*)

THE VEGETABLE GARDEN.

On the Keeping of Onions.

THERE are many complaints among cultivators of Onions this season as to the bad keeping qualities of the bulbs. At one time during September the rains were so incessant that ripening seemed almost impossible. Half pulling them and twisting their necks seemed to facilitate maturation, but we had to pull ours unripe (which was in the first week in October), and they were stripped of all their green tops and laid along on a trellis placed above the pipes which were kept warm to ripen Peach trees. The Onions in these dry and airy quarters improved rapidly and became hard and matured. Up to the present time they have kept admirably, and seem likely to do so as late as is desirable. There are not many of the large exhibition examples which are keeping well this season, but of course this special culture is not to get "keepers," but sensational bulbs for the exhibition table. We notice in some exhibition schedules prizes offered for "spring sown Onions." There are none of those huge bulbs which can be called "spring sown," as they are mostly sown under glass at the beginning of the year and planted out during spring after they have attained some size and are well hardened to stand the weather. A practice, not uncommon, is to turn into ground quantities of half decayed manure, and cast the seed into loose ground, under such conditions unripened bulbs must be expected.—*M. T*

French Beans.

IT is only in large gardens as a rule that French Beans are grown all through the winter, but most gardeners with moderate glass accommodation will now want to make a start with them. If about fifty pots are sown about every fortnight a nice lot of Beans may be obtained, 7-in. pots are the best, and about eight seeds should be sown in a pot, which should only be about half filled with soil at the time of sowing. Keep the young plants near the glass, or they will become drawn, and when the plants are from 4 in. to 6 in. above the pots they should be top dressed, and the plants thinned down to six in a pot. Give each pot plenty of room, as better results will be obtained from a few pots that are allowed plenty of room than from a lot crowded together. Place a few small sticks round (and for this purpose old garden brooms come in very handy) to keep the plants from falling. As the Beans begin to show they must be regularly supplied with liquid manure, great attention must be paid to the watering and to the syringe, as they are so subject to red spider, and if this pest once gets a hold a very poor crop may be expected. As to varieties for forcing for winter, Osborns Forcing is the most reliable. After the middle of March Ne Plus Ultra and Sir Joseph Paxton are the best, according to my experience.—*G. H. S.*

General Work

ADVANTAGE must be taken of frosty weather to get as much manure as possible wheeled on to all spare ground, so that when the frost has gone, any digging or trenching not already done, may be finished as soon as possible. On estates where the gardener can dig his own gravel, a stock should be got ready, so that the walks may have a thin coat to make them look fresh for the summer. A good lot of large wooden labels should be made ready for the vegetables, as when the time comes, and the soil is in good order for sowing, there is no time to run about for labels. Get on making hot-beds for Potatos, etc., they must vary in size according to the length of time the heat will be required to last; if sufficient leaves have not already been got together for hot-beds and leafsoil, no time must be lost in getting them raked up.—*G. H. S.*

FRUIT NOTES.

APPLES UNDER GLASS: GALLOWAY PEPPIN.

UNDER this heading at p. 263 I observe that reference is made to the Galloway Pippin Apple, and being a grower, and great admirer of this variety, I would like to correct a slight error that is thereby made as to the keeping qualties of this excellent sort. It is stated that it "keeps till the end of January."

The writer cannot be well acquainted with the true Galloway Pippin, for at the date named it is only becoming fit for use. In these gardens are several old trees of this variety, which generally bear good crops of fruit, and which, form our principal supply from January until May, and in some seasons well into June. To do this they have no special care taken with them beyond being carefully gathered and stored in bulk, or in barrels. The fruit is heavy, almost round, and quite even in outline, and when kept until the Spring becomes a rich yellow colour with a dash of brown on the side exposed to the sun.

This variety is generally classed as a culinary fruit, but to those who appreciate a firm, juicy apple, it is highly prized for dessert.

The tree is a vigorous grower, and a free bearer when established. At one time it must have been well known in this country, but at present it is mostly old trees that are met with, and which in most cases are fast going to decay.—*James Day, Galloway House Gardens, Garlieston.—N.B.*

[Apples vary greatly in the time they come into use, the latitude and the condition under which they are grown, and the length of time they will keep. They will often remain sound long after they have become tasteless, hence the discrepancy that occasionally occurs in the opinions of different people on the subject of keeping. Apples ripen much sooner in the south of England than in the south of Scotland. Galloway Pippin is certainly not a common Apple in the south, but several cultivators have become possessed of it within the last few years as a result of the publicity given to it at the National Apple Congress held at Chiswick in October, 1883, where another exhibitor besides Mr. Day showed the variety. We can quite believe that Galloway Pippin, although usually regarded as a culinary Apple, may be used for dessert purposes after it becomes mellow, because there are many other varieties classed as culinary Apples, that are eaten with relish by those who are fond of Apples. Culinary and dessert are merely conventional terms that may be transposed at the will of different individuals according to their likings or taste. Should Galloway Pippin succeed elsewhere as well as in Galloway, its cultivation deserves to be greatly extended.—ED.]

Gleanings from the World of Science.

A highly sensitive Plant.—The presence or absence of light at all seasons of the year has a great and readily perceptible effect on the leaves of Prosopis juliflora. The movements are more noticeable in summer or autumn, but foggy and dark weather in winter soon causes the leaves to drop. During October I placed a plant in a dark box and in half an hour the leaflets were completely closed up. The plant was placed in a window fully exposed to light under a bell-glass, and in seventeen minutes the leaflets on the sunny side were three parts expanded, and this state they maintained during the rest of the day while the sun shone upon them so that for all practical purposes they may be considered as having opened by the influence of the sun in seventeen minutes. On the shaded side of the plant eighteen minutes later, or thirty-five minutes in all, the leaflets on the shady side were fully expanded and flat. The explanation of this is that the leaflets expanded fully so as to catch the greatest amount of diffused light which they could. So sensitive are the leaves to the influence of light and its intensity that they behave differently upon the same plant according to the amount of exposure. Very old leaves lose their activity, or in other words their sensitiveness or irritability, to a great extent. Furthermore, while they remained in the same condition and apparently indifferent on the shady side of the plant, those on the sunny side continued to face and follow the sun till 4 or 5 p.m. The leaflets on the two sides of the midrib were at different angles of elevation to it—those on the east side of the midrib generally being at a greater angle so as to face the sun as it travelled westward. The leaflets on the other side kept sinking so as to receive the light on their upper surface.—*J. F.*

Vegetation of Mars.—Scientists with their powerful telescopes can discern that the surface of the planet Mars is occupied with continents that are red and seas that are blue. What determines the red colour of the continents is a matter of pure speculation. Some say that it is owing to the red colour of the grass, and others to the Copper Beeches growing there. The most powerful microscope can only reveal an object of the size of St. Paul's Cathedral as a mere speck like a small pin head. What then about the grass? The problem yet remains to be solved whether there are any trees or such vegetation as grass. All the evidence put forward on the point merely serves to recall the line occuring in Pope's *Essay on Man*, namely, "What can we reason but from what we know." All the reasoning that can be advanced by man, must perforce be taken from forms and objects with which he is familiar on our own little sphere called earth.

Black Knot of Plums.—This is a disease caused by a fungus named Plowrightia morbosa. It makes its appearance as a corky outgrowth of a black colour on the stems and branches, and increases in size till it occasions the death of the tree by the stoppage of the sap and its contained food for the part of the branch above the diseased portion. Of course, as in the case of canker, the affected parts of the tree are killed. The fungus attacks many species of wild Plum in America, as well as Cherries. Not unfrequently it occurs on the cultivated or common Plum (Prunus domestica), particularly on the Greengage. It does not seem, however, to have occurred in this country, although if the climate is suitable, there seems nothing to prevent its unwelcome visit. The Apricot is also liable to attack, and the tree infected had been subjected to rather severe pruning, so that to this circumstance the entrance of the fungus is probably due. An affected tree presents a curious appearance, as the black knots often attain considerable size, extending lengthwise along the branches.

Petals of a Pansy.—The petals of many varieties of Pansy present a velvety appearance, and to the naked eye they appear quite smooth. They are in reality remarkable uneven, and to that fact their velvety plush is due. The epidermal cells are prolonged above the surface into narrowly conical and blunt points; they are strengthened internally by longitudinal lines, and the tips when looked down upon appear rayed like conventional representations of the sun. At the real surface of the petals these conical cells widen out and unite with one another in the form of five to seven sided or polyhedral cells. Matters are still further complicated by the common walls of the cells being folded into the interior in the form of loops with little round heads having a crystalline appearance The various colours of the petals are due to colouring matters dissolved in the cell sap, so that when the petals are looked at with the naked eye, the beholder is looking down through the long way of the cell. The colour in that case appears dark, and in proportion to the richness of the liquid colouring matter in the cells, so the colour of the petals are darker. A very rich purple makes them appear almost black. To the naked eye the myriads of conical cells appear fused into one even and uniform surface. The fact, however, that the cones are separate from one another for great part of their length, causes the surface to appear glossy. The rays of a Pansy are due to lines of these cones containing a deep blue or violet colouring matter running along the course of the principal veins.—*J. F.*

DOUBLE CHINESE PRIMULAS

It is possible that the award of which "Redacre" complains at p. 279, was due to a prejudice on the part of the judges in favour of the old Double White, or because the plants of the true double forms were not so well grown. "Redacre" rather complicates the matter by writing about "semi-doubles." These here in the south are those varieties that are raised from seed, and having in the tube or throat of each flower a small cluster of other petals, are of much greater endurance than are the single flowers, and are invariably called semi-double. Whether your correspondent refers to these or to the poor flowers of the old Double White, it is not easy to understand.

But that it is very possible to obtain very fine flowered plants of the superior double varieties that have been referred to in the paragraph is certain. What can be done not by one gardener only, but by several, it is evident can be done as well anywhere else. The first thing is to obtain stock, and if no one else have good sorts, at least Messrs. Cannell & Sons have, and I mention this firm because some gardeners may say, "well, I should like to obtain some of the finest double varieties, but do not know where to apply for them." That excuse is no longer tenable. Once plants are obtained, the next thing is to grow them on all through the summer in either north houses or frames, so as to induce free rooting and ample leafage.

Chinese Primroses do not want over potting, that practice is always a great mistake. What they rather like is to have the roots rather restricted, so that plants shall be obtained fully 18 in. across early the following winter, and blooming profusely in 6-in. pots. When the plants are got into a warmer house or frame about the middle of September, they should be kept near the glass to keep them dwarf and sturdy. The best compost is composed of three parts good turfy loam, the other part being of well decayed manure and sharp white sand. In no case should the plants be potted deep.—*A. D.*

DWARF CHRYSANTHEMUMS.

When looking up a few days ago one of the Scottish horticultural publications of thirty years ago, I found the Chrysanthemum spoken of as "coarse and long-legged." It was true to a considerable extent of the Chrysanthemum in those days, but since then much has been learned and accomplished. I can very well remember the late Mr. John Salter's exhibitions of those days, and especially what were then the newly introduced Japanese varieties, how very tall they were, and it was only by Mr. Salter bending down a plant, when I used to inspect his newer varieties, that I was able to inspect them at all. Since then we have become accustomed not only to much dwarfer plants, but to dwarfer growing varieties. All our earliest Japs. were tall growers, and very late in flowering.

But, it may be asked, how can dwarf plants, with strong healthy green foliage and flowers of fine substance, be obtained? It is accomplished by what is known as the cutting-down system. I am unable to say who originated it, but it appears to have been first practised in the Liverpool district; but the credit of having introduced it in the south belongs to Mr. C. Orchard, formerly of Kingston, but now of Bembridge, Isle of Wight.

At first Mr. Orchard used to head his plants back a little when they were showing their mid-summer growth, and by this means he secured plants of medium height. But he found they would frequently send up a strong shoot from the bottom, and so he determined to attempt a bolder stroke, and he headed a few down altogether. "The only way," says Mr. Orchard, "to get the plants dwarf is to cut them hard back from three to six inches the first fortnight in June, beginning with the later flowering varieties early in the month, and finishing with the early flowering varieties, doing a few every day. It requires a bold nerve to do it at first. It seems such a sacrifice, for up to that time they should have had the care and attention of plants required to be grown on. To be successful it is necessary the plants should be then strong, healthy, and well established in 48 or 32-sized pots, with plenty of good healthy roots. There will be some bleeding of sap where the cut is made, but by being kept rather dry for a day or two beforehand, and having only a slight sprinkling afterwards, the loss will not be great. Care is necessary to thin the shoots to the required number the plants should carry, and they should be carefully supported with thin sticks."

As soon as the growths have fairly started, say when from four to six inches long, they are potted into the largest pots they are to occupy, and as soon as the roots reach the sides of the pots and they are well established, feedings of liquid or artificial manures are given. The first bud that shows is taken, and the height of the plants then corresponds with the natural growth from break to break. Some varieties, such as Val d'Andorre, Triomphe du Nord, Cullingfordi, and others of like growth would not reach more than eighteen to twenty-four inches, and others of tall growth, such as Mad. C. Audiguier, Thunberg, Belle Paule, etc., would go from four to five feet, and other varieties in proportion to their habit.

But any one who has to fill up bays in conservatories, or in plant houses, or who exhibits groups of plants at flower shows, would not of course cut all his plants back. Tall plants, as a matter of course, are required at the back, if an objectionable flatness is to be avoided—a defect which characterises some groups at country shows, where through all cut down plants being employed the flatness almost of a table is produced; and it is better in forming a background to a group to be able to make it up with naturally grown plants than to have to raise some up to a greater height by the use of pots, &c., which will sometimes give way to the great annoyance of the arranger.

It is gratifying to find that at many provincial shows groups are now largely formed of cut back plants. Nothing seems in worse taste than to see a group of plants arranged for effect, the shortest four feet in height and showing quite two feet of naked pots and stems. At the November exhibition at the Royal Aquarium, Mr. Norman Davis and Messrs. Reid & Bornemann gave excellent object lessons in the arrangement of their groups by finishing off with dwarf plants of eighteen inches or so in height, with healthy foliage feathering down to the surface of the soil in the pots, and carrying flowers of large size and excellent quality.—*R. D.*

LIFTING ROSES.

In northern parts Roses often grow with such luxuriance that they remain soft and so spongy in the substance of their wood, that they cease to flower abundantly, and the flowers become coarse and unshapely. For many years past I have cultivated Roses extensively, and like a free growth, always provided that it is equal all over the plant; and when undue grossness takes place (as it often does in strong rich soils) the plants are lifted during October or November, the ground well broken up, and the plants replaced in the ground with some fresh kindly soil about their roots, and then carefully mulched with good manure, which is carefully covered with soil to harvest the virtues it contains.

We have lifted a long line of pillar Roses this season and replanted them, but any roots which were inclined to become gross were shortened. Like the lifting of fruit trees to improve the quality of the fruit and increase the quantity, Roses also reward the cultivator for cultural attention such as here indicated. We always plant Roses so that the junction of stock and graft, or bud, is well covered, as in due time roots are emitted therefrom, and suckers are almost entirely prevented from showing themselves. We often get hundreds of Roses from layers, after a season or longer, from free growing Roses which have been pegged down. These grow freely and flower generally profusely, and no suckers ever give any trouble. If frost is severe it is well to place a spadeful of fine soil round the collars of Roses as protection.—*Stirling.*

CROTONS FOR CUTTING.

I read some time ago that to keep Crotons compact in growth and to have the foliage of fine colour they should be "headed down," but to do work of this sort at the end of the year, as recommended, must be attended by considerable loss of the best part of decorative foliage in plant stoves when such material is most needed and admired more than at any other period of the year. I know that all Crotons do well "headed down," and will break out as freely as a privet bush, Holfordii and Etna being two of the most accommodating, but I do not know any plants which are more serviceable than Crotons for cutting to mix with flowers. Indeed there are few flowers which can compare with them for decorative purposes; and several times a week we cut quantities of the most showy species for using as indicated. They last well and can be used alone or among other foliage, and the crimson and bronze classes show off beautifully light coloured flowers, such as Erica hymalis, double Azaleas, Deutzias, and others. After the plants are cut back they should be kept somewhat dry at the roots; they will break freely and when the young growths are an inch or two long, the old inert soil can be removed carefully from the roots, repotted into sandy loam and after a season's growth they become dense in foliage which attains a fine colour when light is admitted freely among the plants.—*Stirling.*

PRIMULAS AT READING.

When Chinese Primulas are grown expressly for the production of seed, they are sown late in the summer with the view of getting them to flower some time in spring, when the weather is favourable to the setting of the flowers and the production of seed. It is the custom, however, of Messrs. Sutton & Sons, Reading, to have their plants in flower from Christmas onwards. They have nine houses occupied with them; all were sown six months ago, and a long succession is assured by the Primulas themselves. Some are early, others medium, and a third set very late, blooming up till March. The proof of this may be seen at present by the early ones which are in full bloom now; the more vigorous of the second set, which are mostly of the Giant strain, are in bloom, and the rest merely throwing up their flower scapes. The very late varieties seldom show anything more than leaves. The plants take longer time to develop their large leaves and flowers, and being very steady in their growth are practically more durable and handsome in appearance.

Single Varieties.

The finest of the white varieties now in bloom is Pearl, with pale green petioles, plain leaves and large, pure white flowers, ultimately deepening to blush. A large quantity of this is grown, and although some of the other varieties are always pure white, they do not equal the Pearl in vigour, and which is certainly handsome. Brilliant Rose is very floriferous and useful for decorative purposes; the name indicates the colour, and the finest hue is always kept up by selection. One of the earliest to bloom is Reading Pink, a soft blush pink of great delicacy and beauty. There are two selections of this, the finest having the largest trusses, but does not produce seed very freely. The other has equally fine flowers, but fewer of them open at a time, and seeds are more abundantly produced. One of the late varieties is Terra Cotta, with deep rosy salmon flowers, deep red petioles and vigorous constitution. The old Ruby King, raised in 1872, is still true to character, and is so dwarf, compact and floriferous as to resemble a hemispherical mass of leaves and flowers, resembling a natural bouquet. The flowers are described as rich ruby or crimson magenta with a crimson zone round the eye. It is likely to remain a favourite for many years, and is early. Reading Scarlet is considered one of the first earlies, and is notable for the richness and intensity of its colour, as well as the substance of its flowers. The petioles are red, a fact which indicates the vigour of the plant. The main batch, an extensive one, was sown late, and consequently will not be in bloom for some time to come. Very interesting is a good-sized batch of the original and wild type of P. sinensis, with five-lobed, lilac flowers, the segments of which are not much broader than those of P. obconica. The small leaves are pale and dark green in different individuals, and some of them are elongated, showing an approach towards the fern-leaved type. It is somewhat remarkable that although Messrs. Sutton have had it for two years, they have not yet succeeded in crossing it with any of its greatly improved progeny. Although dwarf, the vigour of the plants leaves nothing to be desired.

Single Fern-leafed Kinds.

The earliest of all the varieties is Snowdrift, because if sown in June it will flower in September in the same temperature as the late varieties. The leaves including the petioles are pale green, and the flowers pure white and most abundantly produced, keeping

up a display till the later kinds come on. The Fern-leaved Scarlet is a brilliant and handsome variety, but can only be described as a novelty from the fact that it produces seeds very sparingly and cannot therefore be catalogued. The packets of mixed seed derive advantage from lots like this, which are all lumped together, because there is not enough to put up separately. Another early variety, and one of the prettiest and free flowering, light kinds, is Rosy Queen, having rosy-pink blossoms, borne in large trusses well above the foliage which is entirely green. Dark foliage is generally considered good evidence of strong constitution, and nowhere is there darker leaves than in the Gipsy Queen, the upper surface being browny-green and the lower surface browny-red. The variety is moderately early, but the pure white flowers are already getting plentiful. It is one of the finest because one of the most distinct in the collection. Purity may be compared with Snowdrift except that the petioles are red and the flowers much larger and pure white with an orange eye. The fern-leaved Reading Blue merely differs from Reading Blue in the foliage. It is, however, dwarf and robust, with large truses just raised above the leaves, which are not very numerous and have dark-red petioles.

Giant Strain.

The varieties of the Giant strain are very noticeable for the large size of the flowers and their texture compared with those of the other types. The Fern-leaved Giant White is undoubtedly the finest, having shortly-oblong, vigorous leaves, forming compact rosettes, from the centre of which the trusses arise, bearing large flowers of great substance, pure white at first, but ultimately becoming blush, with a five-angled orange eye. The plain-leaved Giant White differs principally in the form of the leaves, and both are exceptionally fine types of Primula for winter decoration. They are mid-season varieties, because of the first-named only a few of the strongest plants are in flower. Giant Crimson forms an excellent companion to either of them on account of its rich, deep red flowers and dark red petioles. It is moreover one of the latest in the collection, coming into bloom in February and lasting till April. The size of the flowers and their substance is remarkable.

Double Varieties.

Technically speaking the sorts mentioned beneath are semi-double, because they have only a few extra segments in the centre, and can be raised from seeds with as great facility as the single ones. The flowers are, however, more durable than those of the single kinds, either in the cut state or when used for decorative purposes, even under unfavourable conditions. Double Rose has rosy-pink flowers, closely similar to those of the Miss Jolliffe Carnation. The trusses are full and well borne above the foliage. Double White is an early variety, and so is Double Scarlet, a handsome variety, with red petioles. There is also a Double White with carnation, purple and pink streaks and markings, and this is also in full bloom. That named Double Carmine is rich in colour, early, and withal a handsome variety. The Double Red at present is very dwarf, but gets taller later on when it appears to great advantage. The plain-leaved Double Blue is in bloom, but the Fern-leaved variety of the same colour is very late, thereby extending the season considerably. The Fern-leaved Double White produces seeds very readily and is a very useful kind, but the Fern-leaved Double Rose is rather shy.

Various.

Very interesting is a houseful of trial plants numbering some 200 sorts from all sources, with about a dozen plants of a sort. Some are in flower, others are not, as might be expected. Another house is filled with crossed varieties of many kinds, the result of last year's work. A semi-double white kind looked promising, and may in the next generation or two produce something striking. A blue variety crossed with a white one has given a variety with mauve flowers, striped towards the margin with blue. A houseful of moss-curled varieties is full of interest on account of the many variations in the flowers and the foliage. The edges of all the lobes are very much curled, and sometimes resemble Parsley, as in the case of Sutton's Gem, having semi-double white flowers and beautifully curled but beautiful foliage. The other varieties of this section have in some cases similarly formed flowers differing in colour. The Double Lilac is one of the best, because in addition to the doubling the ordinary segments are very mucb lobed and imbricated, making the flower appear quite double. There is, however, a single Lilac, a single Pink and a single White, all with moss-curled foliage. The white one is very choice, having fern-leaved, green leaves and yellow edges like a golden Scolopendrium.

The houses are low span-roofed, well-built and well-lighted structures, running north and south. The benches on which the plants are stood are of corrugated iron, covered with ashes, which maintain sufficient moisture about the plants. Everything about the houses is clean, and the plants healthy. They are never allowed to become crowded, nor are they starved for want of repotting. The plants are also taken into a genial atmosphere before the weather gets too cold, hence the successful results.

DRACÆNAS.

The foliage of Dracænas is greatly admired when mixed among Callas, Chrysanthemums of contrasting colours, Eucharis, Clivias, Odontoglossums of robust species, Amaryllis, and many other flowers of large proportions. We grow Amabilis, Baptistii, Bausei, and Terminalis in quantity for stripping to augment the variety of choice foliage which is used to enhance the charms of the flowers. The leathery nature of Dracænas enables them to resist the bad effects of gas, draughts, and other untoward influences, to a greater extent than many other species used for the decoration of rooms and passages.

When the plants are well stripped a notch is made under the crown of foliage which remains, some moss is tied round, and in a short time roots are emitted. The plants can be cut over, potted into rather small pots of sandy soil, and another shift later into sandy loam, with a small portion of peat in it, carries them through to the end of the season; they are then fine robust plants ready for whatever use they are grown for. The stems and roots are of course serviceable for increasing stock. There are no more telling plants than Dracænas for table decoration, especially the old showy Terminalis, for which there is a great demand, and many nurserymen are increasing the numbers of this sort as much as possible, it being so much sought after. We know something of the demand for striking foliage for decorative purposes. Vine leaves (such as Gros Guillaume and Gros Colmar) are in great request and bring good prices.—*Stirling.*

Cypripediums at Stacksteads.

A GROUP OF CYPRIPEDIUMS.

The accompanying illustration shows how, even in small collections, a tasty and interesting group of Cypripediums may be made up with the aid of a few dwarf and graceful plants in front, and ferns to make a background. Prominent amongst the species used are C. superbiens, better known as C. Veitchi, also C. niveum, C. concolor, C. bellatulum and C. Dayanum. The dwarf and miniature C. niveum on the right is the most difficult to represent by means of photography. The whole of it is white, so that there is a difficulty in tracing the outlines of the different organs. The young amateur artist might have greatly improved his picture, if he had taken care to hide the front of the staging on which the Cattleyas are placed by means of trailing plants of some kind. The illustration in question was prepared by a son of Mr. David Lord, Stacksteads, near Manchester.

GARDENING MISCELLANY.

A SCENTED GRASS.

Most agriculturists are familiar with the fragrant character of the sweet Vernal Grass of our pastures and meadows. There are also some highly-scented species such as the Lemon Oil Grass and some of its allies, but they are seldom if ever seen outside of botanic gardens. Oplismenus Burmanni variegatum is, however, common in many gardens, where it is better known under the name of Panicum variegatum. The plant is kept for the sake of its trailing stems and variegated foliage, and flowering is seldom encouraged or permitted. The panicles of bloom consist of solitary branches arranged alternately along the stems. Being small in size the flowers would be inconspicuous were it not that the feathery stigmas are of a peculiar shade of purple or deep red. The leaves are variously striped with white, pale yellow, and red at this season of the year, or possibly at other times under certain conditions. When in full bloom the flowers smell strongly, giving off an odour like that of certain Orchids. This cannot be described as particularly sweet, but at the same time not particularly disagreeable; in fact some people cannot discern it at all, although tolerably strong. It is just possible that the odour arises from the pollen itself. There is a line of it in pots bounding the other plants in two of the houses at Gunnersbury Park, Acton, and visitors can hardly fail to detect the odour, without suspecting, it may be, the origin of it.

IRIS FŒTIDISSIMA VARIEGATA.

The ordinary green form of the Roast Beef Plant is seldom seen in gardens, because when in flower it is inferior in point of beauty to the common Yellow Flag of our river banks. A point in its favour, however, is the fact that the leaves are evergreen, and the variegated variety may therefore be used to advantage in gardens during the winter months, when variegated plants of a herbaceous character are anything but common. The leaves are long-lived and durable, resisting the hardest frosts even in the north, provided they are not broken down with heavy snow. The variegation consists of broad pale yellow or white stripes on the margins of the leaves. Flowers are seldom produced by the variegated variety, at least in the north. At present it is very effectively used as an edging to a bed in the flower garden at Gunnersbury House, Acton.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

I think that the fact of so many gentlemen of a philanthropic and liberal disposition according their support to this most deserving institution, and so helping to succour the most necessitous of our order, should stimulate many gardeners who are not now subscribers to do something to assist their less fortunate brothers. The pleasure of helping to bear one anothers burdens is a very gratifying one and all who can ought to share in it. Should we be so fortunate as never to require assistance from the institution, so much the more does it become us to remember the less fortunate, many of whom are anxiously waiting until they can get elected on to the pension list. Some have had to endure this anxiety for four years and more, and probably suffering great privation the whole of the time. I know of many cases in which much joy and thankfulness has been felt by candidates who have been elected without any great trial of their patience. With the management in such good and disinterested hands it were needless to discuss the rules, admirable as they are; but I do most earnestly urge upon our gardening friends to give this deserving institution their most careful consideration. Our courteous and energetic secretary, Mr. Ingram, will, I am sure, be only too pleased to give any information on application to him at 50, Parliament Street, S.W. In Scotland there are not many supporters of the institution, but if more of my warm-hearted countrymen were cognisant of the good that would fall to the lot of many old gardeners or their widows if the institution were more liberally supported, I feel sure their benevolence would rise to the occasion, "Unity is Strength."—*M. T.*

ROCHEA FALCATA.

It is nearly a hundred years since this was first introduced to this country, and although we cannot expect that it will ever be grown in large quantities in any one establishment, yet it will continue to find admirers on account of its neat habit and broad corymb of scarlet flowers terminating the upright stem. Growth is slow, so that no large amount of space is required to accommodate a few flowering plants. During summer they may be kept in a greenhouse, where satisfactory growth will be made. A higher temperature than is accorded in that structure will be necessary in winter in order to develop the flowers, but in greenhouses where a minimum of 48° or 50° is maintained by night, the plants may be located with safety during the flowering period. Being of a succulent nature very little water is required during winter. The rigid and sickle-shaped, glaucous leaves contrast well with other subjects having more slender and elegantly cut foliage. It has been flowering for some time in one of the houses at Gunnersbury Park, Acton.

UNSEASONABLE GROWTH.

The unusually mild nature of the weather during December and previously was exercising an unseasonable stimulus upon vegetation, upon which the severe frost which set in upon Christmas Eve will act as a salutary check. The Japan Quince (Cydonia japonica) seemed to be as forward as anything, Many of the buds, both foliage and floral, were more or less expanded a week before Christmas in the neighbourhood of London. The blossoms were not expanded it is true, but their buds had left the covering of bracts which should have protected them till spring, and they had developed to some size. The common Hawthorn was not quite so advanced, but the buds were nevertheless beginning to get green. The flower buds of the Yulan (Magnolia conspicua) were in many cases casting off their winter mantles, whether that will seriously affect their hardiness now or not. Amongst wild plants, the White Lamium might have been seen in full bloom. The yellow blossom of Jasminum nudiflorum and the pale lemon ones of Chimonanthus fragrans were plentiful enough but seasonable.

ASPARAGUS RETROFLEXUS.

The stems of this ornamental species of Asparagus are evidently meant to climb in their native habitats; but being very slender in character they are well adapted for culture in hanging baskets which show them off to the best advantage. They are not very much branched compared with those of more familiar species like A. plumosus and A. p. nanus, but they are altogether different in habit. The ultimate twiglets, generally, though erroneously, termed leaves, are linear, flat, and somewhat curved not unlike the leaves of Cryptomeria japonica. There is a fine plant of it in one of the conservatories at Gunnersbury House, Acton, and it was awarded a First-class Certificate at Chiswick last summer. It flowers but sparingly, producing only a few seeds, at least on a plant with stems 3 ft. to 4 ft. long. Possibly it will flower more plentifully when it gets to large size as in the case of A. plumosus, which does not fruit till it gains strength and is allowed to run up the rafters of the house. In the same house is a large plant of A. plumosus nanus notable for two different shades of green (dark and light) of its foliage so-called. This has been the case for some time whether it will prove permanent or not.

LARGE MARGUERITES.

Small plants of Chrysanthemum frutescens are more generally useful in most establishments than large ones, because more easily accommodated in houses of moderate dimensions. Large ones however are capable of producing a striking effect with the large quantity of starry blooms which they produce. There are several massive specimens at Gunnersbury House, Acton, one of the seats of the Messrs. de Rothschild. They are merely kept at Gunnersbury House through the winter, and sent up to the town garden in summer where they are stood about in prominent positions, where they flower grandly during the summer months. The plants never become dormant provided they enjoy favourable conditions. They are at present located in the conservatory, and the weather during the last three months being very mild, the whole front of the conservatory consisting of glass doors was kept wide open. Notwithstanding this the Chrysanthemums have been flowering finely for some time past; and if they can do so in winter, their appearance in summer may be imagined. They are grown in No. 1-size pots and stand about a yard in height and 5 ft. to 6 ft. across. The numerous shoots are well set with buds, so that a rise in temperature later on must result in a fine display.

APPLE AMERICAN MOTHER.

The usual season of this Apple is stated to be October, but under fairly favourable conditions it will last till December or even till Christmas in good condition. The fruit is of medium size, conical, or occasionally oval in outline, with an open or closed eye set in a shallow very slightly plaited basin. The skin is smooth and shining, yellow, suffused with soft red on the shaded side, but where exposed it is bright red and crimson. The latter colours extend over the greater portion, so that it is a fruit of considerable beauty. The flesh is yellow, tender, crisp, and very juicy, with a sweet aromatic flavour that is very grateful to the palate. Few of the Apples of American origin have proved very profitable to cultivate in this country, and American Mother is one of the few that may be considered eminently successful in this country. From the above description it may be gleaned that it is a dessert Apple of first-class quality.

MARANTA BARAQUINIANA.

Several of the small growing species of Maranta are highly ornamental on account of the beautiful markings of their leaves. That under notice is unusually small, making a plant about 3 in. or 4 in. high. A quantity of it in the nursery of Messrs. B. S. Williams & Son, Upper Holloway, is grown in 60-size pots, which prove amply sufficient for the size of the plant, which makes neat tufts of leaves covering the surface of the soil. The blade of the leaf itself is 2 in. to 3 in. long, so that the petioles are very short. The upper surface is silvery with a bright green midrib and margins, and glaucous on the under surface. Plants of this character are useful for the front of the benches in the stove or the warm conservatory for the sake of the colour variation which the leaves afford.

PTERIS TREMULA VARIEGATA.

Variegated Ferns constitute a present day development of this popular and ornamental class of plants. In a previous issue we mentioned some variegated sorts that have been obtained under cultivation. The same may be said of that under notice. There are some plants of it in the collection of Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton. They are about 2 ft. high, rather erect in habit, and tripinnate, being in fact very similar to the type. The midrib is silvery-white, and from this silvery lines run almost to the margin as in the case of P. Victoriæ. If it can be raised from spores as easily as the type it is almost sure to become popular in a few years, more especially if it can be used in the same way for table and other decoration. The silvery lines are quite distinct and add much to the beauty of the plant, but whether they would retain this distinctive character in a greenhouse or other place with a similarly low temperature remains to be seen.

A HELIOTROPE HEDGE.

A reader obligingly sends us the following interesting cutting from the *Los Angeles Express* of October 19th. "One of the most attractive objects in Ventura, California, is the 200 feet of Heliotrope hedge which faces Main Street in the nursery of Mrs Theodosia B. Shepherd. The wide cement walk is three feet below the garden. On the bank above, low posts were placed and wire stretched across to support small plants of Heliotrope, which were put out five years ago. Now they droop down to the walk and stand six feet above it, charming and fragrant masses of purple, lavender and white. All the year the purple glory of colour and perfume attracts the humming birds, butterflies and bees. Children in groups daily fill both hands, gentlemen in passing catch a spray for a boutoniere and ladies for corsage bouquets, and many a delighted tourist has gathered its flowers and raved over its beauty. As Mrs. Shepherd says—"it belongs to the town." Thi week the Heliotrope has been cut, the long drooping branches trimmed and the ripe seed gathered. Yet in a week or two the hedge will be prettier than ever. It requires trimming from three to four times a year."

THE WEATHER IN 1892.

I APPEND the following meteorological notes taken here, which may interest those of your readers who may be concerned in the vagaries of our climate. Temperature:—January, max. 56°, min. 23°; February, max. 55°, min. 6°; March, max. 70°, min. 13°; April, max. 61°, min. 23°; May, max. 70°, min. 31; June, max. 76°, min. 39°; July, max. 73°, min 41; August, max. 78°, min. 41; September, max. 69°, min. 36°; October, max. 59°, min. 26°; November, max. 56°, min 25°; December, max. 48°, min. 16°. The total rainfall for the year was 23½ in. —*W. Angus, Cheswick Gardens, Beal, Northumberland.*

ORCHID NOTES AND GLEANINGS.

Cattleya labiata alba.

I WAS very much surprised to read in the last issue of THE GARDENING WORLD, p. 280, that there are several plants in existence of the true white autumn-flowering Cattleya labiata. We thought that we had the only plant that had ever flowered in cultivation, and we had the assurance of the importer of this plant, Mr. Sander, that ours was the only one known to exist of the pure true white autumn-flowering labiata, and we have always found him to be a honest trader. I should like to hear from gardeners who have flowered these white varieties, as to what they were like and all about them. There ought to be no difficulty in getting at the truth of the matter, and perhaps Mr. Connell's gardener and Mr. Bond will say when their white varieties flowered and what they were like, so that we can have fair play. As I said before, we thought ours was the only one. It is snow-white, and it was honoured with the coveted award of a First-class Certificate from the Orchid Committee of the R.H.S. We are consequently now rather chagrined to learn that several plants exist of this beautiful Cattleya, and are anxious to know if the statements made at p. 280 can be verified.—*R. Hinde, Broomfield, Sale, Cheshire.*

I note your remarks, at p. 280, about Cattleya labiata alba and cannot help stating that we received a few plants from M. Linden, of Brussels, and which although apparently strong were very soft in growth, and the flower buds of some turned yellow and did not open. Only three plants flowered that autumn, 1891, of which one was white, but a very poor flower, as the buds were damaged in transit. The plant commenced to grow again almost immediately, and flowered with the Gaskellianas and turned out to be a very poor form of C. Gaskelliana delicata, which was very disappointing. The plant shortly after died, as two others had done previously, owing, I think, to the sour stuff they were potted in.—*John Mason, gardener, Bushey Down, Tooting.*

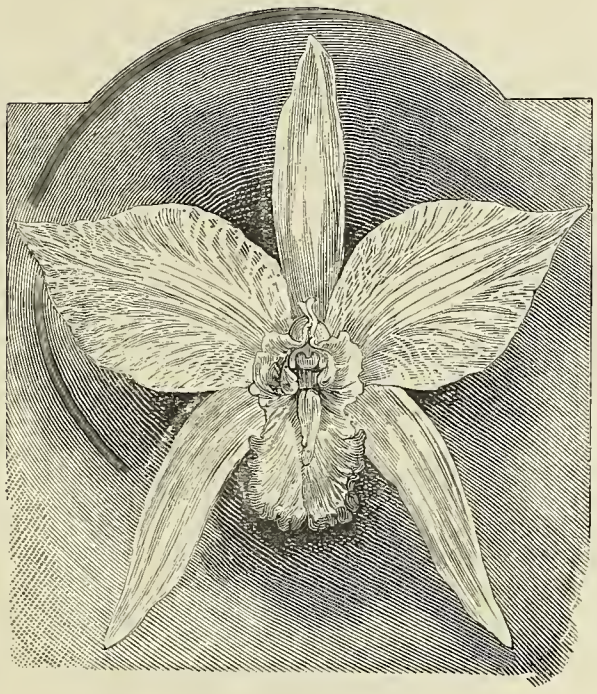
With reference to the statement made at p. 280 of your last issue, that the white autumn-flowering Cattleya labiata flowered here under the name of C. Worocqueana alba, I deem it only right, in justice to the owner of the white labiata which we had at the Drill Hall on the 13th ult. to state the following facts. It is perfectly true that Mr. Ingram purchased the plant as a white labiata of the autumn-flowering section. In due time it flowered, and Mr. Ingram being from home, I sent a bloom to a well-known Orchid authority for his opinion. He took it to a sale at Messrs. Protheroe & Morris' rooms, and several Orchidists then present pronounced it to be a White Trianæ alba. Curiously enough Mr. Ingram was present also, and, not knowing I had sent the bloom, pronounced it to be Cattleya Trianæ alba. On his return to Elstead he ordered the plant to be returned as not being what he bought it for, and it was sent away by parcel post, but owing to the phylloxera regulations it never reached Brussels, and a week later was returned to us apparently none the worse. It is in good robust health and will flower again in a few weeks, when anyone interested in the matter may have an opportunity of seeing it.—*T. W. Bond, Elstead Godalming.*

Lælia anceps Dawsoni.

FLOWERING Orchids are by no means plentiful at midwinter, but more especially when the greater part of the country is frost-bound and covered with snow, as well as darkened with fog in the neighbourhood of large towns. A fine flower of Lycaste Skinneri alba was sent us the other day by Mr. Richard Hinde, Broomfield Gardens, Sale. The flower was of great substance and pure white with exception of a pale yellow hue at the base of the lip and column. Even the crest, which parts with its yellow colouring matter with great reluctance, was in this instance white. Another very choice subject was Lælia anceps Dawsoni, distinguished by its broad, elliptic pure white petals. The sepals are also white, but the lip is parti-coloured. The outer surface is mostly white, with exception of the terminal lobe, which is of a rich purple on both surfaces and has a white edge; the interior of the side lobes is richly striated with a deep, bright purple, and the lower portion of the yellow crest is also striated. A third one was Dendrobium Ainsworthi, one of the most useful of hybrid Dendrobes and very easily grown. In the dull light prevalent at the time of their reception the sepals and petals appeared pure white, and the purple of the lip very rich.

Orchid Growers' Calendar.

EFFECTS OF THE FOG.—The loss of Orchid bloom in and around London from fog annually is no doubt expected, but to hear of blooms being spoiled by its effects twenty miles east of the Metropolis must come somewhat as a surprise to many. Such, however, is the case. The few foggy days preceding Christmas caused all the Lalia ancep blooms that were expanded to curl up as if fertilized. There may be some satisfaction in the knowledge that the plants are relieved from carrying out their usual functions and will consequently break away stronger. Dendrobium Wardianum, Cattleya labiata, Sophronitis grandiflora, Oncidium tigrinum, Odontoglossum crispum, do not appear to be the least affected by the fog. A bud or two on some spikes of Cymbidium Lowianum turned yellow and dropped off, but as this same plant did the same trick last year it may not have been the effects of the fog that caused them to drop.



LÆLIA ANCEPS DAWSONI.

POTTING.—Where a great many Orchids are grown it will be wise to commence operations at the earliest possible moment, so that everything is finished by the middle or at least by the end of April, as after that date I consider it too late to disturb them except in rare instances. I should not advise meddling with the plants while the frosty weather we are now having continues, as they will require all the strength they have stored up during the past year to counteract the exhaustion caused by the strong dry fire heat used to keep the temperature from falling too low. A lot of good work may, however, be done and a lot of time saved later on, when everything is on the move, if a good stock of peat is prepared ready for use. Pots and potsherds too should be got ready by thoroughly cleansing them from every particle of dirt, as cleanliness in Orchid culture is as essential to their well doing as is the best attention in other respects. Small stakes too for steadying the tall growing kinds should be made now, so that when a start is made everything will be to hand ready for use. The peat may be too wet or too dry when received for immediate use, and will require to be either dried or moistened, as the case may be. The various kinds which should take precedence when potting commences shall receive attention in a future calendar, meanwhile I would advise a general stock-taking of all the plants, as by taking periodical notes of the advance made of any particular plant, or by noting any retrograde step, and reasoning out the cause, a lot of good must of necessity accrue.—*C.*

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WHAT TO DO IN THE GARDEN.

Centropogon Lucyanus.—Old plants of this subject from which the flowers were cut at Christmas should now be cut down and placed on some shelf out of the way to ripen, but not to be overlooked or forgotten. Many of the plants may yet bear side shoots, and if the old plants are properly treated, they will flower again and prove useful for cut flowers later on. In any case some of the plants should be kept for the sake of cuttings.

Rivinas.—These may readily be propagated either from cuttings or from seeds, some growers preferring the one method and some another. Seedlings certainly make nice bushy plants and are not difficult to manage. The berries readily germinate on the benches amongst the moist gravel or ashes, and some growers depend upon such seedlings for their stock. This proves very convenient where only one sort is grown, but should there be several varieties a due proportion of each kind is rendered more certain when the berries of each are collected and sown.

Gardenias.—Plants intended to be brought into bloom by forcing should be selected from the main batch, picking out those having the most prominent and most forward buds. Plunge them in a bottom heat of 85° with a corresponding degree of top heat. Before putting them in heat see that they are free from mealy bug, otherwise the pest soon increases and cannot be arrested when the plants are in bloom without spoiling the flowers.

Epiphyllums.—As the plants go out of flower or have been spoiled by being used during Christmas, they should be placed in a cooler house where they may rest for a time. The warmest end of the greenhouse will be suitable for them. Keep them on the dry side so that growth will be completely suspended for a time. They are very liable to mealy bug, and if they have been infested while flowering, the present is a convenient time to clean them before warmer weather sets in.

Stoves.—The severe weather that commenced on Christmas eve necessitated harder firing than has been the case during the last three months of the year. The careful stoker will however guard against excessive firing, which would increase the attack of insect pests, owing to the greater aridity of the atmosphere. The plants themselves also suffer under such adverse conditions, and so that the aim of the grower should be to maintain a medium degree or even a minimum degree compatible with safety. The plants will suffer less during frost or fog or both combined when the temperature is low rather than otherwise.

Peaches.—As the trees in the earliest house come into bloom keep the atmosphere drier, cease syringing and maintain the necessary moisture by damping the paths lightly. When the blooms get sufficiently advanced to be shedding their pollen, the latter may be distributed by means of the hair's tail or by tapping the branches during the middle of the day. The temperature need not be kept very high in severe weather, but when mild a minimum of 50° to 55° may be maintained by night, with a rise by day. Should brown fly make its appearance, fumigate at once unless too many of the flowers are expanded. If only a few colonies can be detected they may be settled with methylated spirits applied with a brush so as not to come in contact with the flowers or leaf buds. Some gardeners use paraffin for the same purpose, but it must be employed with great caution.

Strawberries.—Where ripe fruits are required about three months hence, a batch of plants must be started now. See that the drainage is perfect, then after removing some of the upper soil, give a top-dressing of loam and horse-droppings in equal parts, or of the latter alone. They must have lain for some time so as to get well decayed and easily crumble up with the fingers. The shelves of an early Peach house will meet their requirements for a time at least.

Cauliflowers.—The practice of sowing Cauliflower in heat for the earliest supplies is now becoming more common than it was. Growers consider it a better plan than sowing in autumn and wintering the plants in frames. The boxes containing the seeds may be placed in heat at first, but they should be well exposed to light as soon as the seedlings are up, and soon afterwards transferred to a cooler house. The seedlings should be prevented from getting crowded by thinning or transplanted into other boxes as they grow. Early Snowball or Early Forcing may be used for the first supply.

General work.—While the ground remains frozen, manure should be wheeled on to all the squares and bare ground intended for vegetables, flowers and even fruit trees. When work of this kind is accomplished during frost, the walks are neither cut up nor rendered dirty by soil carried on to them by the barrows and feet. Stakes of various kinds may be prepared for next summer's work, both for outside and inside use. Uprooted trees and prunings may be burnt, and the ashes wheeled on to the ground, while the charcoal is preserved for pot-work. The cleaning and pruning of vines, Peaches and other trees under glass may also be prosecuted.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "THE EDITOR" or "THE PUBLISHER," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa, London."*

FRUIT DISTRICTS.—*Sub.*: 1, Vineries:—Finchley in Middlesex, The Lea Valley in Hertfordshire, and Worthing and Bognor in Sussex. 2, Fruit Orchards:—West Middlesex from Chiswick to Staines, and Mid and West Kent. Strawberries:—Chertsey in the Thames Valley, and the Swanley district in Kent.

WINTER MOTH.—*A. B. Williams*: The freezing of the cart grease on the bands is of no consequence, as there will be no moths to catch while the frost lasts. The frozen ground would prevent their escape, but the cold is not even injurious to them in that respect, for it merely prevents the change into the perfect form being effected so rapidly, and the result is that their appearance is merely delayed by natural causes. All you have got to do is to be on the alert when the thaw comes and have the grease bands in readiness then, as some of the pupæ will rapidly change into the perfect form, and proceed on their mission.

POTATOS IN STORE ROOM.—*H. C.*: Potatos must often get frozen hard when left in the ground all the winter, as some people intentionally do in seasons when badly diseased and considered hardly worth the trouble of digging up. When the ground is dug in spring, the Potatos that were sound in autumn would be sound in spring and come out of the ground clean and fresh. A little consideration of this fact will show you that Potatos may be frozen and afterwards be fit either for planting or cooking. The inference is that they only want to be kept covered up from the atmosphere, so that they may thaw gradually and naturally. Our advice, then, is to give the Potatos a good covering of dry straw, hay or bracken, leaving it upon them for sometime after the thaw comes. Some of the tubers that were the more exposed to the action of air and frost previous to covering up may be injured and soft, and should be removed from the general stock as soon as they are seen to be injured.

NAMES OF PLANTS.—*G. C. Minty*: Cyrtopera sanguinaria.

COMMUNICATIONS RECEIVED.—J. R.—S. & S.—J. S. H.—L. L.—G. W.—H. B. M.—G. F.—H. & S. A. H.—A. J. B.

TRADE CATALOGUES RECEIVED.

WM. CUTBUSH & SON, Highgate and Barnet.—Flower, Vegetable, and Farm Seeds.

ROBERT VEITCH & SON, Exeter.—Kitchen Garden and Flower Seeds.

H. J. JONES, Hither Green, Lewisham.—Chrysanthemums.

JOHN DOWNIE, 144, Princes Street, Edinburgh.—Vegetable and Flower Seeds.

A. FINLAYSON, 42, Above Bar, Southampton.—Spring Seed List, 1893.

DAVID W. THOMSON, 24, Frederick Street, Edinburgh.—List of Garden Seeds.

DOBIE & DICKS, 66, Deansgate, Manchester.—Descriptive Price List of Seeds.

JOHN SMELLIE, Busby, near Glasgow.—Pansies, Violas, etc.

TOM B. DOBBS & Co., 32, Queen Square, Wolverhampton.—Sprlng Catalogue of Seeds.

WILLIAM ETHERINGTON, Swanscombe, Kent.—New and Select Chrysanthemums.

JOHN S. IRELAND, 81, Princes Street, Edinburgh.—List of Garden Seeds.

LONDON SEED TRADE.

January 2nd, 1893.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a moderate trade in Agricultural Seeds. English Red Clover and Cowgrass do not find buyers at present high figures. Foreign Red Clover dearer. White Clover easier. Alsike and Trefoil steady. Italian Ryegrass advancing. Perennial Ryegrass firm.

COVENT GARDEN MARKET.

January 4th, 1893.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d	s. d.		s. d.	s. d.
Grapes..... per lb.	0 6	2 0	Pine apples.		
Kent Cobs...100 lb.	120 0	125. 0	—St. Michael's, each	2 6	6 0
Peaches ... per dozen			Apples...per ½ sieve	1 0	3 6
Melons ... . each			Plums...per ½ sieve		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, French, per lb.	1 0		Musbrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	1 0		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	5 0	Seakale .....per bkt	2 0	3 0
Celery.....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers .....each	0 9	1 6	Spinach ... per strike	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 9	1
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d
Azaleas ... per doz.	36 0	48 0	Foliage Plants, doz.	12 0	60 0
Cyclamen per doz....	9 0	24 0	Lily of the Valley doz. pots	18 0	30 0
Cyperus .....per doz.	4 0	12 0	Marguerites, per doz.	6 0	12 0
Cineraria ...per doz.	8 0	12 0	Palms in variety, each	2 6	10 0
Dracæna term., doz.	24 0	36 0	Palms, Specimen ...	15 0	63 0
Dracæna viridis, doz.	9 0	18 0	Poinsettia...per doz.	10 0	15 0
Erica Hyemalis, doz.	12 0	18 0	Primula Sinensis per doz.	4 0	6 0
Evergreens, invar. doz	6 0	24 0	Solanums.....per doz.	9 0	12 0
Ferns, invar., per doz.	4 0	18 0	Tulips—various.....	8 0	12 0
Ferns, small, per 100	6 0	10 0			
Chrysanthemum, doz.	4 0	9 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s d		s. d.	s. d
Azalea doz sprays.....	0 9	1 6	Mignonette... 12 bun.	2 0	4 0
Arum Lilies, 12 blms.	4 0	8 0	Pelargoniums, 12 sps.	0 9	1 0
Bouvardias, per bun.	0 6	1 0	—scarlet.....12 bcbs.	6 0	12 0
Carnations, 12 blooms	2 0	4 0	Primula, double, bun.	0 6	1 0
Chrysanthemum, dz bn	6 0	15 0	Orchid Bloom in var. per bloom, from	0 3	1 0
— .....doz. blooms	1 0	6 0	Roses, yellow, dozen	3 0	6 0
Camellias doz blooms	1 0	4 0	— French, per bnch	1 6	4 0
Cyclamen doz bloomso	6 0	9	— French, 100 blms	6 0	12 0
Eucharis ...per doz.	5 0	6 0	— Red..... doz. blms.	1 0	2 0
Gardenias 12 blooms	9 0	12 0	— Saffrano...per doz.	2 0	3 0
Heliotropes, 12 sprays	0 6	0 9	— Tea ..... per dozen	1 0	3 0
Hyacinths Roman doz. sprays	0 6	1 0	Tuberoses, per doz	0 6	1 0
Lilac, White, French, per bunch...	5 0	6 0	Tulips, red, per doz.	0 9	1 0
Lilium Harrisii, doz. blooms	6 0	9 0	— White, per doz. ...	1 6	3 0
Lily of the Valley dz. sps.	1 0	2 6	— Yellow, per doz....	1 6	200
Maidenhair Fern, 12 bs.	6 0	9 0	Violets, Parma, French per bunch ..	6 6	7 0
Marguerites, 12 bun.	4 0	6 6	—Czar, French, bun.	2 0	4 0
Mimosa (French) p. bh.	1 0	1 6	—Small „ doz. bun.	2 0	3 0

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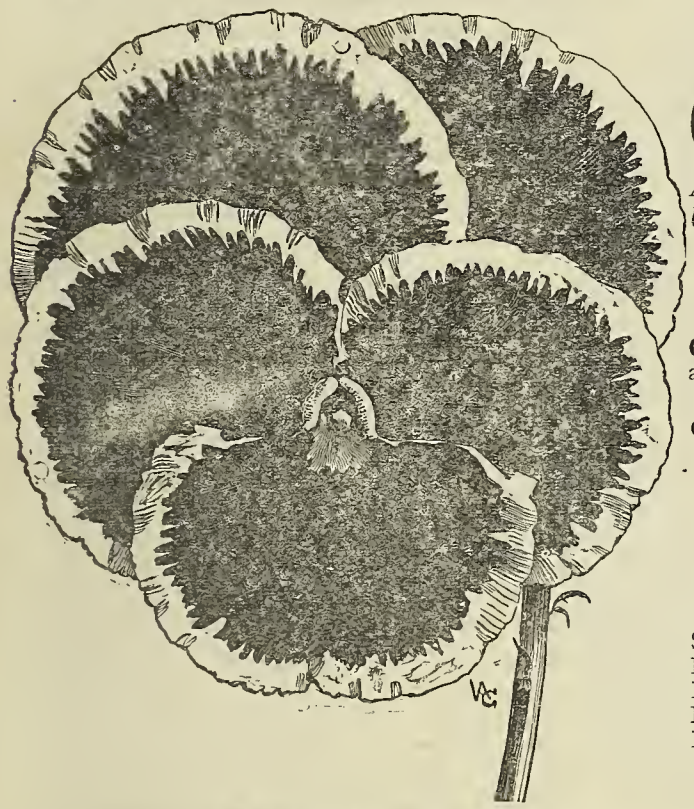

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Jan. 16th.—Sale of Bulbs, at Protheroe & Morris Rooms.

TUESDAY, Jan. 17th.—Gardeners' Royal Benevolent Institution: Special General Meeting at "Simpson's" at 2.45 p.m.; Annual Meeting at 3 p.m. Dinner at 6 p.m.

Royal Horticultural Society: Meeting of Committees at 12 o'clock.

Sale of Orchids at Protheroe & Morris' Rooms.

WEDNESDAY, Jan. 18th.—Sale of Lily Bulbs at Protheroe & Morris' Rooms.

THURSDAY, Jan. 19th.—Bulb Sale at Protheroe & Morris' Rooms.

FRIDAY, Jan. 20th.—Orchid Sale at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, JANUARY 14th, 1893.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—Tuesday next will be a memorable day in the history of this important gardening charity, and it will be a busy one for the officials also. The proceedings will take place, as usual, at "Simpson's," and will commence at a quarter to three p.m., when a special general meeting will be held to confirm the resolution recently passed with reference to the re-registration of the title of the Institution. At three p.m. the annual general meeting will be held for receiving and adopting the accounts, electing officers, and transacting other business. During the afternoon an election will take place for twelve pensioners, ten of whom

will be selected by the subscribers voting in the usual way, and the other two will go on by rule. The poll will be declared at five o'clock, and the annual "Lark pudding" dinner will follow in the usual course.

It may be well to state, as some uncertainty appears to exist on the point, that the new rules will have no bearing on the ensuing election, but very special interest will attach to the elections after this year, when the new rules come into force, and which practically gives to every actual subscriber of four years' standing a start of fifty votes, and fifty additional votes for every additional year up to fourteen, so that eventually a man starts with five hundred and fifty votes ahead of competitors who have not subscribed at all. When any candidate has been a subscriber for fifteen years, then, assuming that his case is in conformity with the rules in other respects, he is entitled to be placed on the pension list without the trouble and expense of an election.

It is a great gain for an applicant who has been a subscriber for fourteen years to start with five hundred and fifty votes, but it must not be overlooked that, when as at the last election 1,224 votes are required to secure election, the fourteen years' subscriber, unless his friends be very active, may be left out, and yet in the following year he may be entitled to come on the fund by right. What is to be feared at elections under the new rules is that subscribers, feeling that the election of a candidate who starts with 400 or 500 votes by right has his election assured, will concentrate their votes upon other perhaps very needy cases, and thus after all leave the subscribing candidate unelected.

At the election on the 17th inst. there are twelve pensioners to be elected out of thirty-seven candidates. Probably of these the race will be to the most energetic, but we note that whilst some are 81 years of age, and in the ordinary course of nature cannot long be a burthen to the funds, other are so young as 45, 55, and 58 years of age. It is worthy of note also, that at the preceding election of the ten candidates elected, not less than six were widows, the one at the head of the list securing, no doubt through unwonted activity, not less than double the number of votes given to the lowest of the elected. That hardly seems to be a desirable arrangement in election methods, though we do not see how it is to be avoided. No doubt the new rule to which we have referred is an instalment of justice towards working subscribers, and it is also some recognition of the need for the eventual adoption of a national pension scheme. In any case the committee recognise first that each one should contribute towards a pension, and hence that those who do so have the prior claim to consideration.

Railway Rates.—The new rates and charges for commodities of every description carried by railways which came into operation on the 1st inst., have served to create in every direction the strongest opposition and the deepest disappointment. We are not surprised. A long time since, and when first the agitation for the interposition of Parliament to compel railway companies to reform their transit charges in the interest of traders and of farmers and market gardeners especially was promoted, we ventured very modestly to suggest that it would have been wiser had each class of trader sought to induce the respective companies to meet them amicably, as that would lead to the most satisfactory results. However, more faith was placed in the issue of the Board of Trade Court of Inquiry than in our suggestion, with the result that now the new rates are out and in operation it is found that those most interested in the matter have clean jumped from the frying pan into the fire, and their present condition is far worse than before. We should indeed like to learn of any one class of trader that has benefited. Only the other day a farmer who has grown seeds for the agricultural and horticultural seed trade wrote in the most distressing terms of the great increase of charges made for the transit by rail of certain classes of seeds, and he feels that these are in many cases prohibitory of growing altogether. Of course, nothing so bad as this existed before. To those who have to send large quantities of garden produce per rail, the new charges may mean death. To seedsmen and nurserymen they may prove the most oppressive, indeed it is doubtful whether any of our allied trades have fully mastered the nature of their operation on agriculture or horticulture.

So great is the annoyance and disappointment that it is no wonder we now hear again demands for the nationalisation of the railways, and the action of the companies in this matter has done more than anything else has to strengthen that demand. It is a matter of the most serious and yet most delicate nature. Cheap transit for commodities of all descriptions is as indispensable for the welfare of the country as is free trade and cheap food.

Winter Tomatos.—Very recently a variety of Tomato was certificated because it was represented as a good winter cropper. It would be very interesting to see fruits of this or any other variety in good clusters and ripe, exhibited during the next couple or three months. It is not in new varieties that fruit freely in the summer that additions are needed, for of these we have enough of really distinct sorts. What we do want are sorts that will give to us very good ripe fruits in the winter under ordinary-house cultivation, and in such abundance as to make them profitable.

Of course it is useless to expect even in the very best of house-grown Tomatos in the winter anything like the same flavour that summer fruits present. Then it is not probable that there ever will be anything like the same demand for Tomatos, for ordinary consumption as ripe fruits, in the winter as in the summer. The flesh is naturally cool and refreshing, and in hot weather forms in the raw state most acceptable food. In the winter also we have always obtainable cheaply large quantities of imported dried fruits, which are always in request, and of Oranges in a fresh state there is a great abundance. The cheapness of these fruits must rank amongst the marvels of the age, and whilst they are found to be so valuable as physical correctives in the winter, the Tomato seems to possess similar attributes for summer consumption. Still we would much prefer, if it be possible, to see the winter growth of Tomatos at home a profitable industry.

Most certainly what of these fruits we get from abroad in the winter are poor enough in quality, and we ought to be able to produce far better at home. The chief difficulty seems to be found in varieties, and to the obtaining of sorts that will be productive of easy free fruiting in winter. We would like to see raisers devoting their energies to this. There is ample room for good work to be done in that direction.

United Horticultural Benefit and Provident Society.—The usual quarterly meeting of this society was held at the Caledonian Hotel, Adelphi Terrace, Strand, on Monday evening last, Mr. W. P. Thomson presiding. It was reported that fifty-three new members had been elected during the past year, and that three members were on the sick fund at the present time. Messrs. Dixon, Gunner and Puzey were elected to audit the accounts of the past year.

Gardeners in Scotland who may be seeking engagements are warned before paying a fee at a registry office for their name being put on the books to make the strictest inquiry as to the genuineness of the business. I know, writes a correspondent, that it is rather tempting to hear that something is going, and for the sake of a few shillings to stand a chance of getting it, but from what I know I strongly advise gardeners to adopt the business course above suggested.

A Young Gardener Suffocated in an Attic.—On Saturday information was received in Edinburgh of the death at Holme-Rose of a young gardener named Murdo Macleod, and the narrow escape of two companions. The three men, who were in the employment of Mrs. Rose, of Holme-Rose, slept in an attic in which there was no fireplace, and the night being bitterly cold, they brought in and lighted a stove in the apartment. One of the men awoke in a semi-stupour, and, failing to arouse his companions, succeeded in obtaining assistance. MacLeod was found to be dead, and John Mennie in such a dazed condition that medical assistance had to be called. On Saturday night Mennie was reported to be out of danger. Macleod was a young man of twenty-two years of age, and was a native of Dornie, Coigach.

Entertainment at Sawbridgeworth.—On Wednesday, the 4th inst., the employes of Messrs. Thos. Rivers & Sons were entertained to supper in one of the large houses, which was decorated for the occasion. About ninety-six men sat down, and Mr. T. F. Rivers, in response to the toast of "Messrs. Rivers & Sons," said he was most happy to see all his men around him, and that it was owing to them and to their careful attention to their duties, that the name of Rivers was so well-known, not only in England, but in every quarter of the globe. He trusted that the friendship which existed would continue for years to come. After speeches by Mr. W. Camp (foreman), Mr. J. Dedman, and Mr. J. Brace, the rest of the evening was spent in singing and dancing.

The Midland Counties Pansy Society.—The schedule of prizes for 1893 has just been issued, and we note that the exhibition in May next is to be held at Tamworth, but Mr. W. Dean is still the honorary secretary, and schedules can be obtained from him. It is certainly a remarkable schedule, so large a sum as £64 being offered in prizes in medals, but the greater part cash, in addition to handsome jewellery prizes to the amount of £14 for lady exhibitors only, for a wreath, a cross, a spray, and a basket, all separately, of Pansy or Viola blooms. Some classes are confined to the amateurs only in the Midland Counties, others to the trade growers of the Midland Counties, whilst other classes are for growers in the United Kingdom. Prizes are also offered for collections of Violas, and if a suitable season ensues the Tamworth gathering will be one of the great events of the season to cultivators of these justly popular flowers.

Scottish Horticultural Association.—The annual meeting of this association was held on Tuesday evening, the 10th inst., at 5, St. Andrew Square, Mr. Welsh, the president, occupying the chair. The secretary, Mr. Robert Laird read the annual report which was adopted. The treasurer read his financial statement, which showed that the association have a balance in hand to the amount of £584. This report was also adopted. The meeting then elected the Duke of Buccleuch as hon. president, Mr. Councillor Mackenzie as president, Mr. Welsh and Mr. J. Methven, as vice-presidents, and Mr. Wood, Mr. Laird, Mr. William Mackinon, Mr. Milne, and Mr. Murray, as members of the council in the place of those retiring by rotation. Mr. Mackenzie moved "that the council be empowered each year to devote a portion of their surplus funds to the relief of gardeners or the widows and orphans of Scottish gardeners," and the resolution was adopted, after some discussion, by a large majority. Mr. Fraser moved a hearty vote of thanks to the retiring president, Mr. Welsh, which was carried unanimously.

Devon and Exeter Gardeners' Association.—The first of what it is proposed to make an annual supper of this association took place on the 6th inst. There were about fifty members present, and the chair was occupied by Mr. A. Hope, the vice-chairs being filled by Mr. T. C. Bartlett (gardener to Lady Duckworth) and Mr. G. C. Crabbe. With toasts and vocal and instrumental music, a very pleasant evening was spent, and the meeting was acknowledged to be a most agreeable break in the winter programme of the association.

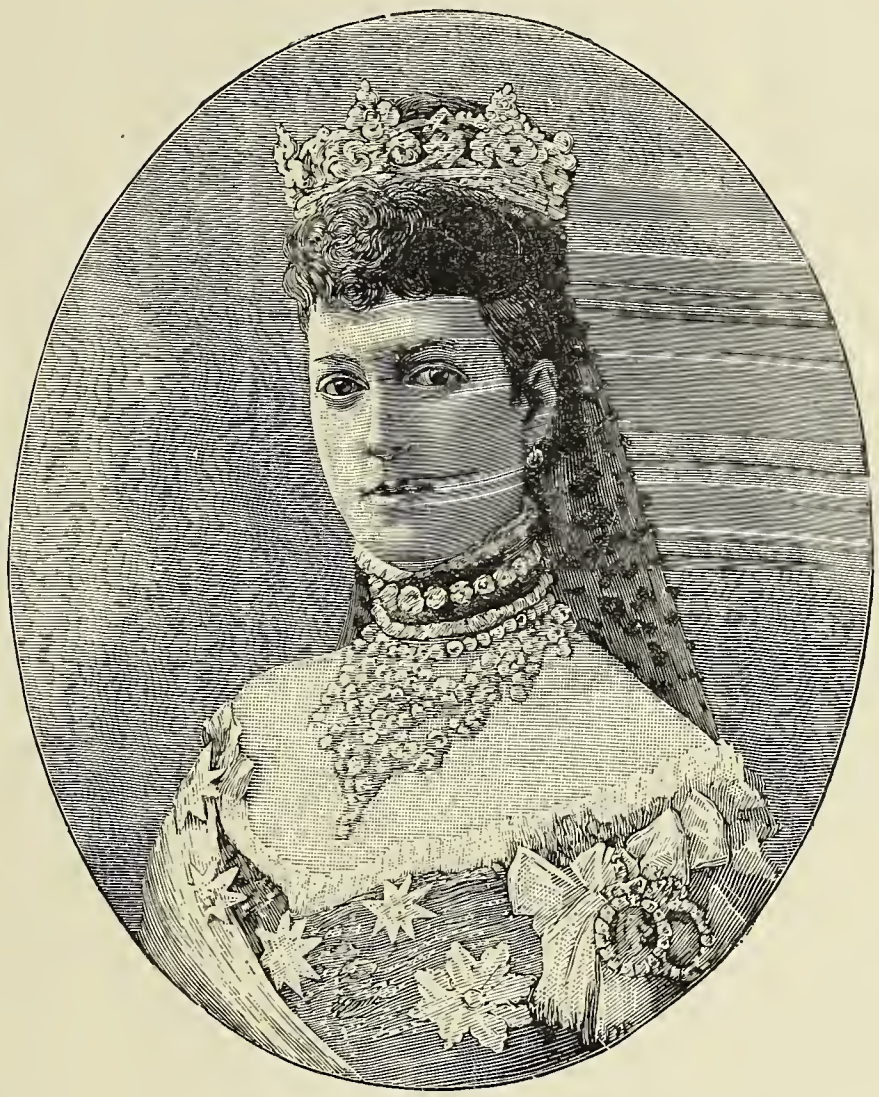
The West of England Chrysanthemum Society.—The first annual meeting of this young society was held at Plymouth on the 4th inst., Mr. G. H E. Rundle presiding. The committee presented an exceedingly satisfactory report, showing that their first exhibition had been the best ever seen in Plymouth, and that they commenced the new year with a cash balance of £15. At the dinner which followed, Mr. Rundle in proposing "Success to the West of England Chrysanthemum Society," said it was the healthiest child he had ever seen; able, in fact, to run away during its first year. As an old Chrysanthemum grower, he was glad to be able to congratulate them on the success of the society and its first show. It rarely happened that a new venture was a distinct success in its first year, but their first show had been an unqualified one.

Potato Growing and the Depression.—Speaking at the recent annual festival of the Glasgow Potato Traders, the president, Mr. Leyburn, remarked that the early crop of Potatos in Ayrshire last season was probably the largest on record, one enterprising farmer having realised £5,000 for 150 imperial acres. Some objected to Ayrshire farmers cultivating the earliest varieties on account of their inferior cooking qualities, but he feared it was almost a necessity to cultivate them. It was imperative that they should grow the earlier sorts if they wanted to keep out the foreigner, and the Ayrshire farmers deserved every credit for the success they had already attained in causing the complete collapse of the Dutch early importations, and in reducing those from Jersey to a minimum. Their later crops round Glasgow and in Perth, Forfar, and the Lothians were perhaps barely average, although they gave promise of a considerable surplus for export, had it not been that the frost did damage to the Potato crop in Scotland to the extent of probably a quarter of a million sterling. Yet there was no scarcity of Potatos, England, Germany, Belgium, and Holland being full of them. Ireland also was already pouring large quantities into the Glasgow and Liverpool markets for transhipment to America. Perhaps the most notable feature of the trade of recent years had been the demand from America. That country might yet prove to be the saviour of the Potato grower. Whatever else she could send, she could not send us Potatos.

The Royal Horticultural Society's Lectures for the current year will be us under :—March 14, "Some Effects of Growing Plants under Glass of Various Colours," the Rev. Prof. Henslow, M.A. March 28, "Flowers of the Riviera," Mons. Henri de Vilmorin. April 11, "Orchid Life in Guiana," Mr. Everard im Thure. April 25, "How to Solve Chemical Questions concerning the Soil without Chemistry," Prof. Cheshire. May 9, "Fritillarias," Mr. D. Morris, M.A. June 6, "Hardy Rhododendrons and Azaleas," Sir J. T. D. Llewelyn, Bart. July 25, "Alpine Houses and their Inhabitants," Mr. H. Selfe Leonard. August 8, "Cannas," Mr. J. G. Baker, F.R.S. September 12, "Garden Phloxes and Pentstemons," Mr. J. Douglas. September 26, "Causes of Failure in Eucharis Culture," Mr. W. Iggulden. October 10, "Pears," Mr. W. Crump. October 24, "Onions,' Mr. A. Dean. Nov. 14, "Chrysanthemums," Mr. R. Parker. Nov. 28, "Late-keeping Grapes," Mr. T. Crasp.

GARDENERS' ORPHAN FUND.

It affords us unqualified pleasure to announce that since our last number was published Her Royal Highness the Princess of Wales has graciously consented to become Patroness of the Gardeners' Orphan Fund, and with the letter conveying the gratifying intimation, enclosed a cheque for ten guineas. We have reason to believe that Her Royal Highness is much pleased with the success which has attended upon the Gardeners' Jubilee Memorial; and knowing the kindly interest which the Princess takes in all institutions having for their object the welfare of the young, and especially of the poor orphans, we congratulate the supporters of the fund upon the commencement of another year's work under such happy auspices.



H.R.H. the Princess of Wales.
Patroness of the Gardeners' Orphan Fund.

CYCLAMENS AT READING.

A good display of Cyclamens can now be had from November till May, or even longer, by sowing batches at different times so as to ensure a succession. Very few batches are really necessary, because one sowing of plants will keep on flowering for months together. In the Portland Road Nurseries of Messrs. Sutton & Sons, Reading, there are three houses and several pits occupied with them, and a fine display they make. The plants commenced flowering some considerable time ago, and still bear a profusion of bloom with a seemingly endless succession of buds beneath the foliage, in fact, they are really only in their prime. The seeds were sown in November, 1891, so that the plants are now about fourteen months old. The pans containing the seeds were placed in low frames close to the glass in a temperature of 60°, and when the seedlings were well above the soil they were transferred to a stove and located on shelves so as to be close to the glass. Manure was only given them once, when repotted for the last time. Sutton's A 1, an artificial manure, was used, and afterwards weak liquid manure was given the plants, which are all in 48-size pots and very floriferous. At present the houses are kept at 38° or 40° at night, with a rise to 50° or 56° by day if the weather is fine.

Giant Strain.

Some prefer the old type with small flowers, while others like the Giant strain. A similar amount of flowers from the latter as from the former can hardly be expected, but even in the small pots the Giant strain is wonderfully profuse. One of the finest, if not the best, we noted was Giant White, which for size, purity, and boldness would be difficult to excel. Alongside of it was another, now widely known under the name of Butterfly, also pure white and of great size, but having widely spreading instead of erect segments, like the outspread wings of a butterfly. It meets with great favour from a large number of growers. The Giant Crimson and White is also a meritorious variety, with a crimson mouth or base to the flower, the rest being white; it is quite as large as any of the foregoing. Other colours in this group to be noted are Giant Crimson, Lilac Purple, and Giant Rose. The latter is of a bright rose with a crimson base, and is excellent in its way, although some prefer the Giant Crimson. Dark coloured flowers of this class show well up under artificial light, because they have not the solid or massive build of a double Rose or Dahlia, which, when of a maroon or crimson colour, appear black or opaque under artificial light. In the case of a dark Cyclamen, on the contrary, the light can shine through and therefore give the charming effect which many gardeners have noticed when their plants are placed under artificial light.

The Persicum Strain.

The above term is applied to all those varieties of Cyclamen persicum which still retain the small flowers of the type. When well grown, they are always exceedingly floriferous; hence the favour with which they are still received by many cultivators. In examining the collection we were particularly pleased with a batch of a new variety named Salmon Queen. It will be classed amongst the novelties for 1894, as the seeds will not be ready for distribution till then. The flowers are rosy-salmon with a crimson mouth, and very distinct. The whole plant is dwarf, very floriferous, and the small leaves beautifully marbled with grey. Another novelty that will require longer time to get up a stock of is one with plum-purple flowers. Very richly coloured is Purpureum, the flowers of which are of a violet-purple even in the young stages, and more distinctly so as they get old. The flowers of Rubrum are cherry-red, those of Album are pure white, those of Roseum are rose, of Roseum album, white with a red mouth, and those of Phœnix, intense crimson. The richest of all the crimson varieties, however, is that named Vulcan, which can hardly be distinguished from Phœnix by mere description, but is very different when actually seen. Notwithstanding the intensity of the flowers, they show well up under artificial light. The thanks of gardeners are due to Messrs. Sutton & Sons for the persistency with which they stick to a fine variety until they have fixed it and raised seeds in sufficient quantity for distribution.

LIFTING ROSES.

Your northern correspondent, writing upon this subject at p. 292, reminds me of the advice given by my old master, Mr. J. D. Parks, when living with him in 1838. He at that time stated that Roses in beds and borders should be lifted every three years, not later than November, and as early in that month as possible, and this practice I have subsequently adopted and have proved the soundness of the advice given at that remote period in the cultivation of this the most seductive and beautiful of all our hardy flowering plants. I have proved again that this triennial lifting is of significant value and importance in the economy of judicious treatment. It is only twelve months ago last November that I took up a good sized bed of plants, which were root-pruned and divested of all sucker-like growths, ofttimes troublesome when the Roses are worked on stocks which are buried below the surface of the earth in which they are planted. In the process of munipulation the plants were carefully laid on one side and covered with mats, the weather being mild and genial, whilst the bed was thoroughly renovated by being trenched quite 18 in. deep, with a good quantity of horse manure well decomposed placed regularly at the bottom as the digging was proceeded with, the plants being replanted the following day, and in the issue the results are of the most satisfactory character. In this way I have very successfully treated Roses of large size, consequently aged plants.

Some thirty years ago, at one of the places which I had under my management the gentleman was very passionately fond of Roses, but failed in producing good plants and flowers owing to the soil and subsoil being composed of a dry, hungry dark gravel. It was only when the season was a wet one that there was the least possible chance of getting a good display of flowers. To alter this state of things the soil was taken out about 4 ft. square and 2 ft. 6 in. deep and substituted with that of a more retentive character, such as clay and loam of good texture with a good portion of well decomposed cow manure, it being good practice to use this for light, gravelly soils, and horse manure for heavy, retentive soils. The treatment of the ground here mentioned was for standards, which were planted on the lawn and flower borders, and which proved highly satisfactory, both as enhancing the growth of the plants and exuberance and quality of flowers. In my early days similar treatment was had recourse to in making Peach and Vine borders, as is well known, ere success could be attained under similar circumstances.—*George Fry, Lewisham.*

GRAFTING OF CHRYSANTHEMUMS.

M. Alexis Callier, a Continental grower of Chrysanthemums, relates in the *Revue de L'Horticulture Belge* for January his experience in the grafting of Japanese Chrysanthemums upon C. frutescens. He says the practice is not new, as he merely imitated the Chinese according to the testimony of Fortune as stated by Burbidge in his book on *The Chrysanthemum*. The writer speaks of the extreme vigour of C. frutescens and its suitability as a stock. In the course of two years from the seed it develops into a little tree. All the varieties of this in cultivation are not equally suitable, but he considers the yellow-flowered Etoile d'Or as one of the best. Then again, it is not every variety of Chrysanthemum that will take kindly to such a stock. Etoile de Lyon and Ernest Fierens are eminently suitable, and Val d'Andorre, Paul Fabre, Melanie Fabre, Hiver Fleuri, Mademoiselle Paul Dutour, Madame Elize Neyt, Source d'Or, Cinna, and Cavour Hermann also prove capable of forming a successful union with the stock and to make good growth.

Cleft grafting is practised and the graft is bound with raffia, and the whole covered with cold mastic, or left uncovered, as no advantage is apparently derived from the use of it. The fitting of the graft and stock has to be neatly and accurately effected. Care is also taken in selecting grafts and branches on the stock of equal thickness. As the operation has to be performed in winter or early spring, the plants have to be kept in a house at a temperature of 53° to 61° by artificial heat, rising to 68° with sun heat. Grafting, furthermore, may be done at any time from December to May. It depends upon the resources at command and the results desired. Only a few grafts are necessary to produce a large plant by November following. Nine grafts of Ernest Fierens inserted upon a plant in January, 1892, and which was itself struck from a cutting in August, 1891, gave rise to a fine specimen last November, bearing 300 blooms. Grafting later on, say in March, is much surer and safer work, as the outside climate is then more favourable. A union is formed in three weeks, more or less, according as circumstances favour it. The rapidity of growth of C. frutescens is such that grafts put upon it in April make much greater growth than cuttings of Chrysanthemums made in December.

THE VEGETABLE GARDEN.

Peas.

Towards the end of this month is a good time to make the sowing of Peas indoors for planting out. The crop from these may be small, but it comes a little in advance of the first sown out of doors, and a week gained is worth all the trouble. They can be sown in various ways, either in long narrow boxes, in pots, or on turves; if boxes are used they should be made to take to pieces easily, and when planting time comes the sides can be removed, and the whole carefully placed in the trench that is ready to receive them. Pots are the handiest to use for this purpose—either 5 or 6-in. ones—being so much easier to move about and plant out without damage to the roots when ready. When first sown a Peach or Fig house just started is a good place for them until the young plants come through the soil, when they should be removed to a cool pit or frame near the glass, but so that they can be protected from the frost. Grow them on as hardy as possible until the ground is ready for them. As to the time of planting, this must be regulated by the weather and the position of the garden, but they should be planted out before the growth becomes stunted. After planting draw some soil towards them, and stake them at once, and if possible protect on the north side with some evergreen boughs. The best varieties for this purpose I find to be William the First, Veitch's Selected Extra Early, and American Wonder.

The first sowing out of doors must be made as soon as the ground is in good working order, and one row or more should be sown every fortnight according to the requirements of the establishments to be supplied and the ground that can be spared for this particular crop. For a good cropper to start with, a selection of William the First is as good as any; there are few better croppers and few are earlier, with the exception of the very dwarf varieties. A few rows of American Wonder on a border, or any warm place, should be sown as early as possible; these will come in a few days before those quite in the open. For a general crop, where there is plenty of room, there is none to beat Ne Plus Ultra for quality. Some of the new dwarfer varieties are coming near to it in flavour, but none that I have yet seen are equal to it. For exhibition some Duke of Albany should be grown. Give all the varieties plenty of room, both in the row and from row to row.—*G. H. S.*

Notes on Potatos.

At this season, when so many gardeners will be conning over the seed lists and making up their minds as to what they will grow during the coming summer, I am tempted to relate my experience last year with Potatos, believing that there is nothing like the teaching of our successes and failures. I planted seven and a half bushels of Sutton's Early Regents, and early in the season lifted a crop of about 2½ tons of good serviceable tubers; which we are now using, and which give the greatest satisfaction to our customers. Our Magnums gave us a crop of about 13 tons to the acre, but a large quantity of them have gone bad since they were stored, as is also the case with Reading Hero and Beauty of Hebron. The Regents have been turned on several ocassions, and no bad ones have been found. Their flavour when cooked is far before the other varieties named. An old neighbour who called the other day complained of the bad quality of the Potatos he was eating, and after trying a dish of the Early Regents subsequently declared them to be the best he had had this season. The Early Regent has a great advantage in the dwarfness of its haulm, which enables us to make the most of the ground by secondary cropping. We have for some time been cutting good Cabbages which were planted between the rows. We want more of these short-topped varieties and fewer of the strong coarse growers.—*A. J. Brown, School of Handicrafts, Chertsey.*

VEGETABLES FOR EXHIBITION.

(*Concluded from p. 291.*)

The soil for Cauliflowers and Brussels Sprouts can scarcely be too rich, though it must not be loose, but moderately firm or the result will be more leaves than anything else. When trenching the ground in the autumn two spit deep, manure may be placed at the bottom of the trench and between the two top spits. For early shows, Cauliflowers are best sown thinly in boxes in a little leaf soil about the beginning of March, and as soon as they have made their seed leaves should be removed to cool quarters and when sufficiently hardened should be pricked into a frame with a little hot manure placed at the bottom and 3 in. of half decayed leaves and turfy loam. In this compost they will grow well, and lift with good balls. When being transferred to their summer quarters, the ground should be thoroughly forked over, and for the strong-growing sorts, of which Autumn Giant is an example, the lines should not be closer than 3 ft. and 2 ft. from plant to plant. Cauliflowers can easily be had from outside sowings, which should be made as soon as the weather will permit in the month of March.

The seed should be sown very thinly, and the young plants should not be allowed to crowd each other. After they have made four leaves they should be pricked into other beds, and thoroughly watered. When ready for planting out they should be lifted with good balls with a trowel, and placed in their new quarters, a handful of soot and lime being thrown round the stems. This will help to prevent the little white maggot, which sometimes does great damage, rendering the plant useless by eating off the roots. Plenty of water should be given when the weather is dry, and liquid manure may be given with advantage once a week. When the heads begin to form, a strict watch must be kept on the caterpillar, and the only effectual remedy I know off is handpicking.

Good Cauliflowers should be perfectly white when cut; this can only be accomplished by tying the leaves over the head and excluding the light immediately they begin to form. A good head can be kept in good condition from ten to fourteen days by pulling up the whole plant and storing away in a dark, cool shed. In my opinion the purity of the curd is improved by so doing. This plan has much to recommend it, especially when they are too early. If left in the open ground the same heads would be useless. The stems should never be cut off before staging at the show, and even then they sometimes come in useful, as they serve as a prop when they require to be placed on the top of each other. For early shows, Veitch's Pearl is good, and for later ones nothing can equal Veitch's Autumn Giant when in good condition. Brussels Sprouts require the same cultivation as Cauliflowers; only, if the soil is rich, the firmer it is the more solid the sprouts wil be. Sutton's Exhibition and the Wroxton are good types for show purposes or general use.

Onions.

Onions for exhibition require a long season of growth, and should be sown in boxes about the first week in February in a temperature of from 50° to 55°. When the seedlings have reached the height of 1½ in. they should be transplanted into other boxes 2 in. apart, and grown in the same temperature till they are about 6 in. high, when they should be hardened off in cold frames ready for planting in the open about the middle of April. The ground should be thoroughly trenched in the autumn, and heavily manured, placing the manure at the bottom of the trench and between the top spits. In the early spring soot and salt should be sown over the ground to wash in by the rain. Then about a month before planting the ground should be forked over and a little more soot scattered over it. When ready for planting give a good dressing of wood ashes, then with a trowel transplant the Onions 10 in. apart and 18 in. from row to row. If the weather is dry much water will be required, and, as soon as they are thoroughly established, a little soot, nitrate of soda, or liquid manure, not too strong, should be given at intervals of ten days. It is an excellent plan through-

out May and June to syringe the plants with a solution of 3 oz. of soft soap to a wineglass full of paraffin added to three gallons of water. This seems distasteful to the Onion fly and prevents it from lighting on the blades and depositing its eggs. Top dressing the ground with well-rotted manure is of much importance, and should always be done if the soil is light and likely to dry out in hot seasons. As regards varieties, the globe-shaped sort seem to find most favour. Ailsa Crag and Excelsior are two of the best, while Rousham Park Hero and Suttons' A 1 are excellent flat sorts.

CELERY.

The seed should be sown very thinly in boxes, in heat, about the first week in March. After the young plants are fit to handle they should be pricked off into a frame, which has been prepared by putting 3 in. of cow manure on a hard surface of ashes, then 2 in. of soil on the top. In this the young plants will grow freely, and lift with good balls with a trowel. It is most important that the young plants should not receive the slightest check by becoming dry at the root or getting crowded, or they are sure to throw up seed stems, which render all your care and cultivation useless. About the beginning of May the trenches should be prepared, 18 in. deep and 18 in. in width, and filled in with well-rotted manure and part of the soil taken from the trench, bringing the whole level with the surface. The plants are placed 1 ft. apart, and thoroughly watered in. When the plants are making free growths the ground should be mulched with long litter to prevent the moisture escaping. About once a week liquid manure should be given. About seven weeks before the show preparation should be made for blanching. After all useless leaves and side growths have been removed, take long strips of brown paper and bind this round the plant, not too tightly. This will be found an excellent substitute for soil, as no worm or slug marks will be found, and the blanching will be more effectually completed. It is a difficult matter to say which are the best sort to grow, as I think with Celery it is more a question of good culture than variety. The sorts that I grow are Sutton's Solid White, Major Clarke's Red, and Sulham Prize Pink.

LEEKS.

Leeks require much the same cultivation as Celery; the only difference is in the blanching. After they are planted in the trench paper collars should be put round the neck of each plant, to prevent the soil from reaching the centre of the leak when earthing up, also to help to keep the leaves in an erect position till once the blanching is completed. When the Leeks have started to grow freely, draw up these collars once a fortnight, at the same time adding more soil until the blanched ports are about 12 in. in length. They like plenty of liquid manure, and should never get dry at the root. Of varieties Sutton's Prizetaker and the Lyon are both popular sorts.

CARROTS, &c.

The system that I adopt to get Carrots, Parsnips and Beet clean and straight and of good flavour is as follows:—In the early autumn the ground is thoroughly trenched to the depth of three feet, but no manure given. In the early spring the ground is forked over, and rolled firm, then with a round iron bar holes are made about 3 ft. deep and 6 in. wide at the top for Parsnips, and half that depth and width for Carrots and Beet. These holes are filled up with a mixture of burnt soil, wood ashes, and a little soot put through a fine sieve, with an addition for the Parsnip of a little rotted manure, and dropped into the bottom of the holes. At the proper season for sowing four or five seeds are placed on the top of each hole, and the young plants are thinned to one when large enough to determine which is the best. By this method there are no stones or rough lumps to obstruct the tender point from going down straight, and no fresh manure to induce forking near the surface, and yet there is sufficient nourishment in the mixture to sustain the plant during its growing season. As an experiment I had some holes made 2 ft. deep, and some of the Parsnips measured 4 ft. 7 in., which shows the depth they will go if they only get the opportunity. Parsnips are best sown as early as the state of the soil will permit, Carrots not before the beginning of April, and Beet the last week in that month or first week in May. As regard varieties of Parsnip the Student is best, while for Carrots New Intermediate, and Beet Pragnell's Exhibition and Blood Red.

TOMATOS.

Tomatos are best sown in a little heat, very thinly, about the beginning of March, and as soon as fit to handle potted into 3-in. pots, and immediately they are ready for another shift into 5-in. pots. For exhibition they are best grown in an intermediate or a cool house, where they can enjoy plenty of air. It is a mistake to have the soil too rich to begin with, and if they are to be planted out better have poor soil and moderately firm, as they make shorter jointed wood and set freely. They are best trained to a single stem. When a good crop is set thin out all deformed fruit, when feeding may commence. It is a good time then to give them a top dressing of manure, and when the crop is swelling freely plenty of liquid manure should be given to encourage the fruit to swell to a good size. Very often it is found difficult to get sufficient fruit ripe at once for certain shows. Any that would be too early should be packed in tissue paper and sawdust just when beginning to colour, and stored away in a dry room. In this way they keep in sound condition for a month or more, and will be found in perfect condition when they are taken out. As to variety, nothing can equal Perfection when in good condition.—*James Gibson, The Oaks, Carshalton.*

HERBACEOUS BORDERS.

AT a meeting of the Manchester Horticultural Improvement Society, held on the 5th inst. Mr. William Hough, of Audenshaw, read a paper on the Herbaceous Border. He said his earliest recollection and love of flowers dated from his days of childhood when he admired the herbaceous flowers in his father's garden. He remembered the care and devotion bestowed upon the flowers by his father, and the country folk in the neighbourhood. With few exceptions the cottages, however humble, had each its bit of garden in which could be seen clumps of old-fashioned flowers. The Wallflower, Primrose, Polyanthus, Pansy, Pink, Carnation, Hollyhock, Narcissus, Iris, and many more were favourites in the old days.

One of the most enduring and pleasant legacies left to the younger inmates of the old home was the remembrance of the love and devotion of the old people for some of the flowering plants. He would like to know how a modern bed or border containing a large number of geraniums and calceolarias compared with the same area of a carefully selected and tastefully arranged herbaceous border. It seemed to him that in this matter a move had been made in the wrong direction. One of the causes of the neglect of the herbaceous border was to be found in the great increase in the number of glass-houses, and the fascination which master and man had for new kinds of plants.

Mr. Hough pointed out that the herbaceous border might be made the means of supplying flowers and foliage for indoor decoration, and at certain seasons of the year the border was surpassed. At almost all times something useful could be obtained from it, and ere the leaves of autumn found a resting-place the Christmas rose began to make its appearance. Other flowers followed. According to the selection and quantity of stock, of which there was scarcely a limit, variety, height, habit, colour, and foliage, and he had often noticed how anyone going to a collection of herbaceous plants could gather a beautiful bouquet without consideration as to arrangement. He had never seen a perfect border in any of the gardens visited. Some of the defects could not easily be overcome, such as walks, running parallel with them, in such places as public parks and gardens, but in private places a border need not follow exactly the same lines. Personally he would like to see a border laid out without any walks near, because he looked upon walks in a garden as a necessary evil, and not adding to the natural beauty of a flower garden. A good herbaceous border should fringe the lawn, running in curving lines with a background of shrubs, conifers, and forest trees, placed at such a distance as to afford protection and give effect to the to the beauty of the border. To the border he would admit all that was good and beautiful; a clump of pelargoniums, or calceolarias, and such new-comers as did not belong to the old aristocracy. He would do that because he thought such flowers would be improved in appearance by being placed in the company of our old herbaceous plants.

Gleanings from the World of Science.

Fruits of Mulberries.—Mr. L. H. Bailey gives a review of the Mulberries grown in America, in *Bulletin* 46 of the Cornell University Experiment Station. He complains of the neglect into which the Mulberry has fallen, and while advocating the culture of the species and varieties for the sake of their fruit, he says they would be valueless for market purposes, simply because there is no demand for them. He urges, however, that the fruit has merit for dessert purposes, and might be grown in the home garden and orchard. The species of Mulberry are not very numerous, but the varieties are exceedingly so, and Mr. Bailey mentions sixteen varieties as suitable for fruit bearing. The new American variety is the best for the Northern States on account of its hardiness. It originated or was brought into notice about 1854, and has glossy black, oblong fruit, ranging from 1 in. to 2 in. in length. It is a variety of Morus alba. Large trees will keep on ripening their fruits from the end of June till September, giving about 10 bushels each in that time. Downing is one of the most popular varieties, but has almost died out in the Northern States. It originated from the broad-leaved M. alba multicaulis. The fruit is oblong, black, and of excellent quality, although possessing a slight acidity not to be found in many of the varieties of M. alba. The fruit of M. japonica is short, oblong, and red. The globular, black, and bramble like fruit of M. nigra is pretty well known in this country, especially in the south of England, where it is hardy and ripens its fruit in the open. The Red Mulberry (M. rubra) is a native of the United States, and has oblong fruits sometimes over an inch in length. They are deep red or almost black when fully matured with an agreeable acidity. Notwithstanding its name, the White Mulberry (M. alba) has violet as well as whitish fruits, and sometimes they are quite black. It is therefore liable to much variation. The Russian Mulberry (M. alba tatarica) has small creamy-white, violet, deep red, or almost black fruits, but they are rather insipid. The native Red Mulberry is well suited for the United States, has already proved very variable, and as the fruits are of good quality, it is probable that the improvements of the future will proceed from this species.

Advantages of quick fertilisers for Tomatos.—A series of interesting experiments have been carried on for some years past at the Cornell University Experiment Station as recorded from time to time. The result of the experiments during 1892 are recorded in *Bulletin* 45. Farm yard manure, especially if applied in spring, keeps the plants growing late, consequently they are liable to be killed down by frost, while the bulk of the fruit is still green. Last year certain plots were laid off, planted with Tomatos and supplied with a heavy dressing of nitrate of soda, all given at one application. Other plots had the same amount of nitrate of soda applied at four different times. Frost held off till the second week in October, so that the late applications of the manure made themselves felt, giving the heaviest return. In 1892, however, frost occurred on the 1st of October, so that the plot to which the whole quantity of nitrate of soda was given at one application showed the best results. Three pounds of the nitrate were given to a plot containing 15 plants, on the 20th of June, and the plants gave an average weight of 10 pounds of ripe fruit each, and the green ones added to this gave an average of 17·8 pounds per plant. In another case the same amount of the nitrate was given in four applications, namely, on June 20, June 28, July 4 and July 27. The plants gave an average of 8·7 pounds each of ripe fruit, and including the green ones, 16·6 pounds. An unmanured plot gave an average of 5·8 pounds of ripe fruit to each plant and 9·8 pounds with the green fruit added. The advantage of the manure was seen on all the three plots which had it, but the largest return of ripe fruit was certainly obtained from the plot which had the whole of the nitrate applied on June 20th. The next best crop was from the plot where the last of the four applications was given on the 27th of July, or just a month earlier than plot 3. Had the fine weather lasted a month longer the advantage of repeated and late applications would have resulted in a much greater total yield than the single heavy application.

FLORICULTURE.

New Fancy Pansies.

It is now about thirty-four years since the first of the modern fancy Pansies was introduced from Lille in France, and were taken in hand by the writer of these notes, and first became known as Belgian Pansies; but as this appeared to me to be an inappropriate name, I adopted the term "Fancy Pansies," which they still retain. Writing about these flowers in the *Florist and Pomologist* for February, 1862, I used these words:—"The old familiar sterotyped forms of Pansies, consisting of white ground, yellow ground, and self varieties with which we have been familiar, are running a great risk of finding a powerful rival in public opinion in the new and pleasing forms of fancy or Belgian Pansies. These are now fast appro ching the circular form, combined with the texture and substance which the stern law of the florists demand before they can be admitted into their circle. Whether florists will ever recognise the fancy Pansy remains to be seen, so completely does it set at defiance all recognised rules with regard to colouring, but as all do not view flowers with a florist's eye and look more to a diversity of pleasing colours combined with form, *I venture to predict for fancy Pansies a large amount of popularity, and their recognition as a florists' flower on the exhibition table.*"

I wrote these words at a time when the feelings of my brother florists were dead against the fancy Pansy. But I was a true prophet and the fancy Pansy is now one of the most popular flowers of the day and a large sum of money is annually expanded in the United Kingdom in the purchase of plants. Societies for the encouragement of the Pansy exist, and in Scotland it may be regarded as a national flower, so generally is it cultivated and exhibited there. I have now before me a catalogue from a leading cultivator in Scotland, in which fifty-two new varieties now to be sent out for the first time are enumerated, the introductions of five well known trade growers in Scotland, and all ranging in price from just a few at 3/6 each, but the greater number at 5/- per plant. There are, no doubt, still other quite new varieties to come from the north, and a well known grower in the Midland districts of England is sending out for the first time twenty-five new varieties at 5/- each. The fact of all these new varieties being introduced at one time is in itself an abundant proof of the popularity of the fancy Pansy, for unless there were buyers it would be folly to go to the expense of printing lists of these new sorts.

Not that it is at all necessary for those who are beginners in Pansy culture to get these expensive kinds, because a large number of superb varieties can be purchased at from 4s. per dozen upwards, for after the first year's introduction, the prices drop considerably. I do not purpose giving a list of sorts here, but rather recommend amateurs to send either a list of the sorts they want, or a list of the sorts they possess to a respectable florist celebrated for Pansies, to select for him at a given price. I recommend the purchase of plants in March or early in April, as the autumn has passed away, planting out early and firmly provided the plants are strong and well rooted. If on arrival they are seen to be not well rooted and strong, then it is best either to pot them up in small pots for a week or two, or in a cold frame for a few days before planting out.—*W. Dean.*

Hybrid Violas.

Replying to "Viola's" question in your issue of two weeks ago as to why I term Violetta a hybrid Viola, and also wishing to know wherein it differs from Duchess of Fife and other varieties, I will endeavour to explain what I term a hybrid Viola. Supposing we take Duchess of Fife and cross it with a wild species of Viola which has not hitherto been used in obtaining our ordinary garden varieties, and the seedlings obtained be distinct, I would call such seedlings hybrids, and as Violetta was obtained by crossing one of our old varieties of garden Violas with a species of Viola not known to have been previously used for crossing purposes, I say that it is a distinct hybrid. Duchess of Fife is a sport from Goldfinch, which variety is also a sport from Ardwell Gem, a yellow self Viola, and the characteristics of Ardwell Gem are quite distinct from Violetta. I would call Ardwell Gem a cross-bred Viola, as it was obtained from our ordinary varieties without the infusion of any distinct variety of Viola which its parents did not already possess. In animal and bird life the term hybrid is only used when a species is crossed in such a way that in the hybrid obtained the hybridity ceases, and such hybrids cannot reproduce their own or the original species; but with flowers of a species Nature has been more generous. There is still a great future for the Viola, as there are types of it in existence which, if crossed with our garden Violas, would alter the appearance of the race in robustness, habit, foliage, and flower.—*Geo. McLeod, Chingford.*

[We suppose, when our correspondent says that "in the hybrid obtained the hybridity ceases," he merely means that the progeny is sterile and cannot bear young, as in the case of the mule and the hinny. This is not the case with all species of animal, however, any more than it applies to all species of plant, for some of the hybrid progeny in either case are fertile. We should have liked, however, if Mr. McLeod had said what species of Viola was used as the pollen parent in the production of Violetta.—Ed.]

DRESSING CARNATIONS.

Florists will not be greatly disquieted by the censures of a critic who makes the naive confession of the Gardener in Council, p. 290, that his "taste has but little distinction for anything that appears good and beautiful," for this of course is just the fundamental difference between him and them. It is this faculty of discriminating and differentiating amid varied orders and degrees of beauty which makes the florist, as it is indeed the basis of any connoisseurship whatever.

The florist upholds without doubt a high standard of excellence in the particular flowers which are the subjects of his care, and he is justified and encouraged in so doing by what he has already won from Nature. But the effect is to "place limits" not on perfection but on inferiority and mediocrity. Commencing and working with Nature he pays the price she demands in labour, patience and skill, happy when amid a multitude of lower grade things she smiles on him with even one diamond of the first water.

Our critic tells us that any flower which taken as a whole is pleasing to his eye represents to him perfection. If for "perfection" he will substitute "beauty," we shall be in perfect accord with him, for hardly any flower is there that does not fulfil these conditions, and which is not in consequence entitled to be called "beautiful." But some flowers —notably those we call "florist flowers"—show greater tendency to vary from seed and greater capacity for the development of beauty than others, and this variation and development have been carried so far, that while no one would deny beauty to forms relatively inferior, we cannot, and do not, in the face of what we now possess, appraise them at the same value. As to "perfection," which implies finality, no florist thinks to have attained it; he knows Nature and her capacity for surprises too well.

Our critic speaks of "most beautiful acquisitions" being discarded because they have blemishes of form or marking. This a little reminds one of the sad case of the maiden who would have been "a perfect beauty," but that unhappily her face and her figure spoiled her.

Everything is relative, and a flower of the bizarre or flake classes where the characteristic excellences are symmetry, purity of ground, definiteness of markings, and harmony of colour must needs be discarded from its class if weak in these respects. What is needful is that the flower should have in high degree the characteristic excellence of its order. And here taste may indulge itself, and those who have not so much feeling with the higher development of the "class flowers," may find their taste gratified in the "fancies," whose strength lies in their variety and picturesqueness—elements of beauty more readily appreciated by the less educated eye. To excellence, pure and simple, the florist is no more indifferent than the Gardener in Council—what he refuses to do is to mix up the characteristics of one class with those of another. He would regard this as no more desirable than I dare say the Gardener in Council would think pigeon-English the perfection of a language.

Our critic is severe on the subject of dressing, which he says renders the flower offensive to his eye, and is, he thinks, in every way "pernicious." I wonder whether he has ever seen a fine bizarrre or flake Carnation before and after dressing by competitive hands. The dressing of Carnations for exhibition is based on the simple principle of the development of latent beauty; and so constantly will the most richly marked petals be found hidden under others of inferior merit, that when blooms are set up in competition full justice could not be done to many of them without it. But the objects of the practice have been so fully set forth by Mr. Dodwell in his work on the Carnation, and more recently by Mr. Simonite in the "Carnation Manual," that there is little need to go further into the matter here. The argument that if Nature had considered dressing necessary to perfection she would have done it herself, is one that in its application would be prohibitive of every art in life. Our Gardener in Council might as well tell us that if Nature had thought the process of cooking necessary to the development of flavour in the potato, she would have presented that esculent to us ready peeled and boiled. Our friend is in truth a little astray with his philosophy; it is a recognised fact of the scheme of Nature that she has given man brains and hands to find and work out these things for himself.

The practice of dressing Carnations for exhibition has gone on now for the best part of a century, and if it had anything "pernicious" in its influence we ought to have some evidence of it by this time. But we have ample testimony that our flowers have in the meantime improved in every way. Strange people must be these florists in whose favour the ordinary relation of cause and effect would seem suspended, since out of "pernicious" practices they evolve health and beauty where logically there should have been only deformity and decay.—*M. Rowan.*

LOOKING BACK.

It is not perhaps the proper order of things in these go-ahead times to regard retrospective views with any large degree of interest or advantage, save only to those who may have pleasurably toiled in the Great Creator's vineyard from early youth to old age. The portrait, however, thus seen by the mind's eye is as much valued by them as some of the paintings by the old masters, the difference in reality being that the one is and the other is not.

If I trot back in memory to the winter of 1835-36 I find that my occupation at this very period was nailing against a south wall Peaches, Nectarines, etc., the weather being similar to the present, but with a greater depth of snow. The impression of this on my memory is so vivid that really I can almost fancy that I am now so engaged. But what a marvellous revolution has taken place since those old by-gone times, and how many good old honest hard-working gardeners and painstaking florists have passed away, with all their pet plants on which they lavished so much love and attention? Glass-houses were not numerous, save in some large establishments; early forcing was carried on for the most part by the aid of fermenting materials in ranges of pits and frames, which usually were started just before Christmas.

It used to be jolly work, the making up of hot-beds for Cucumbers, Melons, Radishes, Potatos, Carrots, etc., etc., and the constant attention to the making up of linings and renewing them, which involved an immense amount of labour. This was before the mechanic and the engineer had brought about such a mighty development in the ways of heating, but it must not be for one moment assumed that gardeners, with all their disadvantages, were less happy because of their want of knowledge in this respect. No class of men were more respected or respectable. I do but justice when I affirm that in my opinion there existed a social intercourse conducted upon the most hospitable principles that it is possible to conceive. Miles had in those days to be walked to see and converse with a brother gardener and exchange compliments. There was not even a gardening newspaper in my early days. This reminds me that your last issue bore the same weekly date as the *Gardener's Gazette* did when first established, viz., the 7th January. The *Gardener's Gazette* made its appearance in 1837, but although professedly a paper to represent the gardeners' interests, it was more an organ for the floricultural fraternity, which even at that time formed a numerous and important body. I commenced with the *Gazette* in the autumn of 1837, with the *Gardener's Chronicle* in 1841, and other gardening papers as they were subsequently introduced.—*Man of Kent, Lewisham.*

SWANLEY IN WINTER.

Swanley in winter, and especially on such a characteristically winter's day as was Monday last, is a dreary place enough until you turn off the road in the dip below the station, into the two great blocks of houses which constitute the glass department of the Messrs. Cannell & Sons' "home of flowers." What a contrast is there here between the gay floral life and genial warmth within, and the dense mist, cold rain and biting winds without! The journey down on such a day as Monday, and by the dear, dirty and slow line of railway which serves that part of Kent, is of itself enough to give one a fit of the blues; but once under cover, the wondrous wealth of colour there to be seen, with a spice of the senior partner's enthusiasm, soon renders one oblivious of discomfort.

If there was nothing else to see, the houses of Zonal Pelargoniums all aglow with blossoms of the richest hue are alone worth the journey to see, and nowhere else that we know of can such a sight be seen just now. All the old and well-tried sorts are here in perfection, throwing up monster trusses of pips of a richness and charm of colour that one looks for in vain in the summer season, and which betokens rare skill in their cultivation. The older sorts are legion, and it were needless to name them, but new ones showing any great march of improvement are not so numerous as we have seen in years gone by. The older raisers, Mr. Cannell tells us, are dropping out of the ranks, and it would seem that but few younger growers are taking their places. Sterling novelties therefore are none too plentiful, and the inexorable demands for stock prevents some of the gems of the future from being seen at their best. We noted a few, however, that will be worth looking after, and these were Masagni, a very distinct novelty among the singles, blush-white, with a beautiful rich reddish centre, a fine bold trusser, and a perfectly formed pip. W. P. Wright as a single scarlet is the pick of the basket, being large, most perfect in shape, and a glowing scarlet in colour. Dr. Tucker is wonderfully rich in its dress of rosy-red wine colour; and of a deeper hue still is the Marquis of Dufferin and Ava, a deep port wine colour with a dash of magenta, the darkest single that we have yet seen. F. V. Raspail Improved is a grand double scarlet, with a good sturdy habit and very free. There is no mistaking the "improvement" in this variety, and it is certain to be grown largely in the near future.

The Cyclamen houses have been an attractive feature for some time, and the side stages are still a perfect blaze of blooms and will be for some time yet. At few places out of West Middlesex are Cyclamens done better than at Swanley, and careful selection has given the firm some grand strains of the true persicum type, the whites, purples, and roses being all that one could desire. The next great feature at Swanley will be the Chinese Primulas, and we have never seen them in better condition. There is a good head of bloom now, but nothing like what will be seen later on. They are arranged in blocks of colours, and each being true to the type, they represent the highest art of Primula culture in 48's. A house full of fern-leaved varieties specially commands the admiration of growers. In one of the houses we noted a special favourite of Mr. Cannell's, a weedy looking single white, with the windmill segments so much abhorred by the old florists, and long drawn dark coloured leaf and flower stems. But it has characteristics that please "the master," and these are remarkable floriferousness and lasting properties when cut that render it valuable when choice white flowers in mid-winter are none too plentiful.

In other departments preparations are in progress for the commencement of propagating, and a good start has already been made with the immense stock of Chrysanthemums which the firm catalogues. Among their novelties to be sent out this season the Messrs. Cannell have the distribution in Europe of perhaps the greatest acquisition among the new sorts that was seen at the American exhibitions last November. This is Messrs. Peter Henderson & Sons' Golden Wedding, which has not yet been seen in this country, but which our correspondents in New York describe as a grand yellow Jap. It is said to be a really good yellow, and the photographs show it to be a beauty in size and form. We give an illustration, for which we are indebted to the Messrs. Cannell.

Chrysanthemum Golden Wedding.

Severe Weather in Scotland.—A snowstorm with intense frost prevailed over Scotland during last week. A summary of the frost registered on Friday morning at different places is interesting. Hay Lodge, 27°; Pitlochry, Perthshire, 29°; Castleton Observatory, Aberdeenshire, on the grass, 41°; Haddington, 32°; and Tweed Vineyards at 1.30 a.m., 31°. Freshening winds with sleet and rain set in on Saturday, and on Monday most of the snow was melted around Edinburgh.

THE MALMAISON AND WINTER-FLOWERING CARNATIONS.

Can anyone state with certainty who raised Souvenir de la Malmaison Carnation, when it was sent out, and who had the credit of distributing it? The Carnation authorities are silent upon that point. No history of the Carnation that I have seen throws light upon these points. That it is one of the perpetual, or tree Carnations there can be no doubt. But its striking individuality of character, its robust growth and massive blossoms makes it a very distinct type, and variations from the type appear to increase by means of sports rather than by seedlings. Its name suggests French origin, and perhaps some reader of the Gardening World may be able to supply some particulars.

The Malmaison Carnation may be justly considered the flower of the Rothschild family, so largely is it grown in their gardens and so much admired and used as a button-hole decoration. Those of the members and friends of the National Chrysanthemum Society who joined the outing to Ascott Park, in July, 1891, well remember the wonderful display of Malmaison Carnations in pots, they saw there so grandly grown and bloomed, by Mr. Jennings, Mr. Leopold de Rothschilds' gardener. The number of plants under cultivation was something astonishing.

When at Ascott a short time previous to the outing, I had an opportunity of learning from Mr. Jennings some details of his method of treatment. The plants which bloom in winter and spring are, after they have ceased blooming, turned out of their pots and planted in beds in cold frames, or else in a border specially prepared for the purpose, and there they are layered, which is done in July and August. As soon as rooted, which is about six weeks, the layers are potted off into 60-sized pots and stood in a cold frame upon an ash bed, then when established, shifted into 48 or 32-sized pots about November, and wintered in cold dry pits. In May the largest plants are potted into 10-in. pots, and while some will start at once into growth and form blooming shoots, others not until later. As a matter of course a year is required for the large plants to grow into size, and then they bloom twice, in July and again in the February following.

The compost used by Mr. Jennings is made up of loam three parts, a little peat, some leaf soil, and dry cow manure laid by for the purpose. In potting Mr. Jennings finds it well to put a little soot over the crocks, as it acts as a fertilizer and also assists to prevent the ingress of worms.

The varieties of the Malmaison grown by Mr. Jennings are the old blush, the pink, rose and scarlet.

Winter Carnations are also grown at Ascot, and these are raised by means of cuttings taken about the middle of January and inserted in pots in a compost formed of half loam and sand, adding a little cocoa fibre and having, as is usual, a half-inch of silver sand on the surface. Mr. Jennings unites with other growers in making it necessary to see to successful rooting, the base of the cutting should touch the bottom of the hole. The cuttings are placed in a temperature of from 50 to 60 degrees, and bell-glasses placed over them, which is a great advantage because the condensed atmosphere prevents the cuttings from flagging, and when they do this the rooting is delayed and often imperfect. At the same time it is well to cleanse the inside of the bell-glasses once in two or three days to prevent danger of damping off.

The next process is to pot off the cuttings into 60-size pots, using a compost made up of loam, leaf-soil and sand. The presence of sand at this stage facilitates the root action of the young plants, and it is a great advantage to get them active as soon as possible. When potted the plants are replaced in the temperature in which they were struck till established in their pots, and then they are removed to a cooler temperature, and then care must be taken to water as required, and also to fumigate in order to keep down green-fly. At the end of April or beginning of May a shift is given into 48-size pots, the same compost being employed, with rather more sand, and some dry cow-dung rubbed fine, which Mr. Jennings considers one of the best fertilizers for winter-flowering Carnations. Then the plants go to a cold frame, they are near the glass, having plently of light and ventilation.

Watering is a matter of importance. When Mr. Jennings repots he uses soil sufficiently moist so that the plants will not require water for a few days, as water given to newly potted plants before root action has set in may prove injurious to them.

When well rooted and from 5 in. to 6 in. in height the plants are stopped to induce a branching habit; a few are stopped once only but most of them twice; this is a matter of knowledge gained by experience. In June a final shift is given and Mr. Jennings employs pots larger than is generally used, and as he grows fairly large specimens he puts his plants into 8 in. pots in width. Then they go to a cold frame for a week or two, and finally on to beds of coal ashes or boards in the open, employing these to keep the worms from finding their way into the pots. Early in September some liquid manure or surface fertilizer is employed, staking is attended to and cleanliness has special attention, copious syringing being given. At the end of September or early in October the plants go to light and airy span-roofed houses, and care is taken to have them well fumigated before they get into bloom. If a few fine blooms are required, some disbudding will be necessary.

Mr. Jennings' favourite winter-flowering Carnations are Winter Cheer, bright scarlet, which he praises very highly; Madame E. Bergman, pink, very pleasing; Lovliness, pink and white flaked; Selby, a fine yellow, Germania, these two Mr. Jennings strikes in February in rather more heat than he employs for the others; Empress of Germany, white, striped rose; Miss Joliffe, very largely grown and undoubtedly the best all round Carnation in cultivation for forcing purposes; President Carnot, crimson; Sir Rivers Wilson, white and sweetly fragrant; Alfred de Rothschild rose; Bright Pheobus, bright scarlet; and Sir Henry Calcraft, large red.—*R. D.*

WOOD RIPENING.

Scarcely a year passes without the failure or partial failure of some of our fruit crops being attributed to defective wood ripening. Whilst not ignoring the necessity of wood ripening to some extent, I have no hesitation in stating that too much importance is attached to it, and that it is my firm belief there is quite as much wood roasted as unripened, and that the process of maturing the wood takes place under far less favourable conditions than we imagine. I ask where were the recognised necessary elements for wood ripening in the past two seasons? They were entirely absent in Lancashire, and by all accounts in other parts as well. Yet last year we had in many gardens more than usual of Plums, and nearly a full crop of Pears. Apples were destroyed by caterpillars, but the year before we had a good crop of these.

The failure of forced Strawberries is frequently referred to immature crowns, but I very much doubt the correctness of the inference. During the past two cold, wet, sunless seasons, water laid on the surface of the soil in our Strawberry pots day after day, though they stood on boards, and last year the crop was as good as need be, and I do not despair of it this, though everything was so entirely opposed to our notion of what was necessary to perfect the crowns, on which so much stress is laid.

Stone fruits, as a rule, are regarded as subjects requiring favourable conditions for wood ripening, but how about the Morello Cherry trees on a north wall, that never see the sun, the chief element in ripening wood? Again, not long ago a writer in a contemporary stated that the only Greengage Plums worth eating he had this year were from a north wall. A few years ago a gardener not far from here tied the wood of his Peach trees in an early house in bundles of three's and four's, scarcely a shoot having a couple of inches of room, but the set of fruit was perfect, giving far more trouble to thin the fruit than moving and regulating the shoots would have done, these being left, it was said, in order to have plenty to select from.

The beneficial effect of the good old practice of moving the roof lights from Peach houses had more to do with preventing wood roasting from defective ventilation, with its attendant red spider, than with wood ripening. The trees also received the autumn rains when uncovered, whilst their water requirements would be overlooked were the lights left on.

From my experience with trees under glass here I have grave doubts as to whether the Peach tree making the orthodox growth ever failed to ripen its wood under glass, however primitive the structure. The practice of thinning the shoots of our orchard trees with the view of ripening the wood by allowing the sun and air to play more freely amongst the branches left, and so secure crops of good fruit, is really imaginary, and does not operate in that direction at all. When the crops are improved by pruning I contend that it is the effect of removing some of the branches so that all the sap which would have been expended in supporting the part removed is directed into the parts which remain. There are very few if any bush or standard fruit trees which make more wood than can be properly matured.—*W. P. R., Preston.*

FRUIT NOTES.

Apple Court of Wick.

It is notorious that a large number of the best and most highly flavoured Apples are small, more especially if we compare them with the well-known and culinary varieties, Warner's King, Peasgood's Nonsuch, Lord Suffield, Stirling Castle, and others of that stamp. Court of Wick, like Kerry Pippin is a small Apple when grown upon standards in the ordinary way; but the tree is an abundant bearer and the fruit is decidedly shapely and pretty. The skin varies considerably in colour, apparently according to the soil or the locality in which it is grown. The usual colour is clear yellow with an orange cheek next the sun, or faintly flushed with red. The suburbs of London are not as a rule conducive to high colouring, yet the variety under notice assumes a handsome appearance at Gunnersbury House, Acton. The whole of the exposed side becomes red with crimson streaks, the rest being yellow. The skin is shining as if varnished, and is likewise marked with round, triangular, and elongated russety specks. The eye is open with reflexed sepals set in a wide, shallow and even basin. The flesh is yellow and firm, but crisp and pleasantly acid, or highly flavoured as some describe it, and therefore makes very pleasant eating. As a variety it is very old, having been recorded in cultivation more than a hundred years ago, while it no doubt existed for a long time prior to the record. In olden times it was a favourite both for dessert purposes and for making cider.

Apple Ross Nonpareil.

This variety would seem to behave differently under different conditions. Some consider it a dessert Apple of the first quality, lasting from November to February. Last season's crop was getting past its best by Christmas in the gardens of the Royal Horticultural Society at Chiswick. The texture of the fruit was rather spongy and dry, but had not lost its original aromatic and appetising flavour. Although describable as spongy, the flesh was really very tender and agreeable to the palate. In the early stages it was firm, crisp, and sugary. Possibly the soil might not altogether suit it, or the fruits were gathered from the trees a little too early. The fruit is of small or medium size, globular, and thinly russety all over, and by no means tempting in appearance, but once tasted it gains in favour largely. It originated in Ireland.

Apple Wadhurst Pippin.

None but those who are thoroughly acquainted with this Apple by growing it can detect a difference between it and Blenheim Orange. The tree, however, reaches a bearing condition at an earlier age, and would therefore find favour with some growers on that account. During the recent demonstration on fruit drying at Chiswick it proved to contain more solid substance than Blenheim Orange, giving another point in its favour, while its ripening or coming into use a month earlier in the fruit room adds a third recommendation. It is in season from October to February. Although stated to be a culinary variety it is equally suitable for dessert purposes, and in its early stages is briskly flavoured, but soon becomes mellow and mild in taste.

Pear Josephine de Malines

The most of our Pears have been raised on the Continent, from whence we continue to receive new sorts from time to time. The bulk of them that are of any value for dessert purposes ripen during October and November when a plethora of varieties are in season, thus reducing their value. The requirements of a new variety should be that it is an improvement upon existing varieties that ripen during the same period, or that it comes into use when all other varieties are unfit for use. Varieties that are in a seasonable condition from February to May are few and far between. The aim of cultivators should be to make good this deficiency; yet they do not seem to work on principles calculated to attain this end. Pears, owing to centuries of cultivation and improvement,

are very variable from seed, yet some of them would be inclined to reproduce the qualities of the parent, so that late varieties like Josephine de Malines and Beurré Rance might well be used as seed parents whether cross fertilised with others or not. Under favourable conditions the former is in season from Christmas to May, and the flesh is melting, juicy and sugary. Some cultivators complain of a difficulty in ripening it, but medium sixed fruits well ripened upon the trees, seldom, if ever offer any difficulty on that score. If brought into a warm room, or placed over hot water pipes for a few days previous to use, its quality will be much improved.

FORESTRY.

THE OBSTACLES TO HOME TIMBER GROWING. SIR ARTHUR GRANT, Bart., of Monymusk, Aberdeenshire, in noticing a review of the *Journal of the Royal Horticultural Society*, makes some interesting remarks on his experience in forestry.

"When old plantations were planted," he says, "four pests of the forester did not exist in this (Aberdeenshire) part of Scotland, viz., the rabbit, the squirrel, the Larch disease, and the lucifer match. Do what you like it is very difficult to keep rabbits entirely out of plantations, and you must make up your mind to lose a proportion of newly-planted trees, and the trees are not out of danger for some years. When they are 25 ft. high, or thereabouts, the squirrel attacks the Scotch Fir, eating the bark in spring on the sunny side. As a rule he clears a patch perhaps 4 in. by 6 in. From this the sap oozes out, and the winter winds snap off the top, perhaps 4 ft. or 5 ft. from the tip. After that your tree makes little progress. It is very difficult to see the squirrels in the Fir trees, and they are prolific little rascals. After killing perhaps 500 squirrels in a year I find the damage the following year to be little lessened, and I have thousands upon thousands of promising Scotch Firs destroyed or grievously injured by them at the present moment.

"Again, when your Larches have been planted perhaps twelve to fifteen years the disease begins to show, and in many places at about thirty to forty years of age they go 'pumped' in the centre, whilst yet too small to have much timber value. Silver Firs also are now very subject to disease. Lastly we have the lucifer match. Never a year goes by but we suffer at Monymusk more or less from the recklessly careless tourist or labourer, who lights his pipe, wanders on, and if he starts a fire, makes himself scarce at once. Last year a great deal of wood and young plantation and moor in Aberdeenshire was destroyed in this reckless fashion. In Switzerland they have very severe laws about firing the woods. These are some of the difficulties which surround modern plantations from which the older foresters were free.

"In regard to profit, the labour of ditching, draining, fencing with walls, planting, and caretaking was much cheaper in the old days than at present. There was some sale for thinnings, which were largely used for rails. Now wire fencing and iron fencing have stopped nearly the whole of that outlet, and thinnings will not pay for cutting and hauling. Twenty years ago Larch timber was selling at 1s. 6d. per foot. This year I have known of some sold for 4d. and the best price would be between 6d. and 9d., except possibly in some very exceptional position. The accessibility of a wood has, of course, an enormous influence on the price. Scotch Fir again was sold at Monymusk early in the century for 1s. 9d. per foot; 4d. would be about the price nowadays—of course I mean in large quantities. Put £100 into plantation nowadays; put £100 out in interest at 5 per cent., and for every £40 you get for your timber in 60 years, you will get £70 in the other investment—and you will not have the loss occasioned by rabbits, squirrels, Larch disease, and fire; you will not have fences to keep up, or to employ men to destroy the vermin, and oftentimes to turn out your neighbour's cattle, which are busily destroying your young trees. I plant some 300,000 to half-a-million of trees yearly, but I know it is a poor investment, and I do it, first, as a family tradition; second, to give shelter and improve the climate; third, because it employs a very considerable number of people, both in summer and winter.

"The old timber found in old castles was probably 'natural grown,' of *very great* age when cut, and placed in suitable positions for keeping. I have, on the contrary, plenty of beams probably 120 years old, which are full of dry rot and much infested with the wood-beetle. I find the more beautiful and rare Coniferæ to be all perfectly unsuited to the climate of Monymusk. Some may do for ornament; none apparently for business."

GARDENING MISCELLANY.

ADIANTUM CAPILLUS-VENERIS MARIESII.

THE varieties of the British Maidenhair are very numerous, both in a wild and cultivated state. This is not surprising considering the wide area over which it is distributed, we may say in all parts of the world. The different conditions under which it grows in a wild state would account for this. Seedlings proceeding from spores would give rise to variation, and proving tolerably constant receive varietal names when taken in hand by the cultivator. That under notice is a very strong growing Japanese form, 12 in. to 18 in. high, according to the treatment it gets. As in most of the forms of this species the rhizomes are well pronounced and require plenty of room to run. Large pots or pans may therefore be used to afford the rhizomes space to develop. Seeing that this Maidenhair delights to grow in the crevices of walls, it might well be tried in suspended wire baskets filled with good material. Under good culture the wedge-shaped pinnules attain considerable size. Fog is, however, very detrimental to the fronds, turning them brown when very dense. We noted some fine pieces recently in one of the fruit houses at Gunnersbury House, Acton.

A VARIEGATED CINERARIA

THERE are several varieties or variations of Cineraria maritima in cultivation, and the whitest or hoariest form is much used in summer flower bedding designs, under the name of C. m. candidissima. Then there is a golden margined variety known as C. m. c. aurea marginata, a rather formidable name when written in full. The plant itself is, however, a highly interesting object for pot work when well grown. The leaves are densely covered with white hairs and the margin is golden yellow when in their prime. Frequently the whole leaf is yellow or those on several of the smaller shoots will be all of that colour, adding largely to the general appearance of the plant. Being hardy a few well-grown plants would prove useful in the greenhouse during winter, when flowering plants are out of the question. The variegated form we noted in the Dyson's Lane Nurseries of Mr. H. B. May, Upper Edmonton.

NEPHROLEPIS DAVALLIOIDES PLUMOSUM.

For many years there existed only two forms of N. davallioides, namely the type and N. d. furcans. Now there are at least two other crested varieties with much more extensive divisions than the last-named. The lateral pinnæ are not very much altered, but the fronds terminate in a large tassel of numerous branches giving the plant an elegant appearance, as the fronds are weighted down into a horizontal or arching position. The plants therefore assume a compact and bushy habit, quite different from the typical form which has long narrow fronds, and therefore more straggling. The striking habit of this variety compared with N. davallioides may be seen in the collection of Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton, where handsome specimens may be seen growing in 48 and 32 size pots. They may be used for decorative purposes in a variety of ways.

BEGONIA INCARNATA.

OF the many Begonias, hybrid and otherwise, that are grown for the decoration of plant houses and for cut flowers in winter, but more particularly at Christmas, none are more deserving of attention than the old B. incarnata, which does not seem to have been improved in any way since its introduction from Mexico in 1822. In gardens it is known under various synonyms, the result, no doubt, of its variation in a wild state. These forms are grown in gardens, and some of the varieties have undergone improvement, but the typical form, best known as B. insignis, bears the same profusion of pink flowers which it always did. The unexpanded buds are much richer, being of a lively deep rose. The quantity of flowers produced is a great feature in its favour, and the sprays that can be cut from well grown plants are handsome. Some old plants standing about the houses at Gunnersbury Park, Acton, showed so well for flower that Mr. Reynolds had them brought into flower for Christmas use. Next spring he intends to propagate and grow on a batch especially for this kind of work. The foliage will be better than that of old plants, and the specimens dwarfer. The edges of the leaves of healthy young plants are red.

A NEW SPECIES OF ROSE.

NEW plants of various kinds still continue to be unearthed in China. A collection was made by Mr. A. E. Pratt in Western China, and the new plants he picked up are described by W. Botting Hemsley, F.R.S., in the *Journal of the Linnean Society*, vol. 29, p. 298. Amongst them was a Rose which has been named Rosa Pratii in compliment to the discoverer. It belongs to the group of which R. macrophylla is the type, but the small flowers remind us of R. multiflora. The typical form of the latter is often named R. polyantha in gardens, and has flowers more resembling those of a Bramble than large flowered garden Roses. Those of R. Pratti are just under an inch in diameter, and are produced in clusters of five to seven terminating the shoots. The stems are spineless, or only furnished with a few small ones. The leaves consist of seven to fifteen narrow, almost entire, closely arranged leaflets, so that when seen in the living state, the plant must be pretty. Should the plant get introduced to this country in the living state, either by means of seeds or otherwise, it might prove useful as a stock from whence to raise a new race of small-flowered Roses similar in general character to those of the Polyantha Roses, but differing in being spineless and in having beautiful foliage—we hesitate in saying Briar-like foliage, because the leaflets are so much more elongated than those of R. lutea and others which we are wont to speak of under the name of Briars.

DAVALLIA GRIFFITHIANA.

AMONGST the medium sized Davallias are several which are very useful for hanging baskets, and which prove evergreen if kept in a sufficiently high temperature. Of this class is D. Griffithiana which requires a rather higher temperature than D. elegans for its safe keeping. The fronds have a lamina 6 in. to 12 in. long and 4 in. to 8 in. wide, and which is tripinnate with blunt and toothed segments. They are of a deep green with bronzy petioles, and very elegant from their fine divisions. The creeping rhizomes are about the same thickness as those of D. elegans and D. Tyermanni and the dense covering of scales is white or pale brown. The moderate thickness of the rhizomes would permit of their being pegged over the sides and bottom of wire baskets so as to completely cover the latter when in full growth.

PEAR BLOSSOM.

COMPLAINTS are made in every direction of the stoppage of nearly all kinds of outdoor work, and gardeners are amongst the number that feel the effects of frost. The latter, however, has really been a blessing in disguise as far as the fruit trees are concerned. Many of the Pear trees, especially the most precocious kinds, were rapidly bursting their buds and making for bloom, which stood a chance of being destroyed in the early months of the year. The timely check to this untimely growth will be an advantage to the gardener, the trees, and the owners, so that they should be the last to complain, notwithstanding the difficulty of finding employment of a remunerative kind for the labourers and others employed in the garden. Ordinary outdoor work is in a very advanced state, so that little or no extra labour will be required later on.

THE WEATHER AND WORK.

THE weather here has been very severe since the 24th of last month, the frost being sharp and accompanied with an intense cold rime. On the 27th ult. we registered 20° of frost, and on the 2nd and 5th instant the themometer fell to 13°, to-day, the 6th, we are having a heavy snowstorm. We are frozen out in the kitchen garden and work is getting scarce, but something must be found for the regular staff of men to do, as it is no joke to send men home in such severe weather with empty pockets to their wives and little ones. In most places there is what is termed a rubbish heap which seldom gets any attention beyond what is added to it from time to time. Turning and ridding this heap of sticks and stones will be time well spent, as it makes an excellent top dressing for fruit trees, and there is no better thing I know of to mix with the bottom spit where bastard trenching is going on. I would not recommend it

for top dressing the garden with as there are sure to be many seeds of weeds in it. A quantity of stakes (of various sizes and lengths) can be dressed and pointed and stored by for use in a busy time; old wall nails can be cleaned of mortar and shreds clinging to them, which will make them ready for use again; a quantity of shreds can be cut. Where withies are at hand garden baskets can be made; most garden labourers with a little instruction can turn out very creditable garden baskets. By carefully tying the loose ends of new mats they will last twice as long; a good quantity of labels can be made which are sure to be wanted later on. We shall find plenty to do outside for a day or two sweeping walks and knocking the snow off the choice trees and shrubs which they are groaning under.—*W. O. N., Abergavenny.*

ST. BRIGID'S CHRISTMAS ROSE.

THE name St. Brigid is applied to the narrow-leaved form of the Christmas Rose (Helleborus niger angustifolius). Some consider this synonymous with H. n. minor, and say that it has smaller leaves and flowers than the typical form of the species, but with this we can hardly agree. The leaves are indeed different from those of the type, but they are longer and relatively narrower, so that the varietal name augustifolius is very appropriate. It can readily be distinguished by this character alone whether in flower or not. On the contrary the flowers are large, in fact, little inferior to those of H. n. maximus, while they are of a purer white, especially when grown under glass, or covered up with a hand-glass. We can therefore well conceive that preference would be given to it for winter decoration. Notwithstanding its beauty, the Christmas Rose will probably never become extensively used for market purposes, because of slow growth and the fleshy roots resent being disturbed. The bad treatment the plants get after they go out of flower causes them to die by hundreds, thus reducing the stock for next year's supply. The leaves seldom attain that vigour in the south as they do in a cooler and moister climate. In private establishments the gardener can afford to wait more patiently for natural increase, and to be more careful in the lifting, division and preservation of the roots. A quantity of the variety under notice has been flowering for some time past in the cooler houses at Falkland Park, South Norwood Hill.

GARDENERS IN COUNCIL.

(*Continued from p. 290.*)

ALPINE plants are not so familiar to many of us as most other garden plants, and for this reason probably not of so much interest to gardeners as a whole, many of whom I feel fully persuaded look upon all old-fashioned plants, herbacious and otherwise, and amongst which they undoubtedly class Alpines, as so many weeds, quite unworthy of their care and attention. Many, not only gardeners, have been so schooled as to look upon Pelargoniums, Verbenas, and the multitude of other plants which have been so generally used for outdoor summer decoration of gardens for many years past, as the only plants of interest and worthy of cultivation.

Thanks to the gods and a more artistic taste which is yearly becoming more prevalent, this remains, I will term it, of a barbaric age, is gradually dying out and the public are beginning to have a desire and a longing for these old-time flowers, which not only are so beautiful and charming in themselves but tend in their endless variety and time of flowering to add an unlimited interest to the garden extending throughout the whole year, and added to this their entire want of artificial culture and protection make them accessible to all.

All who are possessed of a herbaceous border know the endless pleasure derived from it and would, I feel certain, not easily be persuaded to dispense with it; add to this the joy of even the smallest rock or alpine garden and the gardener's bliss must be almost if not quite complete. Who that has had once the pleasure of continually watching these beautiful little flowers springing into life as the warmer days of spring come upon us and unfolding the bright and numerous flowers at every season of the year, every day some new interest some new pleasure, would like to be without them.

Of course all these things require a certain amount of care and attention, especially during the summer months when weeds will spring up and grow even faster than the plants themselves, and when the water pot must be freely used to keep the plants alive and thriving. I can quite understand an already over burdened gardener—however much he may love them—not caring to add additional cares in this way and now-a-days, when every one who keeps a gardener expects so much and makes of him almost, if not quite a white slave, he must ofttimes be tempted to discourage such additions to his charge, as he knows from experience—if he be a gardener—that his actual love not only for the plants but for the interesting work they entail will not allow of his neglecting them when once they are there.

Mr. Meyer's paper which has not only been of great and special interest to ourselves, but has been read and favourably commented on by many lovers of these most charming little plants, both in our own country and abroad, was most explicit as to the best modes of culture in every way, and cannot fail to be of interest at any time to the cultivator; and to the uninitiated who have had the care of Alpine plants thrust upon them without having any previous knowledge of their requirements, it must have proved an endless boon, and it would be most interesting to know of any good resulting therefrom.

He gave us his idea of what a well-constructed rockwork should be, and pointed out where so many of us go astray; but in this, as in the arrangement of flowers, the decoration of a bonnet or the kissing of a cow, tastes differ, and very properly so, or the employment of those who have what is certainly the correct and most artistic taste would soon lapse.

It would, I am fully persuaded, take any amount of talking and reasoning to convince the lovers of the Plum pudding and Almonds kind of rockwork that his was not the most beautiful, or that anything of interest or beauty existed in the more natural arrangement.

To such an one I should simply say, by all means enjoy yourself in your own way; if you derive pleasure in this way and what you cultivate succeeds, that is all that is necessary. Everything that is pleasing must be beautiful, and to those who know not the old masters, and care just a little for them, a good painting by some of the newer ones, and even sometimes the despised oleographs are as pleasing, and more so than theirs.

What we as lovers of these little and most charming plants want is to extend their successful cultivation, and to do this many must gain their experience by failure and at the expense of their pockets.

It is an undoubted fact, that if we desire success, we must learn much from and copy Dame Nature, and in doing this we must not only learn, as our taste improves, that the more natural the formation of a rockery is, the more artistic and beautiful it becomes, and the more it is adapted to the successful culture of the plants we place in it.

Miller has truly said, "There is no surer guide to a curious artist than Nature, from whence a gardener should always be directed in every part of his profession, since his business is to aid and assist Nature, when she is not capable of bringing her productions to maturity, or where there is room to make considerable improvements by art, which cannot otherwise be effected than by gently assisting her in her own way."

ORCHID NOTES AND GLEANINGS.

Cattleya labiata alba.

I DO not desire to recommence, on the subject of Cattleya labiata alba, the controversy which took place last year on the subject of C. Warocqueana. It has given me every desirable satisfaction since the *Reichenbachia* has recognised in its last number that the two plants are identical, which was what I wished to demonstrate. But if I do not wish to return to the subject, I ought, nevertheless to, state publicly that what has actually passed upon the subject of Cattleya labiata alba, exhibited recently by Mr. Wells, is strange. Behold now that one plant of Cattleya labiata alba sold by us in England, some 18 months ago, is dead after having been no more than a C. Gaskelliana delicata, and that the other has turned out a C. Trianæ alba—the latter amongst plants from Pernambuco! And this strangeness becomes absolutely phenomenal when one recalls the fact that the C. labiata alba, exhibited by Mr. Wells, was a plant cultivated in Europe for more than two years, while the introductions of Mr. Sander only date from November, 1891! I have proof in hand that Mr. Wells' plant, or at least that exhibited under his name, did not open its flower at his place. It is furthermore strange that the replies to the letter of Mr. Wells' gardener follow his question in the same number of your Journal. It would seem as if the question had been raised with an object which does not appear on the surface. Finally there are other strange things in those letters, notably the reference to the bad state of the plants that we delivered, and the compost in which they were cultivated, but I do not think it is worth while to seek for a solution of them. I count upon your courtesy and well-known impartiality to give publicity to this letter in your next issue.—*L. Linden, Parc Leopold, Brussels, January 9th.* [It is perhaps but simple justice to ourselves that we should state that the three letters published in our last number were received by us within the space of two days, and that we know nothing of any collusion in the matter. The subject seemed to us to be a fair one for discussion, and our columns are always open for the reception of matter likely to be of interest or value to our readers, but not otherwise.—ED.

We have a variety of Cattleya labiata with pure white sepals and petals from Swainson's hunting ground, which is a gem, and which we call C. labiata elegans. I should be glad to know through your columns if other plants from the same source have bloomed with snow-white sepals and petals like ours. I should also be glad to know if any of your readers have flowered Cattleya gloriosa and C. majestica, and if they belong to the same section as the fine old C. labiata, or are in the way of C. Gaskelliana? Many of us country gardeners cannot get away to the shows, and have to depend largely upon such journals as your own for our information.—*J. Earl, The Gardens, The Briars, Chislehurst, January 9th.*

Cypripedium Albertianum.

IT rarely happens that hybrid or other Cypripediums receive such recognition as the subject of this note. It was exhibited by M. Jules Hye at the meeting of the Royal Agricultural and Botanical Society of Ghent in November last, when the committee unanimously awarded it a gold medal. It was raised from Cypripedium Spicerianum fertilised with the pollen of C. insigne Wallacei, both very pretty kinds as is well-known. According to the parentage it should be closely allied to C. Leeanum, a hybrid now grown in this country in many forms. The beautifully executed illustration of it in the *Revue de l'Horticulture Belge* shows, however, that it is very different from anything we possess. The upper sepal is large, nearly round, pure white, and heavily spotted with lively violet magenta in lines along the central and basal half. The midrib forms a band as in C. Spicerianum, but deep violet in colour, and the base is green spotted with sepia brown. The petals are suffused with brownish maroon on a golden yellow ground and spotted with clear sepia all over except the tips and margins, which are yellow. The lip is heavily suffused in front with rich brown and bronzy green towards the lower end. The plant is very vigorous with strap-shaped, dark green leaves.

Cypripedium bellatulum.

IN large importations of this Cypripedium like those of Messrs. Hugh Low & Co., Clapton, a considerable amount of variation amongst the flowers may be noted as the different individuals come into bloom. The petals are mostly always the most conspicuous organs of the flower on account of their great size and rich deep purple or crimson spotting on a white ground. The blotches are brought into prominence by their size, number, and intensity while a series of rosy purple markings often run together, making a large blotch at the tip of the same. The upper sepal is also large and beautifully marked, while the lip is smaller. The dwarf habit of the plant makes the flowers appear unusually large and massive. The foliage is also always compact.

Cypripedium Wallærtianum pallidum.

IT rarely happens that we get such a fine thing from the parents of this hybrid as that under notice. It was raised from C. Harrisianum luteolum, itself a hybrid, and C. villosum. The influence of the seed parent has been sufficiently powerful to almost completely eliminate the brown colouring matter so characteristic of C. villosum, C. v. Boxallii and all their hybrid progeny. The result is a Cypripedium of considerable beauty. The upper sepal is ovate-elliptic, heavily netted with reddish-purple lines, the medium ones being darkest and tinted with brown

or black. The cross or connecting lines are also very prominent, and the enclosed areas along the centre are yellow, while those towards the sides are white, and there is also a broad, white margin to the whole. The petals are ciliate on the margins and of a shining pale yellow with faint greenish lines along the lower longitudinal half, while the upper longitudinal half is heavily suffused with rose and densely spotted with the same colour near the base. The lip is also shining and suffused with rosy-purple in front and flesh-coloured behind with darker veins. The shield or staminode is flesh-coloured. The whole flower is bold and handsome, measuring 5½ in. across the petals, and owes its beauty to the clearness of the colours and the absence of brown. The hybrid is flowering with Messrs. Pitcher & Manda, The United States Nurseries, Hextable, Swanley, Kent.

Cypripedium Veitchio-Hookeræ.

THE seed parent of this hybrid was C. superbiens, better known as C. Veitchi, and the pollen parent was C. Hookeræ. The result is a hybrid with large flowers of considerable beauty, combining the characters of the two parents. The upper sepal is ovate and greenish with deeper green veins as in C. Hookeræ, but the margin is white. The petals are spathulate, rather broad, and rosy purple upwards with deep purple spots on a green ground downwards. The lip is deep purple and of large size. The leaves are oblong-elliptic and tassellated with grey on a dark green ground. The plant is of strong and vigorous constitution, and in this respect resembles the seed parent. We noted it recently in the collection of Messrs. B. S. Williams & Son, Upper Holloway.

Cypripedium Adonis superbum.

THOSE who grow a collection of Cypripediums, be they hybrids or otherwise, know that no class of Orchids is capable of giving a more prolonged display of bloom. Practically they are never out of bloom, because although some of the special season for their display yet there others together with hybrids which flower more or less at all seasons. The seed parent of C. Adonis superbum was C. Spicerianum which regularly commences to flower in autumn. The pollen parent C. Harrisianum itself a hybrid is by no means confined to autumn. The upper or dorsal sepal of the progeny is roundly obovate and white, suffused with pale green at the base and having a vinous purple midrib like the seed parent. In like manner the oblong petals are wavy on the upper margin, but in colour they recall those of C. Harrisianum, the upper longitudinal half being of a much darker brown than the lower. The lip is moreover of a rich and dark shining brown. The character of the leaves also shows the influence of hybridity inasmuch as they are long, strap-shaped, and tesselated as in C. Harrisianum, than which they are smaller. The leaves of C. Spicerianum are entirely without markings. The cross was effected in the nursery of Messrs. B S. Williams & Son, Upper Holloway.

A Charming Group of Orchids.

WHEN in the West of England some weeks ago, I visited Mrs. Frith's gardens, Highlands, Minchenhampton. The display of Orchids in bloom was both charming and interesting. It consisted for the most part of Cypripediums Odontoglossums, Lycastes, Cattleyas, and Dendrobes. Mr. Wilkinson, who has been gardener at Highlands for many years, is an enthusiastic lover of Orchids.—*J. McNab.*

A VISIT TO THE NURSERIES.

I do not know anything likely to be more appreciated by or more instructive to a gardener than to send him the round of the leading nurseries. He will be a poor hand indeed if he does not pick up some knowledge that will prove to his own and, of course, to his employer's advantage, for be it said to their honour there are few, if any, nurserymen, whether the gardener be a purchaser or not, but what are most pleased to show them round, and, what is more, will encourage and assist all in their power those that seek their advice on the culture of any plant that does not succeed with them at home.—*C.*

WHAT TO DO IN THE GARDEN.

Dipladenias.—The old stems are in many cases commencing to push away into fresh growth and where such is the case the plants may be repotted, so that the young wood may derive advantage therefrom. Where the plants are grown as a covering to the pillars of a house the young shoots may be tied in as they grow; but at this season of the year it is highly advantageous to train them as near the glass as possible for the sake of the light. Plants in pots may therefore have such a position whenever possible.

Caladiums.—Where good collections of Caladiums exist a batch may now be started for early work. The smaller leaved kinds will be most serviceable as they are more easily managed and kept in health than those with large leaves, which when tender and thin are easily damaged.

Gloxinias.—Those who have not yet started an early batch will find this a convenient time to do so. The lengthening days give a fresh impetus to growth, making more substantial progress. If the old soil in the pots is very dry, give a watering to moisten it, after which occasional light syringing will be sufficient till the young shoots are sufficiently advanced for the tubers to be repotted.

Ferns.—The present is a convenient time to examine the fronds as to their cleanliness, especially those in the warm houses. Even when covered with scale it is a bad policy to cut them off, more especially if they are evergreen, as it materially affects the vigour of the young fronds produced in the spring. The more leathery kinds may be sponged, but the more tender leaved kinds may be dipped in strong tobacco water, adding about an ounce of nicotine soap to each gallon of the liquid. Do not neglect them in the matter of watering, particularly those near the hotwater pipes.

Tree-Ferns.—Old specimens in course of time get too tall for the houses containing them. They may be lowered by cutting away the bottom part of the stem and repotting them in the tubs or pots. This can most safely be done with those species which produce roots all along the stems. Syringe the heads pretty frequently to prevent the fronds from flagging till fresh roots are developed to supply them with moisture. The fresh soil in the pots should not be kept in a wet state, otherwise it will get sour before roots are developed into it.

Camellias.—Houses in which Camellias are largely grown should not be kept higher than 50° otherwise they will require frequent syringing to prevent them from casting their buds. A dry atmosphere and a high temperature is often very prejudicial to such plants.

Roof Climbers.—The borders should be examined before fresh growth sets in, and fresh soil given where it is worn out and inert. Such things as Passion-flowers and Tacsonias may receive a good thinning out of their shoots and the remainder regulated to reduce the crowding that would ensue when young growth is being developed. Flowers are produced on the young wood, so that the removal of the old will be no detriment to a full crop in the coming summer. The present opportunity may also be embraced to clear the stems of scale, by painting them with some insecticide after having brushed them well with a strong solution of soft soap by means of a hard, half-worn brush.

Vines.—The rods will now have grown sufficiently in most establishments to be tied into position. They will have experienced some check to the rapid growth they were making owing to the accession of severe weather recently, but it would be inadvisable to attempt hard forcing till more genial weather has fairly set in. Gradually tie down the young growths into position, never allowing them to touch the glass. Disbud as soon as it can be determined which are the best and most suitably placed shoots.

Melons.—A sowing may now be made if the fruit is expected to be ripe by the end of April or soon after. Sow the seeds singly in 60-size pots so as to avoid any check when potting off. Plunge the pots to the rim in fermenting materials or in the cocoanut fibre of a propagating pit. Keep them as near the glass as possible to prevent the stems getting drawn and thin.

Cucumbers.—What applies to Melons will also apply to Cucumbers to a great extent in the early stages. Plunge in a brisk bottom heat with a night temperature in the body of the house of 65° or even higher when the weather outside is mild and the atmosphere clear.

Fruit trees.—Take every advantage of frosty weather to wheel manure on to the fruit quarters. As a rule this department is greatly neglected in the matter of feeding, and yet the trees are expected to bear well. When the roots are near the surface feeding is more imperative than otherwise, but being within the influence of any manure that may be applied, nothing is lost.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "THE EDITOR" or "THE PUBLISHER," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa, London."*

ODONTOGLOSSUM CRISPUM.—*A.L.*: The flower you sent is a very good form of the type, and finely spotted, but as a considerable number of them have been already named and described it would not be advisable to give a fresh name in this case, especially as it is so closely allied to O. c. guttatum; in fact for the sake of distinction it may be so named, or its value be simply indicated by marks. There are several named O. c. guttatum differing to some extent in the size and number of blotches. Occasionally the grower adds the name of the owner or the name of his place, calling it so and so's variety, &c.

GOOD KING HENRY.—*Robert Wardley*: You may sow at once in a mild heat in moderately light sandy loam, or wait till spring, as you can hardly expect the plants to be fit for use in spring as the plant is perennial, and would come in more serviceable and give a greater quantity of produce during the spring of the second and future years. It may even be sown in the open ground in April and thinned out to a foot apart each way if sown in beds. This will allow the plants to develop to useful size. Large plants might even be placed further apart by transplanting as they get to good size. The young leaves were used in the form of a salad in olden times, but more recently the stalks have been used as a substitute for Asparagus, as they come up strongly in spring. It is the Chenopodium Bonus-Henricus of botanists, is a British plant and perfectly hardy, so that you will not find the slightest difficulty in managing it. Sow or plant in good rich soil, so that the stalks may be strong and the leaves large and good. In fact it may be treated precisely the same as perennial herbs generally.

FRUIT GROWING AND FARMING.—*M. K.* asks: 1. From fruit growing under glass in England is there only a livelihood to be made out of it or does it leave sufficient to put by yearly; if so, on an average, how much? 2. What capital and what size farm is generally necessary? [1. It entirely depends upon individual skill and business capacity. Given the same extent of glass and capital, one man might live where another would starve. "M. K." would probably find himself among the starving division. 2. The same answer applies here also.—ED.]

THE CEDAR TREE.—*Arbor*: Your question is rather indefinite as to what Cedar you mean, because there are many of them. There are the Cedar of Goa (Cupressus lusitanica), White Cedar (Cupressus thuyoides), Cedar of Lebanon (Cedrus Libani), and several others which we need not specify. We suppose you refer to the last named, and which should be evergreen, but in severe winters it nearly loses all its leaves in the neighbourhood of London. It is fragrant, but some Cedars are more so. It certainly supports itself with its own strength when in a healthy condition and the roots are perfect, but we have seen old trees that required support or props to keep them from falling. We are not certain whether it is attacked by any moth or not, but several Conifers such as the Pine trees which are often badly attacked by moths which destroy the foliage and other insects bore into the wood. We are not sure that the Cedar of Lebanon is entirely exempt in this respect, and we do not think that many of its good qualities you mention are not shared in by several other Coniferous or other trees. The ancient Greeks used the word *Redros*, and the Romans used *Citrus* when speaking of Cedar, Arbor Vitæ and other resinous Coniferous trees the branches of which they used to put in their clothes' chest to keep away moths from their woollen clothes; and possibly this is what you refer to. The Arbor Vitæ was Thuya articulata, which in ancient times the Greeks and Romans introduced from Africa for the purpose mentioned as well as for the manufacture of costly tables. The Cedar of Lebanon, if included in this category by them, was not therefore unique in being used to drive away moths by its aromatic scent.

HEADING DOWN CHERRY LAURELS.—*Omega*: Cherry Laurels, or common Laurels as you call them, may be headed down almost to any height you may desire, say from 6 in. to as many feet, according to their present condition and the effect you desire to produce. For instance, if you wish for a hedge about 3 ft. high, cut the stems down to 2 ft. so as to allow a foot of young growth to give the desired green appearance. If you desire to form a low covering to a bank, then you may cut down all the stems to within 9 in. or 12 in. of the ground. The plant is very accommodating in this respect, and we have frequently seen it severely headed down with perfectly satisfactory results afterwards. It should be done immediately after all danger of severe frost is over, say from the middle of March onwards, but we should not put it off too late, otherwise the young growths would not have sufficient time to ripen before next winter.

CENTIGRADE THERMOMETER.—*Omega*: The centigrade thermometer commences at the freezing point of water and from thence to the boiling point of water the scale is marked off into 100°. This is a more scientific principle than that on which the

Fahrenheit thermometer is based, as its scale commences at 32° below the freezing point of water, and from thence to the boiling point the scale is marked off into 212°. The centigrade thermometer was recently adopted in Russia as the official one, as recently mentioned by us. It is also used in France, Germany, and other Continental countries, and has been used by scientific men in this country for many years, and will, we believe, be adopted officially in course of time. It takes many years of thinking in an old country like this before changes of any importance are made.

GARDENERS' ORPHAN FUND.—*W. O'N.*: Such a scheme as you propound could not be entertained. It would come within the definition of a lottery, and lotteries are illegal.

VINES.—*Vine Rod*: You need not have the slightest anxiety about the brown spots on the cane of your young Vines. They are not the work of an insect or a fungus, being merely natural developments of cortical tissue made when the Vine was in most active growth, and now turned brown as the wood ripened.

COMMUNICATIONS RECEIVED.—W. M. (next week).—G. D.—S.—H. W. (next week).—W. C.—S. B.—J. C.—Inquirer (you have not conformed to our rules by sending your name).—M. K.—M. R.—H. B. M.—R. Hinde.

TRADE CATALOGUES RECEIVED.

HARRISON & SONS, Leicester.—General Seed Catalogue, 1893.

LITTLE & BALLANTYNE, Carlisle.—Descriptive Catalogue of Vegetable and Flower Seeds.

WILLIAM LEIGHTON, 89, Union Street, Glasgow.—Vegetable and Flower Seeds.

CHARLES TURNER, Slough.—Kitchen, Flower Garden, and Farm Seeds.

JAMES DICKSON & SONS, 32, Hanover Street, Edinburgh.—Vegetable and Flower Seeds.

B. SODDY, 243, Walworth Road, London, S.E.—Spring Catalogue of Seeds.

COVENT GARDEN MARKET.

January 11th, 1893.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d	s. d.		s. d.	s. d.
Grapes..... per lb.	0 6	2 0	Pine apples.		
Kent Cobs...100 lb.	120 0	125.0	—St. Michael's, each	2 6	6 0
Peaches ... per dozen			Apples...per ½ sieve	1 0	3 6
Melons ... . each			Plums...per ½ sieve		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, French, perlb.	1 0		Musbrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per buncb	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	1 0		Radisbes... per dozen	1 6	
Cauliflowers, Eng.dz.	3 0	5 0	Seakale .....per bkt	2 0	3 0
Celery.....per bundle	2 6		Smallsaladiug,punnet	0 4	
Cucumbers .....eacb	0 9	1 6	Spinacb ... per strike	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 9	1
Herbs .....per buncb	0 2	0 6	Turnips ..... per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Cbampions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d
Azaleas ... per doz.	24 0	42 0	Foliage Plants, doz.	12 0	60 0
Cyclamen per doz ...	9 0	24 0	Hyacinths, doz. pots	8 0	15 0
Cyperus .....per doz.	4 0	12 0	Lily of tbeValley doz. pots	12 0	24 0
Cineraria ...per doz.	8 0	12 0	Marguerites, perdoz.	6 0	12 0
Dracæna term., doz.	24 0	36 0	Palms in variety,each	2 6	10 0
Dracæna viridis,doz.	9 0	18 0	Palms, Specimen ...	15 0	63 0
Erica Hyemalis, doz.	12 0	18 0	Poinsettia ..per doz.	10 0	15 0
Evergreens,invar.doz	6 0	24 0	Primula Sinensis per doz.	4 0	6 0
Ferns, invar.,per doz.	4 0	18 0	Solanums.....per doz.	9 0	12 0
Ferns, small, per 100	6 0	10 0	Tulips—various.....	8 0	12 0
Cbrysanthemum, doz.	4 0	9 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s d		s. d.	s. d
Anemones, dcz. bnch	4 0	6 0	Mignonette... 12 bun.	2 0	4 0
Azalea, doz sprays.....	0 6	1 0	Narcisse, various, doz. bnchs	4 0	6 0
Arum Lilies, 12 blms.	4 0	8 0	Pelargoniums, 12 sps.	0 9	1 0
Bouvardias, per bun.	0 6	1 0	—scarlet.....12 bchs.	6 0	12 0
Carnations, 12 blooms	2 0	4 0	Primula, double, bun.	0 6	1 0
Cbrysanthemum,dz bn6	0 15	0	Orchid Bloom in var. per bloom, from	0 3	1 0
— .....doz. blooms	1 0	6 0	Roses, yellow, dozen	3 0	6 0
Camellias doz blooms	1 0	4 0	— French, per bnch	1 6	4 0
Cyclamen doz bloomso	6 0	9	— Frencb, 100 blms	6 0	12 0
Eucharis ...per doz.	5 0	6 0	— Red..... doz. blms.	2 0	4 0
Gardenias 12 blooms	9 0	12 0	— Saffrano...per doz.	2 0	3 0
Heliotropes,12 sprays	0 6	0 9	— Tea ..... per dozen	1 0	3 0
Hyacinths, doz. spikes	3 0	6 0	Tuberoses, per doz	0 6	1 0
Hyacinths Roman doz. sprays	0 6	1 0	Tulips, red, per doz.	0 9	1 0
Lilac, Wbite, French, per bunch...	4 0	5 0	— White, per doz. ...	1 6	3 0
Lilium Harrisii, doz. blooms	6 0	9 0	— Yellow, per doz....	1 6	2 0
LilyoftbeValleydz.sps.	0 9	1 6	Violets,Parma,Frencb per bunch ..	6 6	7 0
MaidenhairFern,12bs.	6 0	9 0	—Czar, French, bun.	2 0	4 0
Marguerites, 12 bun.	4 0	6 6	Small ,, doz. bun.	4 0	6 0
Mimosa (French)p.bh.	1 0	1 6			

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FLOWER SHOWS, 1893.

[*The Editor will be greatly obliged if Secretaries of societies will communicate to him the dates of their exhibitions as soon as fixed.*]

JANUARY.

17.—Royal Horticultural Society, Drill Hall.

FEBRUARY.

14.—R H.S., Drill Hall.

MARCH.

14.—Flower Show in Manchester Town Hall.
14,28.—R.H.S., Drill Hall.
22.—Royal Botanic Society.
23.—Shrewsbury Spring Flower Show.

APRIL.

5,6.—Royal Caledonian Horticultural Society.
11,25.—R.H.S., Drill Hall.
25.—Flower Show in Manchester Town Hall.
26.—Royal Botanic Society.
26,27.—Ancient Society of York Florists.

MAY.

9.—R.H.S., Drill Hall.
17.—Royal Botanic Society.
19.—Orchid Show at Old Trafford.
25,26.—R.H.S., Temple Show.

JUNE.

6,20.—R.H.S., Drill Hall.
14,15,16.—York Floral Fete.
20.—National Rose Show at the Drill Hall.
21.—Royal Botanic Society.

JULY.

1.—National Rose Show at the Crystal Palace.
5.—Royal Botanic Society.
11.—R.H.S., Chiswick.
12,13.—Royal Caledonian Horticultural Society.
13.—National Rose Show at Worksop.
22.—Rose Show at Old Trafford.
25.—R.H.S., Drill Hall.

AUGUST.

8.—R.H.S., Drill Hall.
18.—Devon and Exeter Horticultural Society.
23, 24.—Shrewsbury Summer Show.
29,30,31.—R.H.S., Agricultural Hall.

SEPTEMBER.

6,7,8.—National Chrysanthemum Society at the Aquarium.
8.—Bute Rose Show at Rothesay.
12,26.—R.H.S., Drill Hall.
13,14.—Royal Caledonian Horticultural.

OCTOBER.

10,24.—R.H.S., Drill Hall.
11,12,13.—National Chrysanthemum Society at the Aquarium.

NOVEMBER.

1,2.—Kent County Chrysanthemum Show.
7,8,9.—National Chrysanthemum Society at the Aquarium.
7,8.—Kingston Chrysanthemum Show.
8,9.—Bournemouth Chrysanthemum Show.
8,9.—Croydon Chrysanthemum Show.
10.—Exeter Chrysanthemum Show
14,28.—R.H.S., Drill Hall.
15,16.—Birmingham Chrysanthemum Show.
15,16.—Bristol Chrysanthemum Show.
15, 16, 17.—Hereford Fruit and Chrysanthemum Show.
21,22.—Manchester Chrysanthemum Show.

DECEMBER.

5,6,7.—National Chrysanthemum Show at the Aquarium.
12.—R.H.S., Drill Hall.

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Leaf and Peat Mould
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Guano and Dissolved Bones
Bones, ½ inch and ¼ inch
Bone Dust, guaranteed pure
Blood and Bone Manure, highly recommended
Horticultural Charcoal
Tobacco Clotb, far superior to Paper
Mushroom Spawn
Russia and Arcbauge Mats
Pot Washing Brushes
Virgin Cork and Raffia [Twine
Tanned Netting & Tarred
Trugg Garden Baskets
Flower Sticks, from 1 to 5 feet
Wooden Labels, from 4 to 12in.
Thin Bamboo Canes
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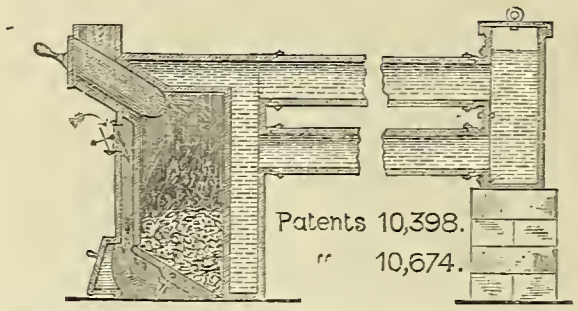

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NEXT WEEK'S ENGAGEMENTS.

MONDAY, Jan. 23rd.—Bulb and Root Sale at Protheroe & Morris' Rooms.
TUESDAY, Jan. 24th.—Sale of Gladioli, hardy plants, &c., at Protheroe & Morris' Rooms.
WEDNESDAY, Jan. 25th.—Sale of Lily Bulbs at Protheroe & Morris' Rooms.
THURSDAY, Jan. 26th.—Sale of Hardy plants and Bulbs at Protheroe & Morris' Rooms.
FRIDAY, Jan. 27th.—Sale of Orchids at Protheroe & Morris' Rooms.

The Gardening World.
Edited by BRIAN WYNNE, F.R.H.S.
SATURDAY, JANUARY 21st, 1893.

GARDENERS AND BIRDS.—An eminent naturalist, writing in an Irish publication, has classed gardeners with gamekeepers, bird-catchers, etc., amongst the chief enemies to birds. We cannot accept that classification by any means, as, so far as our knowledge goes, we never met with a gardener who was an enemy to any bird except such few as proved to be wanton depredators, and these they would endeavour to destroy simply as a means of self defence. The gamekeeper is a wanton destroyer of bird life, the champion disturber of Nature's balance; and in a lesser degree so, too, is the professional bird-catcher. The gardener, on the other hand, rather likes birds. He is always living or working amongst them; they become the cheerful companions of his early labours.

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Begs to intimate that he has among the New Chrysanthemums of the present season, several of exceptionally fine quality, including the two magnificent New Crimson Japanese

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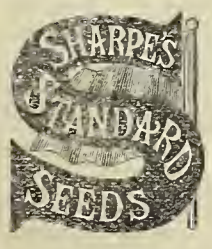

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Birds render life and its surroundings, especially in gardens, delightfully enjoyable, and perhaps do more to sweeten the hours of labour than does any other element in Nature. But even when driven in sheer compulsion, because of the destruction wrought by birds, to shoot them, we decline to admit that such destruction affords any pleasure, but is done always in such a way as to ensure only a modicum of pain. The denunciation of steel and pole traps, which we learn from the same writer, happily for us, is levelled against the keeper whose vocation seems to render him callous to pain and agony as endured by birds in his traps. But above all other considerations, whether sentimental or humane, we have to guide gardeners in their regard for birds, the fact that they are our chief aids in destroying insect pests, and the good they do, is a thousand times beyond the harm which is sometimes experienced.

To give a complete exposition of the benefits to the gardener resulting from the birds preying upon various pests would fill a volume, indeed we could not tell of one half of the good they do. Country life would indeed be like to that of a silent wilderness were it robbed entirely of bird life. That is a calamity from which we may well wish to be spared, and indeed would rather hope to learn that through the hard weather which has marked mid-winter, that very many gardeners have preferred feeding the poor birds to shooting them.

Concerning Onions.—A noted Onion trader who publishes a long list of presumed novelties in Onions, the seed of which is of almost fabulous price, is after all but an illustration of the sort of trade enterprise that has during the past few years been brought to bear on the expansion of varieties, their improvement by enlargement, and their superior cultivation. It is said that a very extensive trial of Onions will take place at Chiswick during the ensuing summer. That will no doubt prove to be very interesting, especially if through the aid of insecticides and fungicides they can be safely brought through the respective stages of insect and fungoid attacks.

We observe also that next autumn Onions will form the subject of one of the Drill Hall lectures. Well, that is satisfactory, because horticulture covers the humble and the useful, as well as the scientific and the showy. But the compilers of the Royal Horticultural Society's schedule will indulge in some idiosyncrasies, and amongst others we note that when a paper is to be read on Pears, hardy herbaceous flowers are invited by prizes; and when at the next meeting a paper on Onions is read, prizes are offered for Pears among other fruits. What a pity the Pears could not have been asked for at the previous meeting, and at the following one a few prizes for Onions have been offered. No doubt Onions will be found in abundance all the same.

The Fruit Committee will, no doubt, find in the proposed Onion trial, if successful, a very tough job. We have increased our Onion stocks, and especially Onion names, enormously of late. It would seem as if the Onion had not previously been regarded as a very attractive subject for cross-fertilisation. Its great difficulty, even when new or improved forms are obtained, is inconstancy, and thus it is very difficult to firmly fix them. Size produced by forced cultivation is now the chief feature in exhibition Onions, but we observe that growers for ordinary use still prefer bulbs of the old, hard style.

Technical Education in Horticulture.—We have learned enough respecting the operations of the Technical Education Scheme of the County Councils to be aware that just as in those districts in counties where the existing organisations of a horticultural kind, such as cottage garden and flower show committees, gardeners' associations, etc., have been utilised by the authorities, so have the gatherings been successful; whilst where the local work has been left to the hands of a sort of mixed or amateur committee, it has often been the reverse. It does seem as if, in myriads of places, the powers that be, especially in rural districts, failed to get hold of the workers or to attract them to attend the horticultural lectures.

Now and then a very hard working conscientious clergyman or schoolmaster will do well, but still in no sense so well as do the local horticultural committee. We very strongly commend to County Council Technical Education committees the importance of federalising all these respective bodies in their county areas, and forming from them local committees, or else, so far as the teaching of horticulture is concerned, forming these committees into their local authorities. It is distressing to learn in a district that whilst the ordinary attendance at lectures is poor, yet there is a flourishing society in the place, that it holds a good annual show, that there are very many allotment holders and cottage gardeners, and yet hardly one of all these can be induced to attend the lectures.

It is obvious that there is no link between the County Councils, local committees and the people whom it is so desired to get hold of. It is satisfactory to learn generally from those who attend the lectures how much they appreciate them, and derive benefit, and therefore it is obvious that every effort should be put forth to secure the co-operation of these particular bodies who make horticulture their special concern.

Berries and Cold.—We shall perhaps never be able to kill entirely the old and still firmly credited tradition that a big crop of wild berries is indicative of a hard winter. It is true that we have had the past season a very abundant berried crop, and certainly of late some exceptionally hard weather. We may have no more of such exceedingly low temperature during the winter, but in any case we have had enough to make us remember the Christmas and New Year time through which we have just passed; still, more of it is needful to make a really hard winter. However, the prophets are content. When, however, as sometimes happens, a heavy crop of berries precedes a mild winter, then we hear nothing of the tradition.

Really it has about the same basis as has that very old one in relation to the leafage of the Oak and Ash, but then the latter never does open its leafage first. What is the cause of a heavy crop of berries lies somewhat nearer to the past than the future. We may take it for granted the same causes which led to the production of a good Apple, Plum, or other garden fruit crop, led to the production of a large crop of fruit on Hawthorn, Dog-rose, Holly, and similar hardy shrubs. With many trees, the Mountain Ash for instance, let the crop of berries be ever so heavy, these at any rate take no part in furnishing birds with food in hard weather. They have long previously disappeared.

The Haw perhaps offers to birds the most acceptable food, whilst even in the hardest of weather they will leave Holly berries in some places severely alone. However the summer season of the preceding year has probably had most to do in providing the berry crop of some twelve months later, and what was to be the nature of the then succeeding winter had not we are assured been destined. Without having our sympathy with starving birds questioned, we at least do place the beauty the wild berries furnish before mere utilitarian considerations.

The Croydon Horticultural Society will hold its annual exhibition Wednesday, July 5th.

Mr. Edward Bennett has given up the management of Mr. Webster's extensive horticultural establishment at Harefield Grove, Uxbridge, and taken on a lease the Royal Kitchen Garden and forcing establishment at Hampton Court, so long carried on by the late firm of Jackson & Son, of Kingston.

Horticultural Instruction.—Mr. George Garner, gardener at Amberwood, Christchurch, Hants, has been engaged by the Poole Technical Instruction Committee, to deliver a course of lectures on Horticulture, the first of which was given at Parkstone, on the 10th inst. The subject of the lecture was The Chrysanthemum, and it was ably handled.

Gardening Engagements.—Mr. D. Brough, decorator and salesman to Messrs. R. B. Laird & Sons, Royal Winter Gardens, Edinburgh, and previously gardener to Lord St. Oswald at Nostell Priory, has been engaged as gardener to Sir Archibald Edmonstone, Bart., Duntreath Castle, Strathblane, Stirlingshire.—Mr. George Wheeler, for many years gardener to the late Sir Francis Goldsmid, and more recently to Louisa, Lady Goldsmid, at St. John's Lodge, Regent's Park, N.W., has been appointed manager of the Tongswood Estate, Hawkhurst, lately purchased by the Misses Goldsmid.

Battersea Amateur Chrysanthemum and Horticultural Society.—Members and friends of this active young society, to the number of about forty, dined together at the Prince Albert Tavern, on the 11th inst., the president, Mr. Coppin, occupying the chair. A capital musical programme followed the dinner and rendered the evening a very enjoyable one.

Death of Mr. W. Brown, of Richmond.—We regret to hear of the death of Mr. W. Brown, of St. Mary's Grove Nursery, Richmond Surrey, which sad event took place on Friday last. Mr. Brown was well known for his skill as a bouquetist and floral decorator, and in private life as a most estimable man, who was greatly respected.

Fruit from South Africa.—Messrs. Donald Currie & Co., following up the special efforts made by the Castle Line last season, in connection with the import of Cape Fruit to this country, have considerably extended and increased the number of the cool chambers provided in their steamers for the conveyance of fruit. The "Warwick Castle," due in London this week, brings a consignment of Apricots, and a large shipment of Grapes and other fruit are expected to arrive shortly. The Castle Line some time ago fixed the rate of 40s. per ton for Apples and other fruit, carried as ordinary cargo.

Mr. William Haig, gardener at Lindertis, Forfarshire, has resigned his appointment owing to the establishment being reduced.

Mr. Thomas Whitelaw, who has been for a long time gardener at Loretto, Musselburgh, died suddenly on the 11th inst.

Mr. McKinnon, gardener at Scone Palace, Perthshire, has been presented by the Curlers of Scone and Perth with a purse of sovereigns and a combination table ornament in recognition of his services as secretary of their society. A pair of Curling stones has also been presented to Mr. McKinnon by the Perth and County Curling Clubs, in appreciation of his exertions on behalf of Curling.

Killed by a Thorn.—A remarkable death was reported recently from Scorrier, Cornwall. William Hodge, a gardener, while employed at Tregullow received a prick from a Thorn. He thought nothing of the matter at the time, but subsequently inflammation set in, and next day Hodge was so ill that a doctor was sent for. He left instructions for poulticing the swelling, but the man grew worse and medical aid was again summoned. It, however, proved unavailing, death resulting two hours after the doctor's arrival. At the inquest the jury returned a verdict of death from blood poisoning, caused by the prick of a Thorn.

Royal Horticultural Society.—In another column we give the substance of the report which will be presented to the Fellows at the annual meeting of the Society on Feb. 14th. The retiring members of the Council are Baron Schroder, Rev. W. Wilks, and Mr. Sherwood; and Sir John T. D. Llewelyn, Bart., the Hon. Walter Rothschild, and Mr. J. T. Bennett-Poë are nominated for election. Mr. Wilks retires from the Council, but is nominated for election as paid Secretary. Sir Trevor Lawrence, Bart., and Mr. Crowley are again nominated as President and Treasurer; and Mr. Harry Turner, Mr. Henry Williams and Mr. A. H. Pearson as Auditors.

The Blenheim Sale, conducted by Messrs. Protheroe & Morris on 10th and 11th inst., was an exceedingly successful one, the 1,120 lots realising over £1,700. The special feature of the sale was the high prices obtained for the splendidly grown Carnations of the Malmaison and other winter flowering varieties. Thus for the new pink variety of Malmaison, three plants in 10-in. pots, fetched from 55s. to 65s. per lot, and in half-dozens realised from 4 gs. to £5; Germania, three plants in 10-in. pots, 50s. to 70s.; Winter Cheer averaged 2 gs. per lots of twenty plants, and £4 for lots of fifty; and Miss Joliffe Improved 2 gs. per lot of twenty; mixed lots of eight plants fetched from 32s. 6d. to 35s.; and twenty plants from 60s. to 72s. 6d. Other good prices obtained were 7½ gs. and 8½ gs. for twelve pots of Nerine Fothergillii major; Crotons, 50s. to 75s. per half-dozen; Anthurim Schertzerianum, a magnificent plant with hundreds of leaves, £34 13s., and other specimens £22 1s. and 17 gs. each; and Pancratium fragrans £2 5s. for half a dozen.

Lee, Blackheath and Lewisham Horticultural Society.—The twenty-fifth annual meeting of this society was held on the 9th inst., at the Institute, Lee. In the absence of the president, J. Penn, Esq., M.P., the chair was occupied by the treasurer, M. N. Buttanshaw, Esq., who, in the course of his remarks, complimented the members upon the completion of a quarter of a century of useful work, and upon a satisfactory cash statement, which showed a balance in hand of about £31, although a larger amount had been paid away in prizes, but this they did not grudge, as it was evidence that the society was in a healthy and progressive state. After the election of the new committee (twenty-four in number), and the election of the Bishop of Southwark as a member and patron, votes of thanks were accorded to the various officers and special prize givers, the Press, and the chairman. At the next meeting, to be held on the 27th inst., a paper will be read by Mr. George Gordon.

Scottish Horticultural Association.—Mr. A. Macalpine, Consulting Botanist to the Highland and Agricultural Society, delivered on Wednesday, the 11th inst., the third of a series of lectures on "The Structure and Physiology of Cultivated Plants." He dealt specially with what the plant does with the materials it took from the soil and the air, and demonstrated how it worked them up into starch or sugar, fat, and proteids in its workshops, and how these materials are rendered soluble and utilised, and in doing so stated the conditions that favour the process of reconverting the plastic reserve material. On the black board he showed the places or vessels that carry these soluble matters, and explained how these materials were used up in producing root, stem and leaf. There was a large attendance of the members, and they frequently applauded the lecturer. In his fourth and last lecture, delivered last week, Mr. Macalpine dealt specially with the organs of reproduction, and treated the interesting subject in a very able manner. Mr. Welsh, who presided, moved a vote of thanks to the lecturer, which was unanimously accorded.

Measurements of Famous Trees.—At a recent meeting of the Botanical Society of Edinburgh, the president, Dr. Christison, gave an interesting address on the size and rate of growth of forest trees. He gave the honour of being considered the king of English Oaks to the Newland Oak in the forest of Dean, which nowhere girthed less than 40 ft. The largest Oak in Scotland was in Lanarkshire, and was 23 ft. in girth at the narrowest part. The Newbattle Beech had the honour of being not only the King of Scottish trees, but the largest and grandest in the kingdom. Its girth at the ground was 43 ft., and 18 ft. 2 in. at the narrowest part, 8½ ft. from the ground. The circumference of the foliage was 400 ft. Of the Ash there was no specimen in Scotland reaching the giant girth of 20 ft. at 5 ft. up; and the same was true of Scots Fir, the largest of which seemed to be 13 or 14 ft. in girth. With reference to the probable age of trees, Dr. Christison pointed out how unreliable historical evidence on this subject was. The counting of the annual rings was also inaccurate, but the information was sufficiently good for a rough estimate to a very advanced period of their life. A third species of *data* was furnished by the girth measurements. Applying the best *data* available to the growth of the Newbattle Beech, he made out that possibly at the present time it would be about 233 years of age.

Lord Carrington on small holdings.—At a meeting held at March on the 11th inst., an interesting speech was delivered by Lord Carrington in relation to the allotments and small holdings on his estates in Lincolnshire. He said that twenty labourers would have left Winteringham last winter to migrate into town if it had not been for their small holdings, and he had applications for 120 more holdings. One-acre allotments are usually divided into two pieces, one of which was occupied with Barley and the other with Potatos. The average profit upon one acre of these lots was £4 last year after deducting all expenses, but in 1889 it was as low as £3 18s., and in 1890 as high as £5 18s. In one case last year the profit was £6 10s. The average profit for the last four years upon the quarter of an acre allotments was £1 10s., thus showing a considerable advantage over the one acre lots. The highest profit on a quarter of an acre lot was where the tenant grew Potatos, and after retailing the two tons obtained, pocketed a sum of £8. The case of the Spalding allotments, consisting of thirty-three acres and divided into as many lots, is also very encouraging. The net gain for the whole field after paying all expenses was £211. The highest profit for one acre was £8 13s. 3d. on a crop of Potatos, and the lowest profit was £3 9s. 9d. on a crop of Barley. The average profit per acre on the whole field was £6 8s., and should therefore be encouraging to the promoters of small holdings and allotments. It would have been interesting to horticulturists generally if trials had been made of various garden vegetables, and the calculations of cost of production and profit made out in the same painstaking and careful manner. Distance from large towns would of course affect the profits upon many kinds of vegetables considerably. The differences upon the profits made by the various cultivators show how one man may succeed by superior ability where another might fail.

THE NURSERY AND SEED TRADE ASSOCIATION.

The adjourned annual general meeting of this association was held at the offices, 30, Wood Street, Cheapside, on the 11th inst., Mr Sherwood presiding. The Report of the Committee for the past year, which was unanimously adopted, shows that the association continues to steadily increase in its usefulness to the trades it was formed to benefit. This fact is proved by the great increase in the number and amount of debts collected during the past year, the number of special enquiries made relative to the status of members of the trade, and by the present financial condition of the association, which is more satisfactory than it has ever been before, the cash balance carried forward being £105 18s. 1d. Although the Committee regret that the association has lost several members through death, retirement from, and misfortune in business, they have pleasure in reporting that 22 members have joined during the past year. During the same period the Status Enquiry Department has been utilised to a considerable extent by members who have made enquiries respecting the financial position of persons engaged in the nursery and seed trades who were seeking to obtain credit. The association is affiliated with the Association of Trade Protection Societies, and the secretary is thereby enabled to place himself in communication with the kindred associations connected with it, and also with correspondents throughout the United Kingdom for the purpose of making enquiries regarding persons who may not be known to the members of this association. The number of debts applied for during the past year was 1,392, being an increase of 391 on the previous year. The total sum recovered was £4,755; of this amount £2,103 was through the association and £2,652 through its solicitor.

The Report also directs timely attention to the fact of so many public companies having lately failed, and of traders forming their businesses into limited companies with power to issue debentures. These documents, if properly drawn, are a valid mortgage of the whole assets of a company, including book debts and stock-in-trade, and do not require registration as a bill of sale, or other publicity. If a company who has issued debentures is unsuccessful in trade the debenture holders generally institute a Chancery action to realise the assets of the company, and the trade creditors are often left without any means of obtaining payment of their debts, beyond a nominal dividend (if any). Wholesale merchants are therefore advised in all cases where they are supplying a public company with goods to ascertain whether such company has power to issue debentures, and to what extent it has done so before they give credit.

The new railway rates, it was stated, were receiving the attention of the solicitor, and secretary, and a small Sub-Committee was appointed to assist the officers in ascertaining how far the new rates adversely affect the traders forming the association.

SHRUBS AND THE FROST.

The extent of the damage done to trees and shrubs cannot be fully estimated till we have had a proper thaw; for since Christmas eve we have had a continuous succession of cold weather varied somewhat by intermittent thaws which have only been partial and but short-lived. The unusually mild weather of November and December had an exciting influence upon plant life, thereby making trees and shrubs more tender than they otherwise would have been had they been perfectly at rest. A considerable amount of damage is frequently done in the month of March during the prevalence of cold winds, and the full extent of that already inflicted will only appear when the east winds of spring dry up the dead shoots and leaves of the leathery leaved kinds. Half-hardy and relatively tender subjects are usually planted against walls for the sake of protection; but a considerable amount of damage has been done to trees and shrubs freely planted in the open. The undermentioned shrubs when planted out of doors are usually accorded the shelter of a wall even if they get no other protection. Already they may be seen to have fared badly, and in many cases seem unhappy and anything but at home in our ungenial climate.

Evergreen subjects show the injury most, as might have been expected, but some of the more tender of the deciduous species must have suffered likewise. The leaves of the Loquat (Photinia japonica) have all been browned, and some are quite dead, although the plant has been out of doors for many years. The shining leathery leaves of Viburnum Awafouki have been blackened. The common Myrtle is greatly injured, but that is of frequent occurrence, and the older wood breaks out into growth again. The leaves of Escallonia illinita and E. punctata are browned, and some of the shoots appear killed; the plants appear less hardy than E. macrantha. The leaves of Cestrum Parqui are pendent, curled up at the sides, and dry as if they had been subjected to the scorching action of a fire. Those of Solanum crispum are also killed. All the younger tips of the shoots of Medicago arborea are drooping and the leaves withered, although the plant is a native of the South of Europe. All of the above had the protection of a south aspect wall, but no other protection. This would be rather disadvantageous provided bright sunshine during the day were to succeed severe frost by night, for then the partial thawing would be greatly injurious to frozen tissue. This can hardly apply in the neighbourhood of London seeing that sunshine during stormy weather is of rare occurrence.

Shrubs on a west aspect wall have fared as badly in proportion to their hardiness or otherwise. The leaves of Olearia macrodonta, a native of New Zealand, are partly browned and will probably show greater injury later on. The leaves of a weak plant of Carpenteria californica are much curled, appearing less than half their natural size. The leathery leaves of the Chilian Azara Gillesii are black, and shoots and leaves of Hydrangea altisima are killed. Young plants of Aristotelia Macqui usually get killed in winters like the present, but healthy old trees lose their leaves and unripened shoots, the older portions breaking out again. The unripened shoots and leaves of the Japan Honeysuckle (Lonicera flexuosa) are

killed, as are those of the better known variety aureo reticulata. Clethra arborea, which, gets some size in in the Channel Islands, appears dead, and the beautiful pinnate leaves of Electryon excelsum on a young plant are in the same condition. We have frequently seen Photinia ovata come through the ordeal of a trying winter, but the injured condition of the leathery leaves seems unaccountable even after the severe frosts which we have recently encountered. The species and varieties of Ceanothus generally get more or less injured even in fairly ordinary winters, so that we are not surprised that they should present a dilapidated condition. The broad leaved ones are more liable to suffer than the narrow leaved ones. The unripened tips of the shoots of Cistus populifolius have also suffered to some extent. The variegated Kadsura japonica seems to have suffered less than the green leaved form, but neither of them will look fresh till they have made fresh growth.

If there is any difference the shrubs located on east walls have suffered more than those on western aspects. Akebia quinata, which is usually grown in a greenhouse, has been very much injured, and Lardizabala biternata, belonging to the same family, has been considerably browned, but may recover The Macartney Rose, although evergreen, has become quite brown as far as the leaves are concerned. The Heath, like Fabiana imbricata from Chili hangs its head as if in distress, and the broad leathery leaves of Decumaria barbata are brown in many cases. The unripe shoots of the Common Passionflower are killed. So far the Chilian Edwardsia Macnabiana and Abelia rupestris from China seem only slightly injured, but time will tell. The young shoots of the common Jasmine are dead, and the same may be said of Rosa Fortuneana. A more deplorable aspect could not be depicted than that of Stranvæsia glaucescens, the leaves of which are brown and dead from top to bottom. Curiously enough the young leaves of Piptanthus nepalensis are quite fresh, while the old ones have been destroyed. The Chilian Duvaua longifolia and Maytenus chilensis hold out bravely, but they are more or less scorched where the shoots stand out some distance from the wall, or have been subjected to cutting winds.

In the open ground the Golden Privet has got cut to some extent, and the shrubby Hypericums, such as H. oblongum, H. aureum, and H. densiflorum, look rather shabby and will no doubt have to break again from the base. Neillia thyrsiflora, probably because more nearly evergreen than N. populifolia, better known as Spiræa opulifolia, has suffered the loss of its leaves, and to all appearance the tips of the shoots. Amidst such mischief to tender and in many cases choice subjects, it is pleasant to note that some things appear quite safe so far, notably Cistus corbariensis, C. laurifolius, C. ladaniferous, and others. Notospartum Carmichæliæ never has much foliage at any time, and none in winter, so that its fresh appearance is no doubt due to that circumstance Some flowers were open the other day upon Lonicera Standishi and others about to expand. The typical Trachelospermum jasminoides is usually grown in the greenhouse or stove, but the variety T. j. angustifolium appears quite hardy, for it is all but uninjured.

THE VEGETABLE GARDEN.

Mushroom House.

As sufficient manure is prepared continue to make up beds at regular intervals, so that no break occurs in the supply. During the severe weather be careful not to let the pipes get too hot, and keep the atmosphere moist, and as regular as possible, as nothing is so hurtful to Mushrooms as extremes of heat and moisture.—*G. H. S.*

Forcing Vegetables.

Put in regular batches of Seakale and Rhubarb. For the Seakale use fresh loam, as this greatly improves the flavour of the produce. When it is forced indoors the weather will not affect the gathering when wanted, but when forced in the open care must be taken in the frosty weather to cut in the middle of the day all that is required. The heating material will have to be carefully watched to see that it does not become too hot, or on the other hand too cold. Put in regular supplies of Chicory and Dandelion roots to supply materials for the salad bowl. About the end of this month a frame, on a gentle hot-bed, should be sown with French Horn Carrots. Rows of Radishes may be sown between the Carrots, as they will come off before the latter become very large.—*G. H. S.*

Exhibiting Vegetables.

I notice a misprint in my paper on exhibiting vegetables at p. 307 in the eighth line from the bottom of the column under the heading of Carrots, "holes made 2 ft. deep" should read "5 ft. deep." Allow me to thank you for your kind remarks on the collection of vegetables which I staged at the Westminster Aquarium at the November show of the N.C.S. I quite agree with you that I exceeded the usual quantities of each variety, but I do not think, had I shown less, that I could have made such an attractive arrangement, as the space allotted to each exhibitor was something like twenty square feet, which is much too large for a collection of six varieties of the usual quantities, as was amply proved by many of the competitors not covering more than three parts of their space. I think if those responsible for the division of the spaces had given the general effect more consideration, less room would have been left for criticism.—*James Gibson, The Oaks Gardens, Carshalton, Jan, 13th.*

CONCERNING CURRANTS.

My old friend, Shirley Hibberd, once said he was taught to prune Currant trees at twelve years of age. I can say much the same, as I went to work in a garden when I was about that age and the pruning of bush fruit trees was one of the first things I learned. Close by was a market garden in which bush fruits were largely grown, and the method of pruning adopted by the old proprietor, who was to a considerable extent my teacher, was right for that day and right for ever, as far as our present method of cultivating the Currant is concerned. Red, White, and Black Currants appear to be just the same now as they were then, with perhaps the addition of a few improved varieties. My old teacher said to me, "Look here, lad, just take the branch in your left hand, and mind ye, Red and White Currants are pruned the same way; and your knife so" (turning the blade upwards) "in the right, and cut the shoot away so as to leave it four or five buds only from the old wood. But Black Currants you do another way; you take the branch at the tip and cut away a fourth part of it, as you see these bear all the way up; but Red and White only bear on the old wood, or very close to the old wood." Such were my instructions from one who had graduated in a fruit garden, and had spent his life at the work.

I once saw a plantation of Red and White Currant trees that formed a part of a garden which, for lack of a tenant, had been suffered to fall into sad neglect, and had not been pruned for several years. They were like neglected Osiers, consisting of an almost impenetrable mass of long rods, 8 ft. to 10 ft. high, which all the summer were beautifully wreathed with the suffocating growth of the Bear-bind (Convolvulus arvensis) with its elegant leaves and snow-white flowers. The trees bore well, neglected though they were, but the fruit was small and feasted truant schoolboys and the birds. When the garden was taken, the proprietor saw the almost hopelessness of attempting to reduce the trees to decent proportions, and if that could be done there was the Bear-bind to reckon with. The following process was adopted:—A search was made for wood two or three years old that had put forth roots through their bases touching the soil, and in this way a collection of miniature trees were obtained with stems a foot or so in length, and the three or four branches or shoots upon them cut back to four and six inches. These were planted in a well-prepared bed, and the following season they grew with remarkable vigour. They actually bore a crop, but it would have been better if they had not been allowed to fruit, and allowed instead a year's probation of preparation. The trees made plenty of clean wood, and they were pruned in autumn in the usual way.

Meanwhile the old trees were dug up and burned, the ground trenched and cleared of the Bear-bind, and a good manuring given to it, and the young trees planted in their place; they produced a fair crop the following season, but after that they bore freely and finely. Thus there was a distinct gain in selecting the rooted wood for trees rather than trusting to the much longer process of rearing trees from cuttings of the young wood. If any one doubts this statement, let them try it.

It is noticeable how some persons make a hobby of the fancy culture of Currants. I had a neighbour who grew Red Currants on a single shoot, and he got them up to a height of from twelve to fourteen feet, and a pair of high steps had to be brought into requisition to gather the fruits. He got poor crops, but an immense deal of pleasure out of the experiment. Some persons grow Standard Currants with marked success. To make a standard, cuttings of strong young shoots are necessary, and they are disbudded to within four buds of the top in the usual way. The top bud is allowed to grow, the others pinched in and kept very short. When the stem is five feet in height a head is formed, and it is made of three or four shoots which are slightly pruned the first season, the object at that stage being to get wood and not fruit. The next year these produce an abundance of side shoots, which are pinched back, and then fruit follows, for where the shoots are pinched back to two or three buds, six inches of blossom buds will form, and in due time the heads will be hung with fruit all round. The after pruning consists in cutting back, first, to preserve the contour of the head and a rather open centre; and secondly, to secure fruit. As a matter of course the closer the pruning is done back to the junction of the young wood with the old, the fewer but finer will be the bunches.

Some prefer the pyramid form of tree to the bush, and much the same treatment is necessary, but instead of taking up an upright stem, plenty of wood right and left must be secured, the bases of which should be about nine inches from the ground, trusting to time to carry the stem of the tree a little higher. It is important to form a good base, so it is necessary to tie out the shoots to stakes, and at the winter pruning, cut them back to a third or half their length and then on that foundation keep building, with every season's growth, another and another tier of branches; and in due time train to a sharp point when the height reached is considered sufficient. From this point downwards the outline will extend in regular oblique lines to the ground. But it is of the utmost importance to note that the foundation of the tree must be first laid.

The summer pruning or pinching of Currant trees is now a good deal practised, removing to two eyes or so the side shoots, which adds to the fineness of the fruit, admitting light and air among the branches.

The White Currant is but a variety of the red, but whether a seminal one, or whether it originated as a sport, or whether the changed condition of colour is traceable to cultivation, it is difficult to say. The best red varieties are Red Dutch or Knight's Early, of upright growth, and large berries; Raby Castle, with its very dark crimson berries, which makes it so valuable for exhibition purposes; Fay's Prolific Red, an American variety, of a deep dark red colour, which keeps well; and the New Dutch or Chiswick Red, the growth spreading and vigorous, fruit dark red, a very free cropper. The White Currants are regarded as the most delicate in flavour, and therefore best adapted for dessert purposes. Of these there are the White Dutch, early; White Transparent, one of the best dessert sorts; the White Versailles, which is the largest; and Shilling's White, cut leaved, a slow grower, a great bearer, and one of the sweetest.

Some remarks upon the Black Currant, and a selection of sorts, shall follow next week.—*R. D.*

ROYAL HORTICULTURAL SOCIETY.

We take the following extracts from the Report of the Council for the year 1892, to be presented to the Annual Meeting of Fellows on February 14th.

The year 1892 has again been one of steady work and progress for our Society. Two Conferences have been held at Chiswick, viz.: on Begonias and on Apricots and Plums. The attendance of Fellows and others at these conferences, as also at the fortnightly lectures in the Drill Hall has continued to be more encouraging than in previous years.

Twenty-two Fruit and Floral Meetings have been held in the Drill Hall, besides those held at Chiswick, and lectures have been delivered at nineteen of them. The number of awards has been as follows:—On the recommendation of the Floral Committee, 62 First Class Certificates against 33 in 1891, 156 Awards of Merit against 183, and 2 Botani-

cal Certificates. On the recommendation of the Orchid Committee, 48 First Class Certificates against 34 last year, 72 Awards of Merit against 38, 29 Botanical Certificates against 10. On the recommendation of the Fruit and Vegetable Committee, 27 First Class Certificates against 6, and 18 Awards of Merit against 7 last year.

The Society's general work of scientific experiment and investigation, and of the practical trial of various plants, has been going on steadily at Chiswick, under the Superintendence of Mr. Barron. Trial has been made of 45 varieties of Tomatos, 12 of Turnips, 79 of Runner Beans, 66 of Beet, 79 of Vegetable Marrow, edible Gourds, and Pumpkins, and 80 of Savoys and Cabbages. Eighty-nine new varieties of Potatos, and 104 new Peas have been tested. In the Floral Department 200 varieties of Carnations and Picotees, and 50 of Pinks, 200 Dahlias, 80 Violas, 44 of Sweet Peas, 26 Bedding Begonias, 324 Phloxes, 500 Pæonies, and 330 Asters (Michaelmas Daisies) have been tried. The Phloxes, Pæonies and Asters have each had the special attention of a Committee of Experts both in regard to their proper nomenclature and their value as hardy border flowers. The Reports of these Committees will, it is hoped, be ready for publication during the present year.

The *Journal* of the Society has been continued so so as to enable Fellows at a distance to enter more fully into and reap the benefits of the study and work of those more actively engaged at headquarters. The first part of Vol. xv. was published in the early part of the year and the second and third parts (now ready for issue) were delayed owing to the pressure of work caused by the preparation of the Conifer Volume. The Conifer Conference Report, forming Vol. xiv. of the *Journal*, is a work on the publication of which the Society may well be congratulated, and the thanks of all the Fellows are due to those who have so kindly contributed to it, and also especially to those on whom the heavy work of editing the volume has fallen.

The number of deaths during the year was 72, and the resignations 185, while the number of Fellows elected was 391, showing a net increase in income amounting to £278 5s.

The most noticeable feature in last year's work, besides the Begonia Conference and the issue of the Conifer Volume, has been the promulgation of a scheme for the examination of students and others in the Principles and Practice of Horticulture, and a scheme is on foot for providing Scholarships, whereby the most promising students may be enabled to pursue their studies in connection with the Society's Gardens at Chiswick or elsewhere. The first examination was held in the early part of the year at the request of the Surrey County Council, when 72 candidates presented themselves, with the result that 12 passed to the satisfaction of the Examiners in the higher grade, and 17 in the lower grade. A second examination will be held in May of this year, when it is proposed to extend it to candidates in all parts of England.

In round numbers £1,700 has been expended at Chiswick this year on the general work, and repairs and keeping up of the Gardens. A further sum of about £368 has been laid out in special repairs, viz.:—in the thorough repainting and repair of the Great Vinery both inside and out, and in furnishing a new boiler, &c. The receipts from the Gardens by sale of surplus produce amount to £573, making the net cost of Gardens £1,514.

In the spring of the year the Rev. W. Wilks—who has acted as Honorary Secretary of the Society since 1887, and the great value of whose services is well known to the Fellows—requested that he might be relieved of his office. Understanding that he took this step solely on account of his having received an offer of literary work, which he did not feel justified in refusing, the Council unanimously decided to take advantage of the power given in the Charter of making the Secretaryship a salaried office, as it is in the Royal Society, the Linnean, and most other similar bodies. They are glad to be able to say, that, under the altered conditions, Mr. Wilks willingly consented to refuse, for the present at least, the lucrative offer that had been made him, and to continue to devote his services to the Society's welfare. A resolution to this effect will be submitted to the Annual Meeting. This alteration of the Secretary's position created under the Charter a vacancy n th e Council.

Besides the Great Spring Show in the Temple Gardens, which will be held this year on May 25th and 26th, the Council have decided to hold a Show at Chiswick on July 11th, at which prizes will be offered for local exhibits.

The Council have also entered into an agreement with the Directors of the Royal Agricultural Hall, Islington, to hold a Great Autumn Show at that Hall, from Aug. 29 to Sept. 1, inclusive. A special schedule will be issued in March, and upwards of £400 in prizes, medals &c., will be offered for Fruit, Flowers and Vegetables and for Horticultural Appliances, machinery fittings and sundries. All articles shown in the latter group will have to be fitted up and in working order from Aug. 24th to Sept. 1, so that the judges may put them to practical tests.

REVENUE & EXPENDITURE ACCOUNT FOR THE YEAR.

DR.	£ s. d.	£ s. d.
To Establishment Expenses—		
Salaries and Wages ..	480 0 8	
Rent of Office . ..	165 9 3	
Printing and Stationary	203 11 10	
Publications—Journal. &c..	550 7 8	
Repairs	16 9 0	
Postage	79 12 8	
Coal, Gas and Water	5 19 4	
Miscellaneous.. ..	106 3 9	
		1,607 14 2
To Shows, Meetings and Conferences—		
Rent of Drill Hall and Cleaning	108 15 0	
Special Shows—		
Temple	516 3 3	
Begonia Conference	8 14 1	
Advertising	19 3 9	
Prizes and Medals ..	275 12 2	
Printing, &c.	46 8 9	
Labour..	66 16 2	
Repairs to Tents ..	87 6 6	
Superintendent of Flower Shows ..	50 0 0	
		1,178 19 8
To Chiswick Gardens—		
Rent, Rates, Taxes and Insurance	264 3 9	
Superintendent's Salary	225 0 0	
Labour..	711 10 4	
Manure, Implements, &c., ...	175 16 0	
Coal and Coke ..	167 11 5	
Repairs	61 19 3	
Special Repairs ..	386 11 0	
Water and Gas ..	15 8 9	
Miscellaneous	79 3 1	
		2,087 3 4
		4,873 17 2

	£ s. d.	£ s. d.
By Annual Subscriptions		3,087 17 1
,, Shows—Temple— Tickets, Advertisements, Donations, &c.	663 18 0	
,, Meetings & Conferences	33 0 6	
		696 18 6
,, Advertisements ..		228 6 3
,, Miscellaneous— Sale of Journal and Reports ..		60 15 7
,, Dividends— Davis Bequest and Parry's Legacy. ..	56 18 4	
Consols, £500	10 1 0	
		66 19 4
Interest on Deposits		8 9 3
,, Prizes & Medals ..		72 4 6
,, Fruit Pamphlet ..		7 10 0
,, Chiswick Gardens— Produce sold ..	551 12 3	
Admissions and Members' Tickets	4 2 6	
Miscellanous ..	17 18 0	
		573 12 9
,, Balance to General Revenue Account		71 3 11
		£4,873 17 2

We have examined the above Accounts, and find the same correct.

(Signed),
HARRY TURNER, } *Auditors.*
HENRY WILLIAMS, }
HARPER BROS., *Chartered Accountants.*

10th January, 1893.

Gleanings from the World of Science.

Wild plants and collectors.—When the general public, but chiefly the younger members of it, go plant collecting, the larger and more showy kinds are most likely to be gathered; and as a rule those subjects are generally amongst the most common. When members of horticultural societies and botanical clubs take to this pastime, their efforts collectively are often mischievous to rare plants, inasmuch as it is only necessary for one of a large party to be aware of its value and rarity, when the whole party must needs have a specimen, if indeed there be sufficient to supply a tithe of the members. Possibly not half-a-dozen of a party of twenty would put the specimen to any use whatever, either practical or scientific. The evil is still further augmented when prizes are offered to the members of a club for the rarest species they may collect during the organised excursions, and in the districts visited by them. An instance of this kind occurs in the eastern part of Ulster, Ireland, as related by the *Irish Naturalist*. Ireland is the only home in the British Islands of many interesting members of our flora, and it would be unfortunate if the extermination of such rare subjects is to be systematically encouraged in this way, more especially under the name of science. It would be more to the credit of botanical clubs there, to offer prizes for the successful raising and propagation of such subjects from seed. Science even in this country is often made to subserve the purpose of the small trader who digs up the roots wholesale, whether they are rare or otherwise, provided they are saleable. Ferns more than any other class of wild plants are liable to extermination in this way. We have known of fine clumps or broad patches of the Hay-scented Fern (Nephrodium Fœniscii) to be rooted up in this way in secluded and wooded parts of South Wales, and not a vestige left to give the species a chance of becoming re-established in its old habitat

Wild Cherries and Rowan Berries.—Many an owner has prided himself upon the fine appearance of these trees when laden with fruit in the month of August, but is as frequently disappointed upon getting up some morning to find that not a fruit is left, for some mysterious reason or other. In some positions or localities, especially in country places, the depredations might be attributed to boys, who despise nothing in the way of fruit that is edible. When such is the case they seldom fail to leave unmistakable evidence in the shape of broken branches and some remaining berries on the shoots they are unable to get at. Birds on the other hand leave no traces except the fruit stalks, particularly those of the Rowan or Mountain Ash, which are most conspicuous. When the berries of the latter are fairly red, birds of various kinds attack them in real earnest, and although wary, as if conscious of the mischief they are committing, they will not be driven away, but merely retire to the nearest trees, where they hide till the field is again clear for them to resume work. Blackbirds, the common thrush or mavis, the missel thrush, and starlings are the depredators, and the trees are completely cleared with a rapidity in proportion to their numbers. If the garden is surrounded with much wood the chances are that there will be plenty of birds; but several species congregate in great numbers at that season of the year, and proceed as if by concert from one field of plunder to another. A notable instance of this came under my observation in the case of some flourishing Gean or Wild Cherry trees planted on the edge of a kitchen garden bordering upon a field. The garden was also surrounded by a considerable amount of wood. The Cherry trees were very fruitful as a rule, but the fruits were never allowed to attain perfect maturity nor to become black. As soon as they had become red the blackbirds were evidently of opinion that they were fit for harvesting, and had them all cleared in about two days. Where the birds all came from was a mystery, but some of them must have come from a distance. At no other time do blackbirds assemble in flocks, and the question arises how they all came to know of the exact time and place where the Cherries were ripe. The stones of the latter were dropped beneath the trees in great numbers, but others got conveyed all over the garden, and germinated freely in spring, notwithstanding their being prematurely plucked from the parent trees.—*J. F.*

FLORICULTURE.

Hybrid Violas.

I AM quite satisfied with Mr. McLeod's answer as to what constitutes a hybrid, but I do not think he has shown us wherein Violetta has any special claim to that distinction. Had he (as the Editor remarks) told us the pollen parent of Violetta, we might have formed our own conclusions. This I have no doubt he will now do, for in a previous letter from him we are led to believe that Violetta is a hybrid in the fullest sense of the term, and it was with great difficulty (owing to the hybridity of the parent) that a cross was effected between the varieties from which Violetta was raised. This has made me a little curious to know the parentage of that lovely variety. I have always understood our present race of Violas to be the result of crosses with different native species or sub-species, and consequently hybrids in the same sense as Violetta. It is with no difficulty these crosses are effected, and the progeny are all fertile, or in other words seed bearers. It is true there are some instances of shy seeders, such as Ardwell Gem, Duchess of Fife, etc., yet even these under favourable circumstances often produce some fine seed. If Violetta differs in any way from these it will be interesting to know — wherein and whereby—and I hope Mr. McLeod will kindly furnish this information.—*Viola.*

DRESSING CARNATIONS.

FLORISTS may rest assured that when I wrote my paper for our mutual improvement association I had not the faintest idea of setting any of them by the ears. It is, however, a little gratification to know that I have trodden on the toes of some of them. Evidently their position needs some support, some explanation, or Mr. Rowan would not take up the cudgels in their defence. Apparently they are fully aware that this dressing of flowers for the exhibition stand does not commend itself to everyone. Otherwise why do its supporters so jealousy guard it whenever the practice is condemned or attacked? Why? because they know that, so to speak, they have caught the eye of the judge, and those who are willing and able to dress have thus a great advantage over those who do not resort to such unnatural aids to perfection; not simply because their flowers are enhanced in beauty by dressing, but that the fashion has "caught on," and hence in the opinion of the bulk must be correct. I am proud to be able to differ on this point.

Evidently man in all his dealings has been too prone to lay down the straight line as his sure and only guide to the perfect and the beautiful, and amongst no class of men has this been more noticeable than amongst florists and gardeners, and in the dressing of the Carnation we have strong evidence of this. Nature has so placed the petals as to give them a naturally artistic appearance, beauty in its highest degree of merit; but this is not good enough. To be perfect we must have symmetry, even outlines, every petal in apple pie order, every beauty spot displayed. Do I not admire it, you ask? Yes, most certainly, but in the same way as I do the art and ingenuity of those street sellers of Turnips and other roots cut into the form and beauty of Roses, Camellias, etc. Art is here displayed in all its beauty and cunning, but the soft outlines and texture of Nature are wanting.

In my opinion any one who is not capable of seeing the same merit, that is, of high cultivation and perfection as a flower of its class, equally as well in an undressed as in a dressed flower, is not worthy of being termed a florist; and certainly is not qualified to act as a judge.

Mr. Rowan was scarcely justified in unearthing the poor "spud" to prove the art of dressing so necessary. Many gardeners I am persuaded would be only too delighted had Nature thought fit to supply these very necessary articles of food already peeled and dressed, for like the Carnation are they not often spoilt in the operation? and naturally the cook—who is a constant terror to all gardeners—falls back upon the grower to screen herself from blame. It has also struck me that the maiden he speaks of as one who would have been a beauty only for her face and figure, might have been disfigured in the dressing, and even then I doubt if some swain was not found who could see beauty where others failed to trace it. I fail to see what advantage dressing of the flower can have on the health and improvement of any class of plant. If this operation were performed while the flower was still attached to the plant, I should, for one, be quite willing to give it the benefit of the doubt; but seeing that all these questionable practises take place after contact with the plant has been entirely destroyed, what benefit to the plant or its offspring can accrue? Our great acquisitions in the floral world have been obtained, and must still be obtained, by other methods, methods which, if my philosophy be not astray, are more adapted to the ways of Nature and more fitted to give genial and profitable work for both hands and brain of the true florist.—*W. MacKay, Exeter.*

THE WEATHER OF 1892.

THE following metereological summary of the year 1892 may be of interest to your numerous readers, showing as it does the ungenial nature of the season.

Months	Mean. Max.	Mean. Min.	Rain	Prevalent Winds	Days Sun Appeared
January	40°	30°	8·02	N. & E.	10
February	46°	37°	3·77	N. & S.	20
March	48°	32°	2·69	E. & W.	23
April	55°	39°	2·35	W. & N.	30
May	57°	41°	4·01	S. & W.	23
June	64°	46°	4·52	W.	26
July	65°	49°	3·24	N. & W.	20
August	66°	51°	6·17	S. & W.	17
September	57°	46°	12·06	W. & N.	21
October	51°	40°	6·86	E. & W.	19
November	49°	39°	5·85	S. & E.	14
December	53°	34°	6·84	N. & S.	18
Totals			66·38		241

Maximum readings 75°, on 23rd and 29th July.
Minimum do 21° on 19th Feb. and 20° on 26th December.

It will be observed that the rainfall is excessive, even for the West of Scotland.

The sun appeared 241 days out of the 365, but we had very few whole days of bright sunshine out of that number. The winds had often a hold of the cold north and east, during what should have been our most genial and growing months of the year. The thermometer readings speak for themselves. March and April were the two driest months of the year, but the winds were cold. September had the heaviest rainfall, which was most excessive, this at a time when we expected nice mellow ripening autumn weather. The latter month proved most disastrous to cereal crops in the north; the Corn in many places being quite spoiled. Altogether the season was a bad one.—*William Minty, The Gardens, Raasay, Strome Ferry.*

FRUIT NOTES.

APPLE BESS POOL.

VARIOUS opinions seem to be entertained about this Apple by growers in different localities. The latter may really be the true solution of the question, as we know that many fruits will only thrive satisfactorily in certain localities. Many cultivators also find that the tree must attain some size and age before it will fruit satisfactorily. The blossoms are late in expanding in spring, and thereby often escape frost, when earlier flowering varieties are liable to be injured. The fruits are of good size and generally handsomely coloured, the shaded side being yellow, but all the rest of a bright red, more or less striped. The flesh is white or stained with red under the skin, and is tender and highly flavoured, making it suitable either for culinary or dessert purposes. At Gunnersbury House, Acton, it fruits well, but behaves in a manner different from all the other varieties cultivated there. The skin of a large percentage of the fruits cracks and splits for a considerable depth into the flesh, the exposed surface of the latter becoming of a dirty pale brown, differing in that respect from many healthy and clear-skinned varieties which split more or less when getting out of season at this time of the year. This peculiarity may be due to the nature of the soil in which it is grown, or merely an accidental ailment of the trees themselves.

PEAR BEURRÉ RANCE.

There are few varieties of Pears to grace the fruit room when this comes into use, and still fewer when it ceases to be of use, even amongst those which are only fit for stewing purposes. For instance Bellissime d'Hiver generally gives out in April, while Beurré Rance may be kept till the following month. The fruit is pear-shaped, green, marked with russetty spots, and not particularly showy any more than other late keeping sorts, but the quality is excellent, the flesh being white, melting, juicy, and rich in flavour. Well-ripened fruits of medium size are more highly flavoured from standard trees than larger fruits that have been grown upon a wall.

A NEW MUSHROOM.

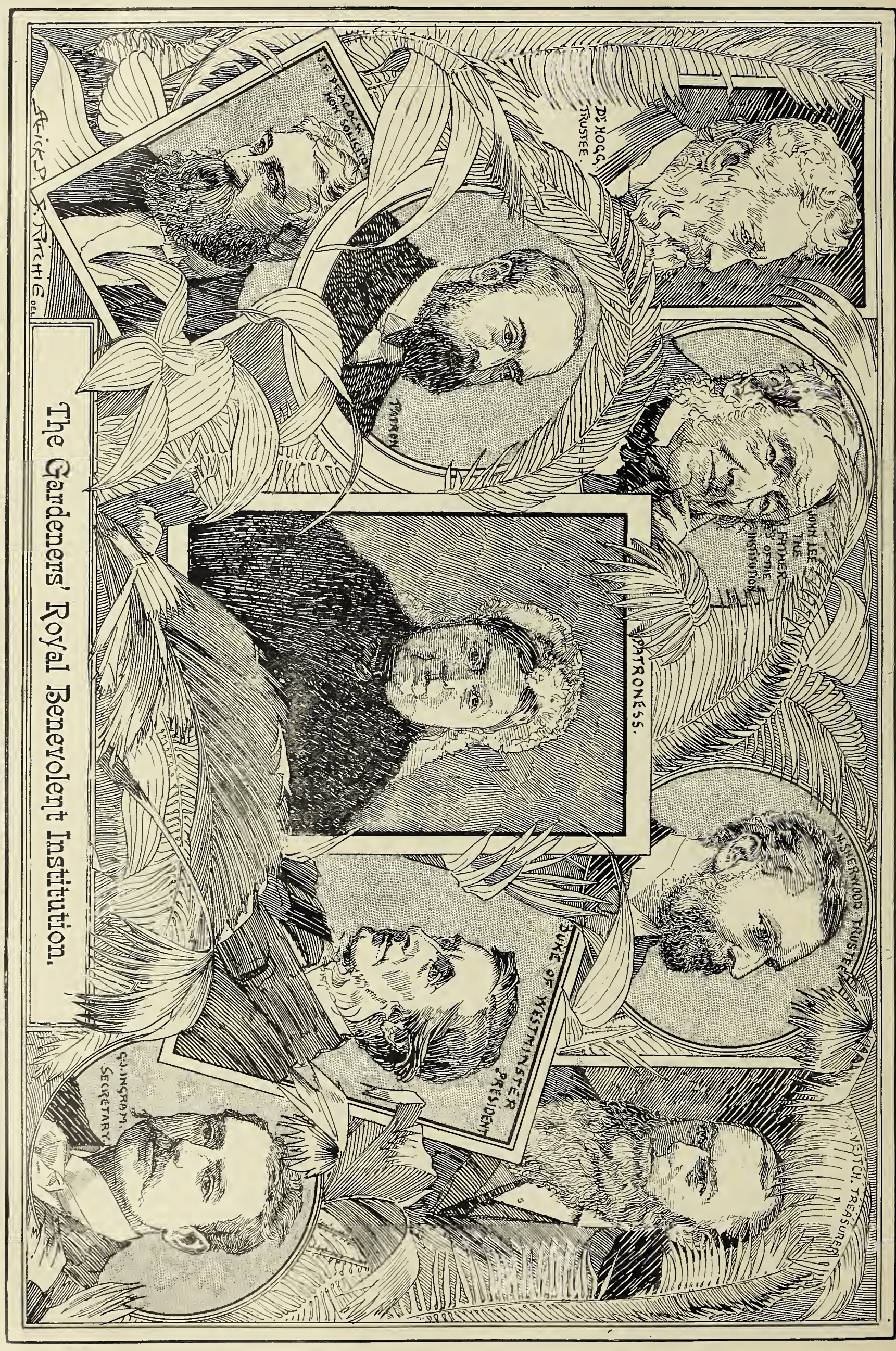
MR. FALCONER writing in *Gardening*, the new American amateur gardeners' paper which he so ably edits, records some observations on a new edible Mushroom which he discovered was being extensively cultivated, and with much profit to himself, by a New York suburban gardener. Says Mr. Falconer:—"For a good many years we have been alive to the fact that the common Mushroom (Agaricus campestris) is not the only species worth growing. We were not therefore very much surprised when, last summer, our attention was called to the fact that Mr. F. Boulon, a suburban gardener, was supplying the New York market with fresh Mushrooms every day, and getting big prices for them. Years of experience in growing Mushrooms have taught us that no matter how well we may succeed with them in the cooler months of the year, during the hot summer months they are a failure, not so much that we cannot grow them then, as because of their certainty to become infested with maggots and thus rendered worthless.

"So having an idea of our own, and with our mind intent and eyes open, we called on friend Boulon. Yes, the reports were true enough. Mushrooms were here, there and everywhere, indoors and outdoors; and new greenhouses were being built to grow the Mushrooms in in winter, and workmen were making up a lot of fresh beds when we were there.

"The Mushrooms were in bearing between rows of Asparagus plants in the open garden; a string of hotbeds among the nursery trees was full of them; they were running along the pathways and under the benches in the smaller greenhouses, and in a larger greenhouse, that had been built for a cool grapery and filled inside with Violets in frames in winter was a contiuous Mushroom bed from wall to wall. The spawn had originally been planted in the Violet beds, but the mycelium had escaped out into the pathways and especially alongside of the walls, and individuals and clumps were bobbing up everywhere. In fact, as compared with the Mushrooms, the Grapes of summer, the Violets of winter, or Tomatos of spring were but a secondary crop.

"They were not the common Mushroom (Agaricus campestris) at all; they were big, course, odd-looking things, but their faces seemed to be familar. Questioning Mr. B. he told us that the Mushroom was quite distinct from the common one—different altogether, and obtained by him by some particular secret manipulation. But there is nothing in that. He began its cultivation in the fall of '91, and continued it all through '92. He found that it loves heat, and grows better in summer than in winter, and it thrives as well, if not better, in full light than in shade, and not only are these new Mushrooms larger and heavier than those of the old sort, but they are produced in far greater abundance. Throughout the whole summer he had a monopoly of the fresh Mushroom business in the New York market. He had a contract with Delmonico for 18 pounds a day at 90 cents a pound, and he disposed of the rest to one commission agent in the market for 80 cents a pound the whole season through, and never was able to supply the demand."

As to the identity of the new Mushroom Mr. Falconer writes:—"In a leaf mould pile, three or four years old, and rotted to earthy fineness, and partly under the slight shade of some near-by trees, we came accidentally, last fall, on a lot of fine large Mushrooms. But they were quite distinct from our cultivated Mushroom, as well as from the horse Mushroom, both of which we occasionally find growing wild hereabout. On examining the ground we found the decayed remains of many old Mushrooms, and here and there for two or three rods about, were clumps of Mushrooms and individuals up and coming up. While the greater bulk of them was growing in the leaf mould a good many were coming up out of the ground along the hedge of the heap. Turning up some of the leaf mould here and there we found it to be one solid mass of mycelium. We used the Mush-


JOHN LEE
THE FATHER OF THE INSTITUTION
PATRONESS.
PATRON
DR. HOGG, TRUSTEE.
N. SHERWOOD, TRUSTEE.
J. F. PEACOCK, HON. SOLICITOR.
DUKE OF WESTMINSTER PRESIDENT
J. VEITCH, TREASURER.
G. J. INGRAM, SECRETARY.
J. RITCHIE DEL.
The Gardeners' Royal Benevolent Institution.

rooms and found them to be good to eat; the flavour was stronger and flesh a little coarser than in the common Mushroom. After seeing and examining Mr. Boulon's Mushrooms at his place, and getting some specimens from him to taste and send to friends, a comparison on the spot proved to us beyond a doubt that his and our Mushrooms were identical. We had an idea that they might be the wood Mushroom, Agaricus sylvaticus, and suggested this to Prof. Peck, upon whom we had called for assistance in the identification of our discovery."

Prof. Peck after careful examination concluded that it was a good species, though one not very far removed from Agaricus campestris var. rufescens, and drew up the following description of it under the name of

Agaricus subrufescens n. sp. It differs from the variety mentioned in its usually paler colour, and especially in its flesh being unchangeable where cut or bruised. In A. sylvaticus the lamella are described as at first reddish, and the stem long and thin, and the pileus gibbous or subumbonate, characters not well exhibited by your plant. The pure white minutely flocculose stem also differs both from this and from that of A. placomyces, and from the latter it is easily separated by the colour of the pileus and the much more indistinct and loosely fibrillose squamales when these are present.

A New Mushroom: Agaricus rufescens.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

The annual general meeting of the subscribers to this institution was held at "Simpson's" on Tuesday afternoon, a special general meeting being first held to confirm the resolution recently passed authorising the re-registration of the title of the institution under the appellation by which it has now so long been known. Mr. H. J. Veitch presided at both meetings. At the second the secretary, Mr. Ingram, read the report of the committee and statement of accounts for the past year. The latter we give opposite. In the former the committee congratulated the subscribers on the institution being still found to be a source of great benefit to a large number of persons whose circumstances have compelled them to seek its assistance; and thanked Lord Brassey for the eloquent and forcible appeal which he made on behalf of the institution at the annual festival; and Mr. and Mrs. H. J. Veitch for their munificent thank-offering on the occasion of the celebration of their silver wedding. During the year twelve pensioners have died, and three of them having left widows who were eligible for the pensions, they had been placed on the list in accordance with the rules. The committee expressed their deep regret that with thirty-eight applications for pensions they could only that day place fourteen pensioners on the list. This existence of so large a number of applicants was in itself a proof of the need of the institution, and the committee earnestly appeal for a larger measure of support to enable them to meet the ever-increasing demands. The report and statement of accounts were unanimously adopted.

Mr. Veitch was unanimously re-elected Treasurer, and thanked for his services during the past year. Mr. Arthur Veitch, Mr. T. Glen, and Mr. Owen Thomas were elected members of the Committee, in the places of Mr. A. F. Barron, Mr. John Fraser, and Mr. C. Pilcher, who had resigned; and the members retiring by rotation, Messrs. John Lee, George Monro, T. A. Dickson and Mr. W. J. Nutting, were unanimously re-elected. Mr. T. Manning, Mr. T. Swift and Mr. Jesse Willard were elected auditors; and Mr. Ingram was also re-elected as Secretary. It was also resolved *nem. con.* that John Mitchell, of Escrick, who had been a subscriber for 46 years; and Elizabeth Rogers of Lymington, whose late husband had subscribed for 30 years, be placed on the pension list without the trouble of an election; and that the next two highest on the poll to the ten to be elected be placed on the list also.

The meeting then adjourned for the counting of the votes, on the completion of which the scrutineers, Messrs. H. Williams, A. Veitch, G. Monro, J. Webber, H. J. Cutbush and B. Wynne reported that the poll was the heaviest on record, the number of votes given being 42,337; and that the following were the twelve highest on the list:—Henry Bridden, 2,975; George Macintosh, 2,932; Margaret Kefford, 2,837; James Munro, 2,375; George Woodgate, 2,183; James Ricks, 2,160; H. Woolford, 2,147; Samuel Tisdale, 2,137; Mary Gray, 2,012; W. Coleman, 1,992; Agnes Merret, 1,931; and T. H. Bowler, 1,860. These were declared to be duly elected, and the proceedings closed with votes of thanks to the scrutineers and chairman.

In the evening a large number of the subscribers dined together under the presidency of Mr. Harry Seymour Foster, M.P. The toast of the evening "The Gardeners' Royal Benevolent Institution, its increased prosperity and continued usefulness" was proposed by the chairman in feeling and eloquent terms He thought there were some points in connection with the institution which were matters for legitimate congratulation. The accounts for last year showed a considerable revenue with a sensible decrease in the working expenses; they had during the existence of the institution paid between £50,000 and £60,000 in pensions; they adopted the excellent principle of helping those who made some effort to help themselves; and their accounts showed that their funds were prudently and economically distributed. He was sure that they all felt it a privilege to help in carrying on such a good work. It was unfortunately the case that though gardening was an enobling occupation, the remuneration of gardeners as a class did not enable many of them to provide against the day of adversity, and it behoved them all during the present year to do their best to increase the list of subscribers. Mr. Sherwood responded and in so doing expressed the regret felt by all present at the absence through illness of Mr. John Lee. Mr. Veitch proposed the health of the chairman and thanked him for his kindness in coming among them and presiding that evening. Mr. Foster suitably replied. Mr. Nutting proposed the health of Mr. Ingram, who since he had been appointed secretary had thrown his heart and soul into the work of the institution, and had succeeded in gaining the respect and good will of them all. Mr. Ingram having recently become a benedict, the name of Mrs. Ingram was associated with the toast, which met with a most cordial reception, hearty good wishes being expressed all round for the newly wedded pair.

The Institution: Its Officers and its Rules. With an earnest desire to promote the welfare of this most beneficent gardening charity, so far as lays in our power, we venture to claim the indulgence of our general readers, this week, for the inclusion in our columns of the new rules of the institution, which are somewhat lengthy, but the publication of which we hope may be the means of inducing many to become subscribers who have hitherto known but little of the institution or of the grand work which it is doing in relieving the necessities of indigent gardeners. To our purely gardening readers, we feel sure that it is not necessary to make any such claim. With the present number, and with the same object in view, we present our readers with a supplementary sheet, on which will be found characteristic portraits of the leading officers of the institution prepared from pen and ink sketches by Mr. Alick P. F. Ritchie.

GARDENERS' ROYAL BENEVOLENT INSTITUTION, ABSTRACT for 1892.

Dr.

	£ s. d.	£ s. d.	£ s. d.
To Balance, ...	...		898 16 11
,, Annual Subscriptions	...	1,397 13 6	
,, Donations ...	695 3 0		
,, ,, ...	330 13 9		
,, Thank-offering for investment from Mr. and Mrs. Harry J. Veitch to commemorate their Silver Wedding ...	502 0 0		
,, Collecting Cards ...	219 10 8		
		1,745 7 5	
,, Advertisements ...		46 17 6	
,, Dividends on Stock (£25,000 2¾ per cent)	768 0 9		
,, Interests on Deposits	9 19 6		
,, Return on pension a/c	2 10 0		
		780 10 3	
			3,970 8 8
			£4,869 5 7

Invested;—
£25,000 2¾ per cent Consols
£2,664 19*s.* 10*d.* India 3 per cent
£497 10*s* Midland Railway 3 per cent Debentures

Cr.

	£ s. d.	£ s. d.	£ s. d.
By Pensions and Gratuities ...	...	...	2,634 6 8
,, Secretary's Salary ...	..	187 10 0	
,, Rent of Offices ...	...	75 0 0	
,, Office Assistance ...	...	26 0 0	
,, New Iron Safe ...	...	5 5 0	
,, Printing (including Annual List of Subscribers) ...	...	158 9 6	
,, Stationery, part 1890-91 ...	...	14 3 5	
,, ,, ,, 1892 ...	...	22 8 3	
,, Expenses of Annual Meeting and Election of Pensioners ...	...	17 19 0	
,, Expenses of Annual Festival Dinner ...	196 11 9		
Less Tickets sold ...	119 13 0		
		76 18 9	
,, Postage and Expenses of Appeal ...	...	24 9 3	
,, Expenses of Revision of Rules (including Special General Meeting) ...	...	15 1 0	
,, Postage, Travelling, and Incidental Expenses ...	...	76 3 2	
			699 7 4
,, Investment of Thank-offering (Mr. and Mrs. Harry J. Veitch) (including Commission and Stamp) ...	...	500 0 0	
,, Placed on Deposit with Bankers ...	...	100 0 0	
			600 0 0
,, Balances, viz.:— With Treasurer at Bankers ...	...	918 8 4	
With Secretary ...	...	17 3 3	
			935 11 7
			£4 869 5 7

Audited and found correct.
January 14th, 1893.

(Signed) J. Webber, Jesse Willard. } *Auditors.*

RULES OF THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

I.—*Constitution of Society.*

The Society is a Benevolent Society, composed of persons over sixteen years of age.

II.—*Name of Society and Place of Registered Office.*

1. The Society shall be called "The Gardeners' Royal Benevolent Institution," and shall have a Patroness, Patron, President, Vice-Presidents and other officers, as hereinafter mentioned. Its registered office is in England, and is No. 50, Parliament Street, Westminster, in the county of Middlesex.

2. In the event of any change in the situation of the registered office, notice of such change shall be sent within fourteen days thereafter to the Registrar in the form prescribed by the Treasury Regulation in that behalf.

III.—*Objects and Purposes, Admission of Members, Condition of Benefit, &c.*

1. *Objects for which the Society is established.*—This Society is established for the benevolent or charitable purpose of relieving gardeners and other persons of like occupation, as hereinafter mentioned, and their widows, in old age by way of pension and otherwise.

2. The only persons who shall be considered eligible for the Pension of this Institution shall have been either head gardeners or their foremen, market gardeners, nurserymen, and seedsmen, and foremen of nurserymen and seedsmen, and the widows of such persons, subject to the following conditions:—1st. Gardeners who have served in the capacity of head gardeners or their foremen, in the establishments of ladies or gentlemen, for twenty years, and the foremen to nurserymen and seedsmen who have served as such the same number of years. 2nd. Market gardeners who have cultivated not less than five acres of land for twenty years. 3rd. Nurserymen and seedsmen who shall have been regularly engaged in the business twenty years.

3. No person shall be eligible as a candidate for the pension under sixty years of age, cases of total incapacity alone excepted; age to be verified by a baptismal certificate, or such other documents as may satisfy two-thirds of the Committee that the applicant is of the required age. Incapacity to be verified by a medical certificate. The production of both or either of such certificates or other evidence, as the case may be, shall be indispensable.

4. No widow shall be eligible to be relieved in virtue of the occupation of her first husband as a gardener, foreman to a gardener, market gardener, nurseryman or seedsman, or foreman to any nurseryman or seedsman, pursuant to Rule iii., Sub-Section 2, after her marriage with another, not a gardener, or otherwise coming within either of the descriptions in Rule iii., Sub-Section 2, and qualified as therein mentioned, though she become a second time a widow; and no widow shall be eligible to be a candidate by virtue of her second husband's occupation, unless she shall have been married to such first or second husband at least ten years; and no widow of a pensioner shall be eligible to be placed on the pension list who shall have lived separate from her husband, and shall have continued to do so until the time of his decease if, during the time of such separation, she had other means of support than those furnished by her husband.

5. None but head gardeners, or their foremen, market gardeners, nurserymen, seedsmen, and foremen of nurserymen and seedsmen, respectively qualified pursuant to Rule iii., Sub-Section 2, and who have subscribed fifteen years consecutively to the funds of the Institution, or who have been on the books of the Institution as a Life Member for fifteen years, or the widows of such persons, shall be considered eligible while a sufficient number of such persons are on the list (the object being to give a decided preference to those persons who have been contributing to assist others), so that if the funds should enable the Committee to call for the election of five persons, and there were two or three who had been Annual or Life Subscribers for fifteen years, or the widows of such persons, those candidates may be appointed pensioners in preference to the other candidates who had not subscribed for so long a period, or who had not been Subscribers, and the election would be for the remaining number to make up the five; but subject, nevertheless, to the conditions of Rule iii., Sub-Sections 7 and 11, and such other Rules as apply to the election of pensioners.

6. The amount of relief to be given shall be £20 per annum to males, and £16 per annum to females, to be paid quarterly; but if the Committee think it necessary, in consequence of a change of circumstances of the pensioner, or in case a pensioner should attempt to mortgage, or charge the relief, they (the Committee) may discontinue or reduce the annuity of any pensioner. The amount of relief may from time to time be varied as the Committee shall determine, subject to the approval of the next annual general meeting.

7. The Committee shall investigate the claims of the applicants, and recommend such to the Subscribers as appear to be deserving.

8. Each applicant for relief shall fill up and sign an application, which application shall be also signed by two subscribers at least in recommendation of such applicant, showing not only that he or she is of the full age of sixty, or totally incapacitated, but that he or she also comes within the descriptions of some or one of the persons named in Rule iii., Sub-Section 2, and are duly qualified pursuant to the conditions of such Rule (or is widow of such person), and shall make a declaration before a magistrate, or Commissioner to administer Oaths, if required, that he or she is not in receipt of a sum exceeding £30 per annum, and the application must be accompanied by a statement signed by the applicant, and the first two subscribers supporting the application showing how such income is derived.

9. No person shall be considered eligible as a candidate for the pension who is in the receipt of parochial relief; and, in the event of a pensioner receiving such parochial relief, his or her name shall be immediately struck off the list of pensioners on the Committee becoming acquainted with the fact of such parochial relief being received; and such pension shall not be resumed, even in the event of the party ceasing to obtain parochial relief, without a re-election, unless recommended by two-thirds of the Committee.

10. The Committee shall be empowered previous to any election to credit any candidate who has paid:—4 years' subscriptions with 50 votes; 5 years, 100; 6 years, 150; 7 years, 200; 8 years, 250; 9 years, 300; 10 years, 350; 11 years, 400; 12 years, 450; 13 years, 500; 14 years, 550.

11. In the event of an application for the Pension being made under Rule iii., Sub-Section 5, before the 31st July in any year, the Committee shall investigate such application, and if it should prove to be of such nature as to warrant the Committee in recommending the applicant as a fit person to be placed on the pension list at the next election, they may award the applicant such a sum as they may see fit, not exceeding in any case £10, to assist the applicant's present necessities.

12. The Committee shall be empowered to suspend the payments of any pensioner whose election may have been obtained by misrepresentation.

13. In the event of a pensioner dying and leaving a widow, she shall, unless her case fall within the exception of Rule iii., Sub-Section 4, on producing the proper testimonials and certificates as to age, character, and marriage, and answering any other requisition to the satisfaction of the Committee, be placed upon the list of pensioners without the trouble and expense of an election.

14. The Committee may, at their discretion (provided they consider the funds of the Society will permit), grant gratuities in one or more instalments, not exceeding in the whole £5, to each unsuccessful candidate at any election, and who may be a life member, or have been a subscriber to the Institution for four years.

15. The Committee may, at their discretion, award any sum not exceeding £5 over and above the pension due at the time of the death of the pensioner towards funeral or other expenses.

16. *Purposes for which the funds shall be applicable.*—All moneys received on account of annual subscriptions, life subscriptions, and donations, shall be applied towards carrying out the objects of the Society, according to the rules thereof. Any officer misapplying the funds shall repay the same and be dismissed, without prejudice to his liability to prosecution for such misapplication.

IV.—*Terms of Admission of Members.*

1. All annual subscribers, life subscribers, and life governors shall be members of the Institution.

2. The annual subscription to the Institution shall be one guinea, which shall be due on the first day of January in each year, and which shall entitle each subscriber to one vote for each vacancy at elections of pensioners; and each subscriber shall be entitled to the same privilege for every additional subscription of one guinea. A life subscription shall be ten guineas, which shall entitle each life subscriber to one vote for each vacancy at all elections of pensioners; and every additional donation of ten guineas shall entitle the donor to the same privilege.

3. An executor paying a bequest of ten guineas or upwards (if no other person be named by the testator for that purpose) shall be considered a Life Governor, and shall be entitled to one vote for each pensioner to be elected in respect of every ten guineas so paid.

4. The Committee shall have power to, and may confer honorary votes in respect of special services rendered to the Institution; and may appoint from time to time any person who, in their opinion, are likely to be beneficial as honorary officers or collectors to the Institution, for the purpose of receiving subscriptions, and upon such terms as the Committee may determine.

5. Members may become entitled to the benefits of the Institution on the conditions prescribed in Rule iii., Sub-Section 5.

V.—*Meetings.—Right of Voting.*

1. A General Meeting of the Subscribers shall be held in each year, in the month of January, for the purpose of receiving the Report of the Committee and the accounts of the Institution for the past year; for the election of Officers and transacting any business that may be necessary relative to the affairs of the Institution; and for the election of pensioners: ten subscribers then present shall be considered as a quorum for the purposes of such meeting.

2. All Candidates for pensions approved of by the Committee shall be elected by the votes of the subscribers, which must be presented to the Chairman before the close of the election, and at each election three or more scrutineers shall be appointed by the majority of subscribers then and there present to conduct such election; and no person shall be allowed to vote whose subscription for the preceding year shall remain unpaid.

3. The Committee, or any five members thereof shall be empowered to call a General Meeting; or any twenty subscribers, whether annual or life subscribers, shall be empowered to do so by signing a requisition addressed to the Secretary, stating the nature and object of the business to be brought forward at such meeting, and twenty subscribers then present shall form a quorum for the purposes of such meeting; provided that if twenty subscribers shall not be present after an hour shall have elapsed from the time at which such meeting was called, the Secretary be empowered to call another meeting or meetings until twenty subscribers shall be present.

4. Twenty-one days' clear notice shall be given to the subscribers or members of the General or Special General Meetings and Elections of Pensioners, and the Secretary shall make them acquainted with the business to be transacted at such meetings.

VI.—*New Rules and Alteration of Rules.*

No new rule shall be made, nor any of the rules herein contained or hereafter to be made, shall be amended, altered, or rescinded, unless with the consent of a majority of the members present at a general meeting of the Society specially called for that purpose. No amendment of rules is valid until registered.

VII.—*Appointment and Removal of Committee of Management, Treasurer, Trustees and other Officers*

There shall be a Committee of Management, consisting of twenty-four persons (one-third to be practical gardeners), three Auditors, a Treasurer, and Secretary. The Committee of Management, Treasurer, and Secretary, shall continue in office until the general annual meeting of the Society, unless previously removed by a resolution of the major part of the members present at any meeting called for that purpose. One-fourth of the Committee shall retire annually by rotation, but be eligible for re-election. And at every annual meeting a Committee of Management, Treasurer, and Secretary, shall be appointed for the ensuing year, or, in failure thereof, those last appointed shall be considered as again appointed; and in case any member of the Committee of Management, Treasurer, or Secretary, shall die or be removed prior to such annual meeting, the Committee of Management shall appoint a person to fill the vacancy. There shall be three Trustees

The Trustees shall continue in office during the pleasure of the Society, and be removable at a general meeting; and, in case of a vacancy, another shall be elected by a majority of members at a meeting called for that purpose. A copy of every resolution appointing a Trustee shall be sent to the Registrar within fourteen days after the date of the meeting at which such resolution was passed, in the form prescribed by the Treasury Regulation in that behalf.

VIII.—*Powers and Duties of Officers.*

1. The Committee of Management shall meet once in every three months, or oftener if necessary. Any five of the Committee of Management duly assembled at any such meeting shall form a *quorum*, and shall have full power to superintend and conduct the business of this Society according to the rules provided for the government thereof, and shall in all things act for and in the name of this Society; and all acts and orders under the powers delegated to them shall have the like force and effect as the acts and orders of this Society at any general meeting. Every question at such meeting shall be decided by a majority of votes, and if the votes are equal, the chairman shall have a casting vote. Any *five* of the Committee of Management may call a special meeting thereof, by giving *seven* clear days' notice in writing to the Secretary, but at such special meeting no other business than that specified in the notice shall be taken into consideration. The Committee of Management shall convene all the meetings of the Society, on such requisitions as are herein mentioned.

2. The Treasurer shall, in the month of January in every year, and also when required by a general meeting, or by the Trustees or Committee of Management, upon demand made, or notice in writing given to him or left at his last or usual place of residence, render a just and true account of all moneys received and paid by him on account of the Society; and shall also, on the like demand or notice, pay over all moneys and deliver all property for the time being in his hands or custody to such persons as a general meeting, or the Committee of Management or the Trustees, appoint. He shall be responsible for such sums of money as may from time to time be paid into his hands by the Secretary, or by any person on account of this Society.

3. The Secretary shall give his attendance at all meetings of the Society; he shall record correctly the names of the members of the Committee of Management, Trustees or other officers there present, and the minutes of their proceedings, which he shall transcribe into a book to be authenticated by the signature of the Chairman (at the next meeting) as the proceedings of the meeting; he shall be empowered to receive moneys on behalf of the Institution, and give receipts for the same; he shall receive all applications for benevolence; he shall keep the accounts, documents, and papers of the Society in such manner and for such purposes as the Committee may appoint, and shall prepare and send all returns and other documents required by the Friendly Societies Acts, or the Treasury Regulations, to be sent to the Registrar. The Secretary shall, on all occasions, in the execution of his office, act under the superintendence, control, and directions of the Committee of Management.

4. The Bankers, Treasurer, Secretary, Trustees, Committee, Honorary Officers and Collectors, for the time being, shall be authorised to receive subscriptions and donations on behalf of the Institution.

5. All cheques for the payment of money shall be signed by the Treasurer, and countersigned by the Secretary.

6. The Trustees and Treasurer shall be admitted to all meetings of the Committee of Management, and shall be at liberty to take part in the proceedings thereof, and vote on any question under discussion.

IX.—*Copies of Rules.*

It shall be the duty of the Committee of Management to provide the Secretary with a sufficient number of copies of the rules, to enable him to deliver to any person on demand a copy of such rules on payment of a sum not exceeding 1s. for non-members, and 6d. for members, and of the Secretary to deliver such copies accordingly.

X.—*Keeping and Auditing of Accounts.*

1. The Committee of Management shall cause the accounts of the Society to be regularly entered in proper books.

2. The Committee of Management shall once at least in every year submit the accounts, together with a general statement of the same, and all necessary vouchers up to the 31st December then last, for audit, either to one of the public auditors appointed under the Friendly Societies Act, 1875, or to two or more persons, not being members of the Committee of Management, appointed as Auditors by the members at the meeting next before each yearly meeting of the Society, and shall lay before every such meeting a balance sheet (which either may or may not be identical with the annual return, but not be in contradiction to the same), showing the receipts and expenditure, funds and effects of the Society, together with a statement of the affairs of the Society since the last ordinary meeting, and of their then condition. Such Auditors shall have access to all the books and accounts of the Society, and shall examine the balance sheet and annual return of the receipts and expenditure, funds and effects of the Society, and shall verify the same with the accounts and vouchers relating thereto, and shall either sign the same as found by them to be correct, duly vouched, and in accordance with law, or shall specially report to the meeting of the Society before which the same is laid in what respects they find it incorrect, unvouched, or not in accordance with law.

XI.—*Annual Returns.*

1. Every year before the 1st June the Committee of Management shall cause the Secretary to send to the Registrar the annual return, in the form prescribed by the Chief Registrar of Friendly Societies, of the receipts and expenditure, funds and effects of the Society, and of the number of members of the same, up to the 31st December then last inclusively, as audited and laid before a general meeting, showing separately the expenditure in respect of the several objects of the Society, together with a copy of the Auditors' report, if any.

2. Such return shall state whether the audit has been conducted by a public Auditor appointed under the Friendly Societies Act, 1875, and by whom; or if such audit has been conducted by any person other than a public Auditor, shall state the name, address, and calling or profession of each of such persons, and the manner in which, and the authority under which, they were respectively appointed.

3. It shall be the duty of the Committee of Management to provide the Secretary with a sufficient number of copies of the annual return, or of some balance sheet or other document duly audited, containing the same particulars as in the annual return as to the receipts and expenditure, funds and effects of the Society, for supplying gratuitously every member or person interested in the funds of the Society, on his application, with a copy of the last annual return of the Society or of such balance sheet or other document for the time being, and it shall be the duty of the Secretary to supply such gratuitous copies on application accordingly.

XII.—*Inspection of Books.*

1. The books and accounts of the Society shall be open to the inspection of any member or person having an interest in the funds of the Society at all reasonable hours, at the registered office of the Society, or at any place where the same are kept, and it shall be the duty of the Secretary to produce them.

2. It shall be the duty of the Committee of Management to keep a copy of the last annual balance sheet of the Society for the time being, together with the report of the Auditors, if any, always hung up in a conspicuous place at the registered office of the Society.

XIII.—*Investment of Funds, Holding of Land, &c.*

1. So much of the funds of the Society as may not be wanted for immediate use, or to meet the usual accruing liabilities, shall, with the consent of the Committee of Management, or of a majority of the members of the Society present and entitled to vote at a general meeting, be invested by the Trustees in such of the following ways as such Committee or general meeting shall direct; namely, in any savings bank certified under the Act of 1863, or Post Office Savings Bank, in the public funds, or with the Commissioners for the Reduction of the National Debt, or upon Government or real securities in Great Britain, or in any ot the investments authorized by law for the investment of trust property.

2. Mortgages or other assurances for securing money to the Society may be vacated by a receipt indorsed, signed by the Trustees, and countersigned by the Secretary, in the form contained in the third schedule to the Friendly Societies Act, 1875.

XIV.—*Disputes.*

1. If any dispute shall arise between a member, or person claiming through a member, or under the rules of the Society, and the Society, or any officer thereof, it shall be referred to arbitration.

2. There shall be five Arbitrators, none of them being directly or indirectly interested in the funds of the Society, and in each case of dispute the names of the Arbitrators shall be written on pieces of paper and placed in a box or glass, and the three whose names are first drawn out by the complaining party, or by some one appointed by him or her, shall be the Arbitrators to decide on the matter in difference. In case of a vacancy, or vacancies, another Arbitrator or other Arbitrators shall be elected at a general meeting.

XV.—*Voluntary Dissolution.*

The Society may at any time be dissolved by the consent of three-fourths of the members, testified by their signatures to some instrument of dissolution in the form provided by the Treasury Regulations in that behalf.

GARDENING MISCELLANY.

NEPENTHES CURTISII SUPERBA.

The blotches or markings of the pitchers of this variety are so numerous and closely arranged as to nearly cover the whole surface. They are also of a dark and dull shade of crimson, giving the pitcher a more striking appearance than we are accustomed to see in most of the hybrid forms that found their way into cultivation when the carnivorous plants were more popular than they are at present. The pitcher is nearly cylindrical, and surmounted by a deep brown annulus, or collar, that makes itself conspicuous by contrast, although not so massive as in the case of N. Rajah, N. Veitchi, and others, yet it is sufficiently so to form a notable feature of its structure. It may be seen in the fine collection of Messrs. J. Veitch & Sons, Chelsea.

PANDANUS HETEROCARPUS.

In gardens this is best known under the name of P. ornatus—given no doubt in reference to the ornate character of its spines, which are white and contrast beautifully with the dark green of the leaf itself. The latter is broad and ultimately attains a large size, but for decorative purposes the plants can always be kept of a suitable size by propagation from suckers, as in the case of P. Veitchi, P. Candelabrum and others. The spines on the margins and underside of the midrib are relatively small, and less objectionable than in the case of P. javanicus or P. utilis, in both of which they are comparatively moderate in size and occasion little inconvenience when properly handled. It is a native of the Philippine Islands, from whence it was introduced in 1866, and deserves more extended cultivation as a table decorative plant than it enjoys at present. For such a purpose it may be grown in 48-size pots, but we noted some plants of a suitable size in 60-size pots in the nursery of Messrs. B. S. Williams & Sons, Upper Holloway. The name at the heading of this note, accepted by botanists as the proper one, applies to the fruit, which is somewhat variable in character.

UTRICULARIA MONTANA.

Several of the exotic species of Utricularia have been introduced from time to time, but none of them have approached U. montana for floriferous character, duration, and the readiness with which it responds to the cultivator's care. A few others may be induced to flower sparingly, and are much admired because they are of some other colour than white. Few cultivators outside botanic gardens continue to grow them for many years, because the few flowers they produce are hardly sufficient remuneration for the special treatment it is necessary to give them. U. montana under the most ordinary treatment such as is given to hundreds of Orchids, many of which are less showy, flowers profusely. Furthermore, the peculiar structure of the flowers leads many to suppose it is an Orchid. A little fibrous peat and sphagnum and an Orchid basket is all that

it requires in the way of materials, while the moist atmosphere of a moderately warm Orchid house, and plenty of water in the growing season will suffice for attention and treatment. A few plants suspended from the roof of a house will give a succession of flowers for many months together, say from April to November, as it did last year in the nursery of Messrs. B. S. Williams & Sons, Upper Holloway. The rhizomes run freely amongst the sphagnum, making propagation a work of the easiest accomplishment. It is matter for surprise that the plant is not more extensively cultivated considering the satisfaction it gives for a small amount of attention.

ASPLENIUM EBENEUM.

ALTHOUGH introduced as early as 1779 from Canada, this Asplenium is anything but common in this country, whatever the reason may be. The fronds themselves are dark green and shapely in form, but somewhat spreading, so that the plant as a whole loses in compactness and effect. It belongs to the same group as our native A. Trichomanes, but is altogether a larger plant with longer pinnæ. The fronds themselves vary from 12 in. to 18 in., but are frequently under the lower figure in a cultivated state, while 12 in. may be regarded as the average. The pinnæ are linear-oblong, serrate at the edge, and cordate at the base. In America it is widely distributed from Canada to various parts of South America. It has turned up at Falkland Park, South Norwood Hill, on the recently imported Cattleya labiata, and was immediately recognised as a stranger although, as it turns out, it is not a new introduction.

NEPHROLEPIS DAVALLIOIDES MULTICEPS.

OF the several forms of N. davallioides now in cultivation this takes rank as one of the finest, on account of its dwarf, compact habit and much divided fronds. The apex is deeply forked and branched so as to make a large loose tassel, while the apex of the side pinnæ is deeply forked and elongated. The plants are grown in 32-size pots in the Dyson's Lane Nurseries of Mr. H. B. May, Upper Edmonton, and are sufficiently ornamental to ensure pretty wide distribution in gardens when the variety becomes common. Hitherto N. d. furcans seems to have enjoyed more extended cultivation than the type, but those who like crested or multified Ferns will grow N. davallioides multiceps in preference to the former. Its popularity will, of course, depend to a large extent upon the freedom with which it can be propagated. N. davallioides is not so free in this respect as N. exaltata.

THE WINTER CHERRY AS A DECORATIVE PLANT.

IT has been repeatedly stated that the WinterCherry, Physalis Alkekengi, is of no use as a decorative subject, but it is a very prominent plant in the herbaceous border during the autumn months, when the stems, from one to two feet long, are well clothed with its red berries covered with the orange coloured calyx, and I have seen it put to very good account lately in Church decorations. A lady was supplied with a good bunch of the dried stems with their fruits upon them. She had the dead leaves cut off, and the paper like calyxes picked off the berries, and wired the stems amongst variegated box, which she trained up the panels of the pulpit and wreathed around it. The result was a very pretty effect, the red berries being large were very conspicuous in the design, and looked as bright a fortnight after Christmas as they did when first put up. Therefore let no one say henceforth that the Winter Cherry is of no service as a decorative subject.—*T. W.*

PAULLINIA OCEANICA.

SEVERAL of the species of Paullinia are climbers, but few of them have been introduced to cultivation. The best known is P. thalictrifolia, which does best when grown upon a wire trellis or on a column of soil enclosed by wire. The slender climbing stems can then root into the soil as certain others would upon a Tree Fern stem. P. oceanica is quite of a different habit, being erect like an Aralia and therefore suitable for table decoration. The leaves are very variable in character, pinnate or bipinnate, and 12 in. to 15 in. long. The leaflets or segments are ovate, the basal ones small and the terminal one always the largest. The petioles are also more or ess winged. The species was introduced from the South Sea Islands in 1875, and requires stove treatment like P. thalictrifolia. The plants may be kept of a suitable size by propagation from cuttings. We noted plants of it in the nursery of Messrs. B. S. Williams & Sons, Upper Holloway.

POINSETTIAS.

THERE are few establishments requiring flowering plants at Christmas that do not grow a quantity of Euphorbia pulcherrima, generally known as Poinsettia; it is generally associated with E. fulgens, belonging to the same order, although so entirely different, owing to the large bracts attending the clusters of flowers in the former. A large batch occupying a great part of one side of a span roofed house was grown by Mr. Geo. Reynolds, gardener to the Messrs. de Rothschild, Gunnersbury Park, Acton, for Christmas work chiefly. By propagation at different times a set of plants was obtained, ranging in height from 2½ ft. to 6 in. in height. The size of the bracts ranged in like proportion from 6 in. to 14 in. across the heads. The mild autumn, the comparative absence of fog, and relatively clear sky for a London suburb, had no doubt been greatly in their favour, and enabled them to retain their foliage in the way they did. We know from experience that the leaves are more tender than the bracts, that is, they are more susceptible to injury during foggy times, losing all their leaves in bad cases.

DRESSING CARNATIONS.

I NOTICE a couple of misprints in my remarks under the above heading, p. 308, which, as they a little obscure the context, I may perhaps be allowed to correct. In the second paragraph instead of "commencing" read "*communing* and working with Nature," and in the fifth paragraph for "dressing by competitive" read "by *competent* hands."—*M. Rowan.*

ORCHID NOTES AND GLEANINGS.

Cattleya gloriosa and C. majestica.

I THANK you for your courtesy in publishing my last letter on C. labiata alba. I have never doubted your perfect impartiality, which I have had the pleasure of proving on several occasions. Allow me a few lines in reply to Mr. Earl, who in your last number asks if Cattleya gloriosa and C. majestica have yet flowered anywhere, and if they belong to C. Gaskelliana or C. labiata. I reply that they are varieties of C. labiata coming from localities sufficiently distant from the places where our ordinary forms of Cattleya Warocqueana have been collected, that is to say, C. labiata of the famous "Swainson's hunting ground." C. gloriosa is distinguished by its much clearer leaves and almost yellow pseudo-bulbs, and of its flowers the sepals and petals are white or whitish, and a lip speckled with a purple blotch of greater or less size. I saw it in flower at the end of October last, in the superb collection of M. Treyeran, of Bordeaux, an admirable specimen which bore ten flowers. That plant came out of our sale, of the 30th October, 1891, at Messrs. Protheroe & Morris's Rooms. I have received flowers of the same variety from several amateurs, notably from M. Cahuzac, likewise of Bordeaux. We have had some beautiful specimens of it in flower at *L'Horticulture Internationale*, where they have been admired by numerous visitors; and lastly a magnificent variety flowered with Dr. Capart, of Brussels, in November last. Cattleya gloriosa corresponds entirely with the description which THE GARDENING WORLD of the 12th of November last (p. 169) gives of C. labiata Sanderæ. They appear to me to be synonyms. C. majestica has reddish and very long leaves and pseudo-bulbs, "titanic leaves and titanic pseudo-bulbs." The flowers are large and highly coloured. M. G. Warocqué exhibited some beautiful specimens of it at the October meeting of *l'Orchidéenne* at Brussels, where they caused a sensation. C. majestica is no longer an unknown plant in England. THE GARDENING WORLD of the 17th December last (p. 248) gives a description of it, and says that it has flowered with Messrs. de Rothschild, at Gunnersbury Park, and proves to be a variety of particular merit. Finally an example of C. l. majestica in flower was put up at our sale of the 30th October, 1891, at Messrs. Protheroe & Morris's Rooms, and was sold for 11 guineas (see GARDENING WORLD, November 7th, 1891, p. 152). I have the satisfaction of proving on this occasion that THE GARDENING WORLD is one of the best informed journals. Behold again what the *Gardeners' Chronicle* of the 7th November, 1891, p. 554, says: "The plants of a supposed new form of C. labiata, named majestica, looked good, and the best pieces fetched from five to eleven guineas." Finally, allow me, if you please, to ask a question. Why did Mr. Sander, who has always upheld that our C. Warocquena is not the old labiata, cause the plate of Cattleya labiata which figures in the last number of his *Reichenbachia* to be prepared from two plants coming from our importation, instead of choosing them from amongst his own? That such is the fact appears from a letter received from Mr. Ed. Moon, dated 1st January last, in which he says: "The labiatas in *Reichenbachia* were out of your importation, and by no means the best of them."—*L. Linden, L'Horticulture Internationale, Brussels January 13th.*

As regards Mr. Earl's queries in your issue of January 14th, regarding Cattleya gloriosa and Cattleya majestica, they are neither of them a bit like Cattleya Gaskelliana. They are both of them in my opinion good forms of Cattleya labiata (vera), the autumn flowering Cattleya. Majestica is a grand form with larger bulbs and flowers than any other, and the flowers are rich in colour. Gloriosa, which has recently flowered in my collection, and which I had the opportunity of comparing with the autumn flowering Cattleya labiata (vera) which had flowers open at the same time, is also undoubtedly a variety of that plant. The only distinctive difference I could find was that C. gloriosa was more richly coloured with yellow at the base of the lip. In Cattleya labiata (vera), the type, the blotch at the base of the lip is of pale yellow freely streaked with reddish purple. In the variety gloriosa, the yellow at the base of the lip is of richer colour, and there are very few reddish-purple veins crossing it. I am doubtful whether the difference noted is sufficient to entitle it to a separate name, but the name may be useful to distinguish it as a variety.—*Emerick S. Berkeley, Bitterne, Southampton.*

Odontoglossum Wallisii.

THE general aspect of this Odontoglot is not such as to win its way with the general public on account of its small size; but to those who really know Orchids it is highly interesting and distinct. As far as size and the leading colours are concerned it may be compared with O. Lindleyanum and O. Sanderianum, but the structure of the lip and the crest are different in either case. The species may, however, be recognised even when out of flower by means of the narrow and grassy leaves, while the latter are lanceolate or strap-shaped in both the other species named. The sepals are oblong-lanceolate and cinnamon brown, edged with yellow, and the petals are similar in shape but yellow blotched with brown. The lower half of the fiddle-shaped lip is white spotted with purple near the base, while the upper half is pale rose. There is a pubescent patch upon the middle of it, which serves in a measure to distinguish the species from all others coming under our observation. It was originally discovered by Wallis in 1868, aud is now moderately plentiful in this country. The lip is sometimes wholly white with exception of some rosy-purple spots near the base. The typical form was sent us the other day by Captain Robert Twiss, Birdhill House, Birdhill, co. Tipperary, Ireland.

The Orchid Growers' Calendar.

EAST INDIA HOUSE.—The weather of the past two or three weeks has been most trying to the occupants of this division, and the energies of the grower have been taxed to the utmost to tide them through perhaps the worst month in the year. Saccolabiums, Aerides, Angræcums, etc., should still be kept on the dry side, or spotting of the foliage will ensue. It is really surprising what a long time these plants will go without a real good watering, considering that they have no pseudo-bulbs for the storage of moisture. There is, however, a limit, and that is reached when the lower leaves show the least signs of shrinking, a good watering may then be given. Phalænopsis too will be better if kept rather on the dry side, at the same time do not allow them to suffer for the want of water, or they will resent the treatment by dropping their bottom leaves, which it is the ambition of all growers to retain as long as possible, knowing full well that without foliage large spikes and good flowers are impossible. Thrips are

very partial to leaves of the Phalænopsis, and must be rigorously kept under, or the foliage will be much disfigured and weakened. A good plan with these, as with Phajus tuberculosus, which seems to be the happy hunting ground of these pests, is to sponge them once a week with a weak solution of tobacco water. In doing so care must be taken not to leave water in the heart of the growths at this time of year, or it might cause spots in the young foliage. Keep an even temperature of 60° at night, with a rise of 5° to 8° by day whilst the present weather lasts; with a change to warmer nights a few degrees higher can be maintained without hard firing.

CATTLEYA HOUSE.—Cymbidium Lowianum, the first plant, is just opening its flowers, which is rather early, but is nevertheless welcome, as it forms a fine contrast to the more gay Cattleyas and Lælias. It is a fine Orchid, and is a good grower if treated well. We give ours liberal doses of manure water twice a week during the growing season, and as this is nearly all the year it may be said to have its share. It is a gross feeder, and one that makes large fleshy roots, and therefore requires plenty of root room. It likes a plentiful supply of water at the roots when growing, and must not at any time be allowed to get really dry. Dendrobium Brymerianum does well in this house, grown in baskets and suspended near the glass. Ours are showing finely for bloom, and although kept rather dry, enough water is afforded to prevent them from shrivelling. Red spider attacks them and must be kept under by sponging with soft soapy water.

POTTING.—The weather continues to be all against any active move being made in this direction, but we shall push along by getting the Cypripediums of the barbatum section potted. There is no particular season for the repotting of these beautiful plants, however. The compost best suited to the above section, and the hybrids from them, is peat, sphagnum moss, and sand. C. bellatulum, C. Godfroyæ, C. concolor, etc., do best when potted almost entirely in loam and bits of sandstone. A fair amount of drainage is required, as they take any amount of water during the summer months. We favour rather low potting with this vast genus.—*C.*

SOCIETIES.

Royal Horticultural, *January 17th.*—The exhibits at the meeting on Tuesday last were more numerous than might have been expected, and there was also a good muster of the Fellows. The chief features of the exhibits were Orchids, Cyclamens, Begonias, Daffodils, Dracænas, Chrysanthemums and fruit.

A Silver Banksian Medal was awarded to Messrs. B. S. Williams & Son, Upper Holloway, for a group of Orchids, consisting largely of Cypripediums, notably C. discolor, C. Leeanum superbum, C. Adonis, C. Pitcherianum, Williams var., C. Sallieri aureum, and others. Laelia anceps Stella and Odontoglossum elegans were also fine. An interesting little group of Saccolabium bellinum was shown by Messrs. Hugh Low & Co., Clapton. The flowers varied in size and considerably so in colour. The group also included a seedling Cypripedium in the way of C. nitens. A small group was also shown by Messrs. F. Sander & Co., St. Albans, including Cypripedium nitens, Sander's var., C. Ononæ and Masdevallia Hincksianum. A very interesting pan of Cynorchis grandiflora, a terrestrial species, and Disa incarnata were shown by Messrs. Lewis & Co., Southgate. Laelia anceps plumosa was sent up by Reginald Young, Esq., Fringilla, Sefton Park, Liverpool. Chas. Ingram, Esq. (gardener Mr. T. W. Bond), Elstead House, Godalming, staged a plant of Cypripedium Lindleyanum superbum, a hybrid. A splendid piece of Cychnoches pentadactylon Manni having three young growths and ten pendent racemes of flowers was exhibited by W. W. Mann, Esq. (gardener Mr. J. Simmon), Ravenswood, Bexley. A small but interesting group of Orchids was shown by Messrs. J. Veitch & Sons, Chelsea, including Cypripedium Penelaus, C. Godseffianum, Phalænopsis Vesta, Calanthe gigas, about 4 ft. high, Phiocalanthe Sedeniana, and Epidendrum Endresio-Wallisii, besides some other hybrids. Bulbophyllum comosum was sent over from the Botanic Gardens, Glasnevin.

A Silver Banksian Medal was awarded to Leopold de Rothschild, Esq. (gardener, Mr. J. Jennings), Ascott, Leighton Buzzard, for a magnificent group of Begonia Gloire de Sceaux, in such rich colour, robustness of growth and floriferousness as has probably never before been seen in public. He also showed a small group of a scarlet-flowered Tree Carnation named Sir Henry Calcroft. Pteris serrulata gigantea, P. Reginæ, and Carnation Winter Cheer were shown by Mr. H. B. May, Dyson's Lane Nursery, Upper Edmonton.

A Silver Flora Medal was awarded to Messrs. Hugh Low & Co. for a large group of well-grown and flowered Cyclamens in 32 and 48-size pots. The plants in many cases were most floriferous. A Bronze Banksian Medal was awarded to Messrs. Wm. Cutbush & Son, Highgate, for a large group of Dracæna Lindeni and D. Massangeana. A group of Daffodils, single and double, as well as Iris Bakeriana, was exhibited by Messrs. Ed. Shuttleworth & Co., Peckham Rye, and Fleet, Hants. All had been forced and in pots. A small and interesting group of various subjects was shown by Messrs. J. Veitch & Sons, including hybrid greenhouse Rhododendrons and Begonia Winter Gem. A Silver Banksian Medal was awarded to Mr. W. C. Leach, Albury Park Gardens, for a group of Chrysanthemums, Poinsettias, and Mahonia leaves. A small collection of Chrysanthemums was shown by Mr. R. Owen, Castle Hill, Maidenhead. Large and interesting were New Year's Gift, Pink Mrs. E. D. Adams, and Mrs. Marian Bourne, all Japanese varieties; also Mrs. L. C. Maderia, an incurved bright yellow variety. He also showed a box of blooms of Owen's Imperial Strain of Chinese Primulas. Messrs. H. Cannell & Sons, Swanley, had a small group of plants of Chinese Primulas in various colours, and the blooms of large size.

At a meeting of the Fruit and Vegetable Committee a collection of Apples was shown by Mr. Chas. Herrin, Dropmore, Maidenhead. Small lots of Apples were sent up by Mr. Turton, The Gardens, Maiden Earleigh; by Mr. E. Burrell, The Gardens, Claremont; by Mr. R. Maher, Tattendon Court; and by others. Oranges from Palestine were shown by Mr. A. Dean, Kingston. A collection of twenty-two dishes of Apples was exhibited by Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley. A Silver-gilt Knightian Medal was awarded to Messrs. Geo. Bunyard & Co., Maidstone, for a collection of about 150 dishes of Apples in fine condition.

WHAT TO DO IN THE GARDEN.

Poinsettias.—The earliest of these will now be getting past their best, and as a considerable quantity of them will be required for stock, they may be stored away for the present underneath the stages of some intermediate house, turning the pots on their sides so as to prevent drip from keeping the soil in a sodden condition. What leaves they still possess will drop of their own accord as the soil gets dry.

Eranthemums.—Plants of this class must not be dried off like Poinsettias, but after flowering they may be kept rather dry for a few days previous to cutting them down. As young plants raised every year from cuttings give most satisfaction, all that is necessary is to keep a sufficient number of old plants from which to take cuttings in spring. The rest may be thrown away.

Hippeastrums and Clivias.—Those who have saved seeds of these useful stove flowering subjects may sow them at once, because by so doing they will enjoy a long growing season, which would be highly advantageous to them in enabling them to make good sized bulbs before autumn. Clivias are evergreen, and should be kept in a growing temperature all the year round. Indeed some cultivators keep seedling Hippeastrums or Amaryllis growing till they have flowered, before resorting to drying them off.

Cinerarias.—Late sown batches should receive their final shift if they have not done so previously. Confinement at the root in small pots causes them to run up with single, lanky stems, and when this has once happened they never regain lost ground. Keep them as near the glass as possible unless they happen to be located in a low span-roofed house, which suits them admirably.

Calceolarias.—The soft foliage of herbaceous Calceolarias soon suffers by crowding, so that this matter should ever be present in the minds of those who expect to have a fine display in spring or early summer. The present is a suitable time to shift on young stock. A compost of rather rich fibrous loam with a little leaf soil will meet their requirements. In rearranging the pots after the operation, see that plenty of space is given for the foliage to develop without crowding. If perchance the available space is limited at present, the plants must be rearranged at an early period before much growth has taken place.

Fuchsias.—If an early batch of Fuchsias is wanted, old plants are the best to use. They dislike forcing in the true sense of the term, but may be brought on by slow degrees, by thus giving them an early start. Place a few old plants in a Vinery at work after having given them the necessary pruning. When the buds have commenced to move pretty freely, shake out the plants, reducing the ball considerably, and repot them in the same or a slightly larger size if necessary. Pot firmly in light, sandy and fibrous loam.

Vines.—As soon as the ground out of doors gets into a workable condition again after the late severe frost, the lifting and relaying of Vine borders must be accomplished with all possible expedition, so that the soil may have time to get consolidated before active root action commences. A plentiful supply of good turfy soil from an old pasture, lime rubble and crushed bones should be placed close to hand, so that when the old soil is taken out the fresh material may replace it as speedily as possible. Clean brickbats should also be provided in cases where the borders are artificially drained.

Melons.—As soon as the seedlings have made the first rough leaf, they should be potted on into pots two sizes larger. Return the pots to the bed of cocoanut fibre in the forcing pit, plunging them to the rim. Keep up a bottom heat of 75° to 80°, and give the plants all the advantages of light possible. The Melon house in the meantime should be got in readiness for them by having it thoroughly cleaned and the beds made up whereon to place the mounds of soil.

Fruit trees.—Arrears in this department should be got forward with all expedition possible, especially in the case of Pears, Plums, and Cherries, which start into growth early. The work, however, should not be performed in a slipshod fashion for the sake of getting it completed. If the trees are at hand, and it is imperative that they should be planted, it would be advisable to plant them temporarily in the nursery or some reserve piece of ground till the soil for the permanent plantation has been properly prepared next year. The trees will suffer no harm in this way if planting is executed at the proper time. Apple trees start later into growth, and may be planted up to a later period than the others above named.

QUESTIONS AND ANSWERS.

*** *Correspondents are requested, in order to avoid delay, to address all communications to* "THE EDITOR" *or* "THE PUBLISHER," *and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed* "*Bambusa, London.*"

CEDAR AND WILLOWS.—*Arbor*: The Cedar of Lebanon is different in certain respects from all other trees, but at the same time we must not forget that the Deodar (Cedrus Deodara) of the Himalayas, and the Mount Atlas Cedar (Cedrus atlantica), are very closely allied and in many respects similar. Red and white Willows are not the only ones that are and have been used for basket work. We doubt if there is any Willow whose shoots may be termed white. The nearest to the latter description, perhaps, is the White Welsh or Varnished Willow (Salix fragilis decipiens), then the Yoke of Egg Willow (S. alba vitellina) has bright yellow shoots. Both are used for basket work, and so are the Purple Willow (S. purpurea), the Rose Willow (Salix Helix), the white-leaved Willow (S. alba) with green shoots, the Common Osier (S. viminalis) with green shoots or the Dutch variety with brown shoots, and several others.

PELARGONIUMS FOR BEDDING AND POT CULTURE.—*Louis Morhardt*: Six of the best varieties for bedding purposes are Henry Jacoby, crimson; Lord Salisbury, crimson-scarlet; Her Majesty, bright scarlet: Vesuvius, scarlet; Beckwith's Pink, pink of the Christine type, and Queen of the Whites. If you already possess the old scarlet Vesuvius you might substitute Surprise, a salmon-coloured variety for it. For pot culture, the following might be selected, namely, Lord Salisbury, crimson-scarlet; Proserpine, salmon with scarlet centre; Raspail Improved, semidouble bright scarlet; Golden Rain, semi-double orange yellow; Souvenir de Mirande, salmon-pink and white; Mrs. W. Wright, blue purple; Duchess of Portland, pink; Aurea Perfecta, bright orange; Lady R. Churchill, deep salmon; Duchess of Fife, blush pink; Sir Percivale, white, and Duke of Fife, bright orange scarlet.

NAMES OF PLANTS.—*Capt. R. Twiss*: The typical Odontoglossum Wallisi.—*B. S.*: 1, Doryopteris palmata; 2, Polypodium pectinatum; 3, Selaginella Braunii; 4, Pteris longifolia; 5, Adiantum diaphanum.—*H. Bond*: 1, Helleborus niger maximus; 2, Jasminum nudiflorum; 3, Libonia penrhosiensis; 4, Jacobinia magnifica; 5, Eupatorium riparium; 6, Azalea amœna.—*B. W.*: 1, Orchid not recognised, send when in bloom; 2, Cœlogyne cristate; 3, Apparently a Trichopilia, send when in flower; 4, Gymnogramme calomelanos; 5, Pteris serrulata; 6, Adiantum formosum; 7, Cypripedium insigne; 8, Onychium japonicum.

COMMUNICATIONS RECIVED.—W. S.—R. H.—T. W. B.—J. C.—J. S.—G. McL.—G. S.—G. F.—E. P.—R. O.—E. B.

TRADE CATALOGUES RECEIVED.

THOMAS S. WARE, Hale Farm Nurseries, Tottenham.—Flower and Vegetable Seeds, Begonias and other roots, Chrysanthemums, &c.

J. & R. THYNE, 83, Vincent Street, Glasgow.—Garden Seeds.

ROBERT SYDENHAM, Tenby Street, Birmingham.—Vegetable and Flower Seeds.

JOHN GREEN, Norfolk Nurseries, Dereham.—Vegetable and Flower Seeds—Rooted Cuttings.

W. PIERCY, 89, Beadnell Road, Forest Hill, S.E.—Early or Summer flowering Chrysanthemums.

W. J. GODFREY, Exmouth, Devon.—New and Selected Japanese Chrysanthemums.

JOHN K. KING, Coggeshall, Essex.—Garden Seed Manual and Reference Book.

LONDON SEED TRADE.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, reports a brisk demand for all varieties of Clover Seeds. Foreign Red Clover and Trefoil dearer. Alsike firm. White Clover owing to increased supplies is easier. Rye-grasses unchanged.

COVENT GARDEN MARKET.

January 18th, 1893.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Grapes..... per lb.	0 6	2 0	Pine apples.		
Kent Cobs ...100 lb.	120 0	125.0	—St. Michael's, each	2 6	6 0
Peaches ... per dozen			Apples...per ½ sieve	1 0	3 6
Melons ... . each			Plums...per ½ sieve		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
ArticbokesGlobe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, French, perlb.	1 0		Musbrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	1 0		Radishes... per dozen	1 6	
Cauliflowers, Eng.dz.	3 0	5 0	Seakale .....per bkt	2 0	3 0
Celery.....per bundle	2 6		Smallsalading,punnet	0 4	
Cucumbers .....eacb	0 9	1 6	Spinach ... per strike	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 9	1
Herbs .....per buncb	0 2	0 6	Turnips ..... per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Cbampions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d
Azaleas ... per doz.	24 0	42 0	Foliage Plants, doz.	12 0	60 0
Cyclamen per doz....	9 0	24 0	Hyacinths, doz. pots	8 0	15 0
Cyperus .....per doz.	4 0	12 0	Lily of theValley doz. pots	12 0	24 0
Cineraria ...per doz.	8 0	12 0	Marguerites, perdoz.	6 0	12 0
Dracæna term., doz.	24 0	36 0	Palms in variety,eacb	2 6	10 0
Dracæna viridis,doz.	9 0	18 0	Palms, Specimen ...	15 0	63 0
Erica Hyemalis, doz.	12 0	18 0	Poinsettia...per doz.	10 0	15 0
Evergreens,invar.doz	6 0	24 0	Primula Sinensis per doz.	4 0	6 0
Ferns, invar.,per doz.	4 0	18 0	Solanums.....per doz.	9 0	12 0
Ferns, small, per 100	6 0	10 0	Tulips—various.....	8 0	12 0
Chrysantbemum, doz.	4 0	9 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s d		s. d.	s. d
Anemones, doz. bncb	4 0	6 0	Mignonette... 12 bun.	2 0	4 0
Azalea, doz sprays.....	0 6	1 0	Narcisse, various, doz. bnchs	4 0	6 0
Arum Lilies, 12 blms.	4 0	8 0	Pelargoniums, 12 sps.	0 9	1 0
Bouvardias, per bun.	0 6	1 0	— scarlet.....12 bcbs.	6 0	12 0
Carnations, 12 blooms	2 0	4 0	Primula, double, bun.	0 6	1 0
Chrysanthemum,dz bn	6 0	15 0	Orcbid Bloom in var. per bloom, from	0 3	1 0
Camellias doz blooms	1 0	4 0	Roses, yellow, dozen	3 0	6 0
Cyclamen doz bloomso	6	0 9	— French, per bncb	1 6	4 0
Eucharis ...per doz.	5 0	6 0	— French, 100 blms	6 0	12 0
Gardenias 12 blooms	12 0	24 0	— Red..... doz. blms.	2 0	4 0
Heliotropes,12 sprays	0 6	0 9	— Saffrano...per doz.	2 0	3 0
Hyacinths. doz. spikes	3 0	6 0	— Tea ..... per dozen	1 0	3 0
Hyacintbs Roman doz. sprays	0 6	1 0	Tuberoses, per doz	1 0	1 6
Lilac, White, Frencb, per buncb...	4 0	5 0	Tulips, red, per doz.	0 9	1 0
Lilium Harrisii, doz. blooms	6 0	9 0	— White, per doz. ...	1 6	3 0
Lily of the Valley dz.sps.	0 9	1 6	— Yellow, per doz....	1 6	2 0
Maidenhair Fern,12bs.	6 0	9 0	Violets,Parma,French per bunch ..	7 6	9 0
Marguerites, 12 bun.	4 0	6 6	—Czar, French, bun.	2 0	4 0
Mimosa (French)p.bh.	1 0	1 6	Small „ doz. bun.	4 0	6 0

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JOHN GREEN, F.R.H.S.

MY CATALOGUE FOR 1893 is now ready, it contains over 100 pages, together with four Photographic Views taken in my Nursery, it comprises all the best novelties in Seeds and Plants up to date, it cost much over 1s. to produce, but all intending buyers can have it sent free for six stamps, which may be deducted from first orders.

MY COLLECTIONS of Vegetable Seeds are of tbe very best quality and sure to please, and are sent free for cash at 21s., 10s. 6d., and 5s. For Vegetables and Flower Seeds of every description see catalogue.

MY DAHLIAS are known all over the world wbere Dahlias are grown, I have a few very good pot roots for sale as follows:—12 grand Cactus for 4s., 6 for 2s., 12 choice Show and Fancy for 4s., 6 for 2s., 12 pretty Pompones for 4s., 6 for 2s., 12 very select Singles for 3s., 6 for 1s. 6d., all true to name and free for cash A special list of Dahlias can be bad free on application.

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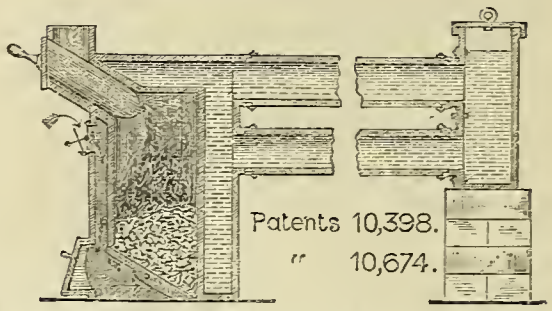

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For Index to Contents see page 344.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Jan. 30th.—Plant Sale at Protheroe & Morris' Rooms.
TUESDAY, Jan. 31st.—Sale of Established Orchids, at Protheroe & Morris' Rooms.
WEDNESDAY, Feb. 1st.—Sale of Lily Bulbs, &c., at Protheroe & Morris' Rooms.
THURSDAY, Feb. 2nd.—Sale of Hardy Border Plants, at Protheroe & Morris' Rooms.
FRIDAY, Feb. 3rd.—Gardeners' Orphan Fund, Annual Meeting at the Cannon Street Hotel, at 2 p.m.
Sale of Orchids, at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, JANUARY 28th, 1893.

OUR GARDENING CHARITIES.—Only last week we reported the annual election of pensioners to the Gardeners' Royal Benevolent Institution. That matter, so far as relates to benefits of the institution, is closed for the year, and the disappointed applicants must wait yet another twelve months ere they can get a chance of election again. We have heard it urged that having regard to the very large number of candidates yet unelected, and all of whom start well in advance of new ones, it would be well on the part of the executive to refuse all new applications for one year, in the hope that through various causes the list of present candidates might be cleared, and thus leave few or none disappointed ones.

We do not know how far such a suggestion would meet with the support of the general body of subscribers, but in any case of course such a procedure should only apply to those who have not been subscribers. In time, when the new rules come into actual operation, it will perhaps be found useless for anyone who has not been a subscriber to make application for the benefits. In any case the guinea annual subscription becomes a capital investment.

The ensuing week sees the closing up of the work of the Gardeners' Orphan Fund for another year also, and very soon we shall be able to publish a full report of the annual general meeting, and the year's election. Of seventeen candidates eight have to be elected, the voting papers issued by the secretary giving to subscribers full particulars as to the necessities and circumstances of each case. There are many subscribers who, canvassed some time since by energetic friends and thus hastily promised votes, are now regretting that they were so hasty, as some of the other cases show so much of greater necessity. It would be well if all subscribers would withhold their promises until the full list of applicants is issued. It sometimes happens that the most necessitous are not the most successful. Would that they could always head the lists, but the most energetic of canvassers usually win the elections. However, we hope that there are homes that will be greatly cheered when the intelligence of the coming election is published.

Planting.—It does look now as if we had come to a real soft break in the weather, and that once more all ordinary garden work could be resumed. Nurserymen, and all others who have yet much planting to perform, found the long spell of hard weather a serious interference with their labour, even though we did have up to within a week of Christmas weather so open that all kinds of planting was enabled to proceed with unusual facility. But in nurseries and gardens the full labour of planting and of transplanting seems never to be accomplished until the winter is over, and at the present moment, even at the end of January, the now open weather finds work in abundance, and everyone exceptionally busy.

No doubt those who planted in the early winter are best off. Still there is time to get much of such important labour done if set about immediately, and performed with care and expedition. The soil is now much about in its normal condition, perhaps colder than in November, but that is unavoidable. Happily it is not necessarily colder where trees are to be planted than where they are now growing. Whilst we lay, and properly lay, so much stress upon the value of autumn planting, yet we see tens of thousands of trees and shrubs in nurseries transplanted into fresh quarters towards the close of the winter, and generally all doing well.

It is perhaps because special care is taken in the transplanting, and it is done under good supervision, that so much of success attends. What the nurserymen can do so well the gardener can accomplish also; hence we see no reason why the present open weather should not be utilised to the full for completing planting of everything that is of a hardy nature.

Our Fruit Imports.—The figures given in a recent number of our contemporary, the *Gardeners' Chronicle*, with respect to fruit imports during the past year, should set everyone thinking. Unhappily, whilst there is so much desire to cultivate fruit at home, there are so very many difficulties in the way—especially in the direction of land laws, tenant agreements, local and imperial burthens, high rates of transit—to be encountered by the would-be fruit grower, from most, if not all, of which those who compete so severely with us elsewhere are free. It seems incredible, but it is true, that our raw Apple imports leaped up from 3,147,373 bushels in 1891 to 4,514,700 bushels last year, an enormous increase.

Most likely those who saw the splendid collection of Apples put up by Mr. Bunyard at the Drill Hall last week would think that what was so possible in his case should be equally possible all over the southern part of the kingdom. That would, however, be jumping too hastily to conclusions, because the fruit in question was nursery grown. Could we see such collections, though not at all necessarily so varied, shown at this time of the year from established fruit gardens or orchards, then we should be much more hopeful. One unfortunate feature of our home Apple growing trade is that the bulk of those concerned in it cater chiefly for the early market, hence comparatively little fruit noted for long keeping is grown, and still less of it is stored for late sale.

We shall never counteract the Canadian trade so long as growers hold it is useless to grow late sorts for such competition. Literally by running all the best Apples into the early markets, and selling almost regardless of price, the late market is left entirely at the mercy of the Canadian growers. As to the New Zealand fruits we cannot complain of those, because they reach us when our own stocks are fairly exhausted. There is an immense deal to be done at home ere we can in any way hope to meet home Apple requirements. Practically it means the planting of a million of young trees annually, and giving to them the best sites and soils and the highest cultivation.

The Glasgow Appointments.—We understand that the Parks Committee have decided to recommend the Glasgow City Council to appoint Mr. D. Dewar, of Kew, as curator of the Botanic Gardens, and Mr. Whitton, of Glamis, as superintendent of the parks.

National Chrysanthemum Society.—The annual general meeting of this society will take place on Monday, February 20, at Anderton's Hotel, Fleet Street, at 7 p.m.

A New Public Park is about to be laid out at Woodside, Aberdeen, at a cost of £3,200.

Edinburgh Botanic Society.—At a meeting of this society held last week, communications were made by Mr. J. Graham Kerr, on plants collected during the Pilcomay Expedition, and by Professor Bayley Balfour on roots of plants grown in tubs.

Lectures on Ferns.—On January 26th, and February 9th, Mr. J. Birkenhead will deliver lectures on "Ferns, their life-history, beautiful characteristics, peculiarities, habits, utility and cultivation," in the Lecture Hall of the Free Library, Sale.

Mr. William Thomson, Clovenfords, contributed last week to the *Scotsman* a most interesting letter on the subject of "Fattening of Chickens" by the system popularly known as "cramming," and this week he has another letter on "Poultry Rearing."

Proposed Presentation to Mr. W. Young.—A movement is on foot in Edinburgh to make a presentation to Mr. W. Young, the popular assistant secretary of the Royal Caledonian Horticultural Society. Mr. Young has served the society loyally and well for many years, and we are glad to hear that the movement is meeting with hearty support.

Public Park for Ramsgate.—Two firms having received instructions to prepare plans for laying out the grounds of Ellington House, Ramsgate, as a public park, the design of Messrs. J. Cheal & Sons, Crawley, has been accepted by the council, and the contract for carrying out the work has been entrusted to them. The grounds comprise about thirteen acres.

Shrewsbury Summer Show.—The Shropshire Horticultural Society's schedule for the summer show to be held on August 23 and 24 has just been issued and comprises 180 classes, with prizes to the value of nearly £720. For plants the principal prizes are £20, £16, and £14, and £12 for a group of 300 square feet; £20, £15, and £10 for sixteen stove and greenhouse plants, and "Williams' Memorial Medals and £3" will be given for the best specimen stove and greenhouse plant in flower; and for the best specimen Orchid in the show. £10, £6, and £3 for a collection of twelve dishes of fruit; and similar amounts for six bunches of Black Grapes; £5, £3, and £2 for a collection of twelve dishes of Vegetables. In this section Messrs. Webb, Sutton, Carter, Taylor and Thomson, Thomson & Co., Sydenham, and Laxton, offer special prizes.

Gardeners' Orphan Fund.—At a meeting of the Executive Committee held on the 20th inst., the Honorary Secretary announced the following special receipts since the previous meeting:—H.R.H. the Princess of Wales, £10 10s., Scottish Horticultural Association, £5; Mr. Herbst, £1 1s.; Ware Horticultural Mutual Improvement Association, £1 11s.6d.; Mr. W. Whittaker, Stocklands, Bridgewater, 10s.; Mr. H. J. Jones, Lewisham, (collecting box) £2 10s. 6d.; Mr. G. Fennell, Fairlawn, Tonbridge, (collecting box), 10s. 6d. Letters were read from Col. Stanley Clarke, private secretary to H.R.H. the Princess of Wales, and Mr. John Wills, with reference to the recent announcement of Her Royal Highness's patronage of the Fund, and the following resolution was unanimously agreed to:—"That the best thanks of the Committee be accorded to Mr. Wills for the invaluable service he has rendered to the Gardeners' Orphan Fund in securing the influential support of H.R.H. the Princess of Wales as Patroness." The annual meeting will be held at the Cannon Street Hotel, on February 3rd at 2 p.m.

The Aberdeenshire Gardeners and Fruiterers held their annual assembly on the 20th inst. in the Royal Albert Hall. Mr. A. R. Gray presided at the social meeting, and in the course of an interesting address said that it was hardly possible to understand or to credit the great and rapid advancement made in the fruit business during the last twenty years. Twenty years ago they were almost entirely dependent upon fruits grown in this country, with small supplies from abroad; but of late years all the countries of the world had been opened up, and from almost every country and clime fruits now found their way into our markets. An excellent musical programme was contributed during the evening, and at ten o'clock the floor was cleared for dancing, which was kept up until an early hour on Saturday morning.

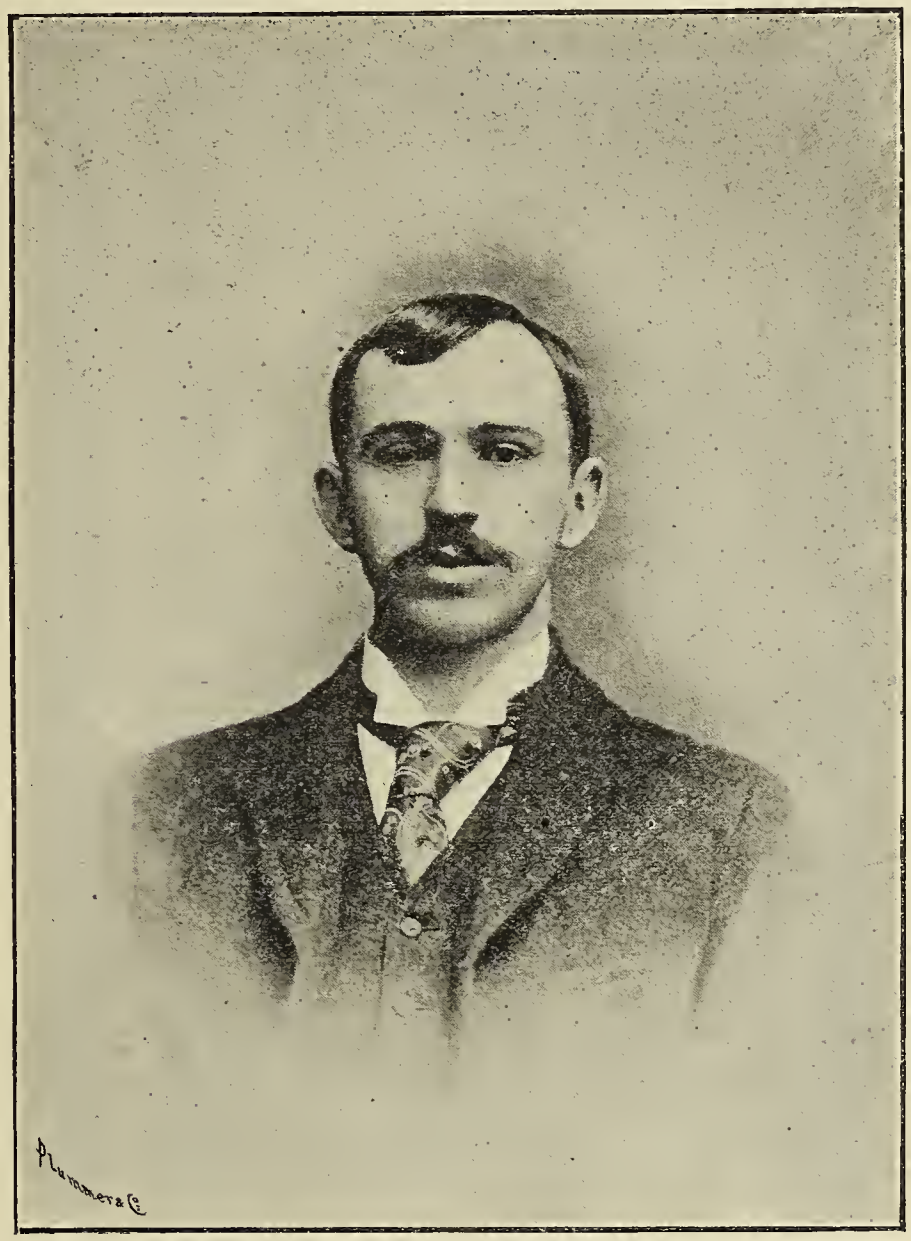
Technical Education in Horticulture.—In continuation of the weekly lectures under the auspices of the Scottish Horticultural Association, Dr. John H. Wilson delivered his first lecture on the "Hybridisation and Improvement of Plants," in Dowell's Rooms, Edinburgh, on the 18th inst. After glancing at the early history of the art of hybridisation, reference was made by the lecturer to the great advances of recent times in the improvement of flowers and fruits by its aid. Undeniably there had been much success by haphazard work; it were better, however, to pursue surer and more scientific methods. By a hybrid was ordinarily meant the plant resulting from the fertilisation of the flower of one species by that of another. In a few cases a result essentially comparable had been attained by grafting one species on another, but this method was not reliable. On the other hand, the nature of the hybrid, resulting from the crossing of flowers, could in most cases be approximately anticipated. It therefore lay within the power of the operator to attain a certain ideal of form and colour by skilfully blending certain parental characters. The lecturer having fully described a simple flower, and the means whereby seed could be procured, discussed the precautions necessary to the successful fertilisation and hybridisation of well-known garden plants. The extremely intimate union of the characters of the parents in hybrid offspring was shown by lantern transparencies of microscopic preparations of new hybrids raised by the lecturer.

THE SOUTH DEVON FRUIT FARM.

WHILST on a visit to Torquay a short time ago, I took the opportunity of looking over the South Devon Fruit Farm. Started only in February last, the scheme may fittingly be described as still in its infancy, the farm at present comprising only some fifteen acres in extent. The soil is a good red loam, several feet in depth, and is, in Mr. Pender's words, "good enough to grow anything."

Several acres are already planted with Apples, Pears, and bush fruits, and the other part is being rapidly got ready for planting. Strawberries are to be largely grown, and all the leading kinds of Apples and other fruits are to be planted at first for trial. The most suitable will then only be kept, the others being weeded out and replaced by those which prove most valuable. A large quantity of glass is already erected, and many of the houses are already in working order. One block comprising ten houses, each house 100 ft. long by 12 ft. wide, is already planted, three with Tomatos in various stages, and three with Peach trees, the spare ground of the border between the trees being planted with Lettuces. Three more are planted with Vines, which have made splendid canes during the past summer, and the last house in the block is devoted to forcing Beans. The houses are glazed without putty, strips of lead holding the glass in its place, and there are no rafters showing from the outside. The glass structures are being erected by Messrs. Mumford & Vanstone, of Torquay, and the whole are heated by two of the Thames Bank Iron Company's powerful boilers. Behind this block, on a higher level, facing due south, is a huge span-roofed Peach house, 225 ft. long by 25 ft. wide, rapidly nearing completion. Behind this again is a Vinery, the same length by 16 ft. wide, a lean-to being got ready for planting, chiefly with Alicantes and Lady Downes' Seedling. At the back of the Vinery are packing sheds, fruit rooms, Mushroom houses, and stables. Mushrooms are already grown in ridges out of doors; also a great number of Asparagus beds were well developed.

To criticise a scheme so recently started would be unfair, but it is refreshing to see in these days of land depression and agricultural distress that there are enterprising spirits who, if the land cannot be of use in one way, have energy enough to endeavour to turn it to good account in another. Situated in a charming spot in one of the sunny vales of Devon, with a salubrious climate, the South Devon Fruit Company appears to have every prospect of a successful future before it. I cannot conclude this brief notice without tendering to Mr. Pender, the company's able manager, my best thanks for his courtesy.—*H. W.*



MR. A. J. MANDA. (*See p.* 341.)

LATE-KEEPING BRITISH APPLES.

IT is satisfactory to note that numbers of the public are beginning to recognize the superiority of British Apples in the matter of quality, independently of their relatively unattractive appearance when compared with the large, highly coloured and attractive Apples of America. As the season gets older so do the most of our Apples lose their polished appearance, and some of the colours which they originally possessed when first gathered. The dessert kinds particularly are wanting in brightness, and some of the best are either yellow, greenish yellow, or russety. Underneath a rough exterior, however, they possess sterling qualities which only those who are really familiar with them know. As the proof of the pudding is in the eating, so the fact applies in the fullest sense of the term to Apples

The question is occasionally asked why there are no British Apples in the market and fruiterers' shops at this season of the year. The reply is obvious, as there is now scarcely any to be put upon the market, all having been sold. In a few cases where the shops are owned by market gardeners a supply of British fruit is still kept up and finds a ready sale. Blenheim Orange and Dumelow's Seedling, better known as Wellington, are the chief or only kinds to be seen now, and even they must fail before long. Both kinds are retailed at 3d. a pound, and are cheap to the consumer at that price compared with many of the spongy and relatively tasteless foreign kinds. The moral is obvious. Grow more of the late-keeping British Apples and the demand will increase with the increasing supply in proportion as the public and its taste is educated. In private fruit rooms, where many varieties are grown, there is still a good supply of late kinds. The number of varieties still in good condition in the gardens of the Royal Horticultural Society at Chiswick, is relatively very great; but the undermentioned sorts, which we noted there, would constitute a selection of very choice Apples that ought to be encouraged for a late supply. In the gardens and orchards of private establishments, all the sorts mentioned might be planted for the sake of variety, but for market purposes a man of business could reduce the list to one-half with advantage to himself, and the public would lose little, if anything, by it.

DESSERT VARIETIES.

Cox's Orange Pippin may still be placed at the head of the list on account of its reputation and because it will remain in condition through the next month. It possesses, however, less of the aroma which it originally had, but retains all its sweetness and agreeable qualities. The tree delights in a light but rich sandy soil and should be largely planted where that prevails. The fruit of Braddick's Nonpareil is larger, more flattened, and keeps till April. The skin is still smooth and shining, greenish yellow, shaded with red on the exposed side, and more or less marked, with rusty patches. The flesh is sugary, aromatic and most agreeable to those who are fond of Apples. Baumann's Reinette keeps till March and still possesses its rich colour to a great extent, and, although not equal in quality to either of the above, it is a free fruiting and profitable Apple to grow. The flesh is crisp and juicy with a certain amount of aroma, and is now mild and agreeable. We ought not to lose sight of Dutch Mignonne, as it is, like the last, of appreciable size, yellow suffused with red, and the tree bears abundantly. The flesh is juicy, sweet, and aromatic. A very pretty Apple is Rosemary Russet, broad at the base and tapering upwards, greenish yellow and suffused with red on the exposed side. The flesh is juicy, sweet, and richly aromatic. It keeps till February or longer as it is still perfectly firm. King of Pippins is still in use and so well known as hardly to need comment.

Blue Pearmain, certificated at the last meeting of the Royal Horticultural Society, is of American origin, but does not seem to be so well known as it ought to be. The flesh is tender, crisp, juicy and sweet with a pleasant aroma. An older and better known Pearmain is Claygate Pearmain, bronzy green, shaded with red at this season, with a crisp, juicy, and agreeably flavoured flesh comparable to that of Ribston Pippin. Another fine sort, lasting till February, is Adams' Pearmain, a somewhat conical Apple, more or less highly coloured on the exposed side. The deep yellow flesh is tender, soft and moderately juicy at this season of the year, but more so earlier, and even now it is sweetly aromatic. Ross' Nonpariel is by no means an attractive Apple, but the pale flesh is very tender and remarkably sweet. The skin is of a deep russet all over, and even as early as December the flesh under the skin becomes brown, and should be peeled off to get the pure unadulterated flavour of the flesh beneath. The latter is by no means juicy, but pleasant to eat all the same. The skin of Lucombe's Pine Apple is pale yellow and rather shrunk by this time; but the flesh is crisp, juicy, tender and richly aromatic. In fact, it has been compared with the flavour of the Pine Apple. The fruit at best is small, and the same may be said of Golden Pippin, one of the oldest of our cultivated varieties of Apple, and very highly esteemed by those who know it. Larger fruiting sorts tend to oust it from the garden, but few excel it in flavour. The flesh is yellow, tender, juicy and sweetly aromatic, although in sweetness it scarcely comes up to Ross' Nonpareil. The old Nonpareil is greenish yellow with a red cheek, and covered with a much thinner layer of russet than the last named. The greenish flesh is wonderfully rich in flavour, aromatic, crisp, juicy, and most agreeable to the palate. A firmer and brisk Apple is London Pippin, that keeps from November to April, and shows very little, if any shrivelling even then; it may be used for dessert or culinary purposes.

CULINARY VARIETIES.

One of the best late keeping varieties of this class is Annie Elizabeth, that received a First-class Certificate from the Royal Horticultural Society as long ago as 1868, but cannot be said to be half so much cultivated as it ought to be. The white flesh is firm and crisp, but tender, and suitable even for dessert purposes after it gets mellow. It has a shining yellow or flesh coloured skin when grown under different conditions, and may be kept till May or longer. Lane's Prince Albert may be placed alongside of it for keeping qualities and is at all times a clear-skinned green Apple; and the tree bears abundantly. Bramley's Seedling is similar in colour but a differently shaped Apple, with a briskly acid flesh. Dumelow's Seedling or Wellington is well known for its keeping qualities, richly acid flavour and fertility. In respect to its keeping qualities, the ancient Galloway Pippin

may be compared with it. The skin of the latter when grown under glass is of a uniform clear yellow and very attractive from its clean appearance. It is also known as Croft-en-Reich, and has been cultivated from time immemorial in Galloway. Another yellow Apple is Grange's Pearmain, keeping up to February. It is brisk, tender and sweet, and may therefore be used for dessert purposes as well. A third variety of this colour, and always so whether grown under glass or out of doors, is Golden Noble so useful for cooking purposes as the flesh then becomes perfectly soft and of a clear amber colour.

The Cooking Apples are notable for their want of colour as a rule, or in other words they are green and in most cases of relatively large size. Amongst this class may be place Duke of Beaufort, more or less striped with red in the earlier stages with a firm, acid flesh. Even larger is Gloria Mundi, green skinned, angular, and said to keep till Christmas, but is still in good condition. The flesh is tender and juicy. A better keeper is Alfriston, of a dull green, angular, and lasting till April. The flesh is crisp, sugary and briskly flavoured, making it one of the best of the culinary class. A smaller Apple but a brisker one is Hanwell Souring keeping till March, and then more acid perhaps than any other of its class.

More highly coloured than most of the above is Betty Geeson, which is of a clear yellow suffused with red on the exposed side. The white flesh is sweet, and briskly acid, and the variety keeps till May when properly treated. Wadhurst Pippin is also beautifully coloured, with a juicy. crisp and briskly flavoured flesh, keeping sound for another month or more. The almost uniform deep red colour of Mére de Ménage marks it out as one of the most highly coloured of kitchen Apples. It is still in good condition, and the flesh is firm, juicy and agreeably acid. Not so highly, but more beautifully coloured, is Gascoigne's Seedling, with a yellow skin more or less suffused even now with a rosy red. It is a handsome Apple, and is likely to come more decidedly into favour with growers. Many other good late Apples might be added.

TUBEROUS BEGONIAS.

The tuberous-rooted Begonia was the subject of a paper read by Mr. James Weeks, gardener to E. A. Sanders, Esq, Stoke House, Exeter, at the last meeting of the Exeter Gardeners' Association. After referring to the origin of the race and to the mode of treatment required in raising the plants from seed, Mr. Weeks dealt with the subject of propagation by cuttings, and the best time to take them, which he said was by shoots from the tuber 2 in. or 3 in. long, taken as early in the year as possible. The cuttings should never be cut off, but always broken out either from the tuber or as near the base of the stem as possible. It is a good plan to have a little water and some fine silver sand to dip the ends in as you take them off. I find by doing this you keep them from taking up too much moisture from the soil in the pots. They should be inserted around the edges of a 3 in. or 4 in. pot, in good, free, sandy soil. They should never be put into strong bottom heat, but placed on a spent Cucumber or Melon bed. A little surface heat by night is all they require, but they should be covered with hand-lights to keep them from flagging and to shade them during the day. Another way of increasing the stock is by cutting up the tubers. Let them be first started into growth, and then cut out the eyes, just as you would a Dahlia. Shake some fine silver sand over the cuts to heal the wounds, and pot up singly, or place them in shallow boxes or pans. All the single varieties will do well by this mode of cultivation, especially the bedding varieties; but I do not like the practice for some of the hybrid doubles, which seem to be of a more delicate constitution, especially those imported from abroad, and require great care and attention for the first year.

Outdoor Cultivation.

Those intended for outdoor work during the summer should be placed in shallow boxes of leaf mould the first or second week in April and placed in a warm greenhouse until they are 2 in. or 3 in. long Then remove to cold frames to harden until the first week in June, which will be quite soon enough to put them out, unless it be in very sheltered situations, for there is nothing so injurious to them as the late May frost. The beds should be well drained and properly prepared with a liberal supply of leaf mould and silver sand, and so placed that they may be out of the cold east and west winds. Sun does not hurt them if they are liberally supplied with water. They should never be put into the beds so as to crowd each other before the summer is half over, but planted far enough apart to allow some dwarf creeping plants, such as Blue Lobelia, Harrison's Musk, or such-like, to be placed between them. I do not see why the amateur or the cottager should not be able to grow the Begonia to perfection if he has plenty of fresh and pure air; but I think it is time and money wasted to attempt to grow them in thickly-populated places, for nothing will retard their growth so much as the sooty and smoky atmosphere of large towns or cities. In the autumn, as soon as the plants begin to show signs of decay, much water should not be given them, so as to let them gradually dry off. It is better to place them outdoors in a sunny place for two or three weeks to harden, taking care to turn the pots over on their sides if the weather is at all wet. Do not cut or break off the growth but let it drop off. Always make sure that your tubers are perfectly dry before putting away. Those in the beds should not be allowed to remain after they have been cut by the first night's frost, but should be taken up and spread out to dry in an early vinery or Peach-house, and, when thoroughly dry, should be packed in boxes and covered with sand, each tuber packed carefully on its side, so that no moisture can remain in its hollow crown.

UP THE HUDSON RIVER IN WINTER.

As the train in which we are travelling towards Massachusetts rushes along the banks of the Hudson, one is entranced by the lovely views, for the frozen river and the mountain slopes rising up on either side present a scene of indescribable grandeur. At the various towns which we pass through, the river is alive with pleasure-seekers, for here is skating in galore, sleighing to the heart's content, and the ice boats with all sails set flying before the wind, make an inspirating picture. The thermometer stands at zero, yet all look happy, and to enhance the beauty of the picture the sun shines in great brilliancy on the glittering snow, and reflects itself on the huge icicles and frozen streams, on the rocks and mountains on the river bank. My destination was a place among the Berkshire Hills, and there as everywhere the Frost King reigned supreme.

In the district a number of English gardeners are located and they seem to take quite naturally to the frozen-out condition of things, and where they have glass, stoking keeps them busy, as on many nights the temperature has been down to from 4° to 8° below zero. For all that it was a treat to get into some of the beautiful greenhouses around Lenox and Pittsfield, they were like oases in the desert. Entering a large house in Mr. John White's establishment, I was pleased to find it partly filled with Poincettias, with bracts 15 to 18 inches in diameter. The effect was quite dazzling. This Englishman has been very successful here and is now carrying on a very large trade. Leaving Mr. White's I trudged away in search of the Meadow Farm, where another clever young Englishmen, Mr. A. P. Meredith, is located. Time permits me only to note a few of the many good things to be seen in Mr. Meredith's houses. A very fine piece of Nephrolepis Pluma in a comparatively small pot I greatly admired. The beautiful plant had a spread of 9 feet. In the Orchid houses I noticed a splendid piece of Cypripedium Leucorhodum with four spikes of bloom. Other good Cypripediums were Cardinale, Lawrenceanum and Leeanum superbum.

Mr. Meredith has been very successful with seedling Anthuriums. One of his seedlings has a splendid habit with shield-shaped spathes 6 in. by 5 in., and the deepest crimson in colour, the spadix was white topped with yellow. The Rose house 90 ft. by 18 ft. looked wonderfully well, the plants being in splendid health. They are calculated to produce 20,000 blooms this season, and I have no doubt they will. The varities are American Beauty, Sunset, Bride, Niphetos, Pearl and Duchess of Albany.—*Am. Cor.*

The Carnation: its History, Properties, and Management, with a descriptive list of the best varieties in cultivation. By E. S. Dodwell. Third edition, with supplementary chapter on the yellow ground. London: Gardening World Office, 1, Clement's Inn, Strand, W.C. 1s. 6d; post free, 1s. 7d.—[Advt,

VEITCH MEMORIAL PRIZES.

At a meeting of the Trustees of the Veitch Memorial Fund, held on the 17th inst., it was decided that the medals and prizes placed last year at the disposal of the Royal Horticultural Society and the Manchester Botanical and Horticultural Society, but not competed for should be again offered this year, viz.:—At the Temple Show, to be held May 25th and 26th, a medal and prize of £5 for the best six hard-wooded greenhouse plants in bloom, and at the special exhibition of Orchids, to be held in the Manchester Botanic Garden on May 19th, a medal and prize of £5 for the best hybrid Orchid in bloom already in commerce, and a medal and prize of £5 for the best hybrid Orchid in bloom, not in commerce. It was also decided to place a medal and prize of £5 at the disposal of the Royal Horticultural Society, to be competed for at the Great Fruit Show to be held in the Agricultural Hall, Islington, on August 29th and three following days. Also a medal and prize of £5 to be competed for at the Ghent Quinquennial International Exhibition. to be held in April, for the best hybrid plant in the Exhibition, and a medal and prize of £5 to be competed for at the Annual Exhibition of the Clay Cross Horticultural Society in August.

DRESSING CARNATIONS.

Mr. MacKay would have done better if instead of indulging in childish glee at the idea of treading on somebody's toes and making senseless comparisons between the displaying of the petals of a Carnation and the carving of grotesque figures on a Turnip, he had simply responded to my challenge as to whether he had ever seen a bizarre or flake Carnation before and after dressing by competent hands—if he had, in fact given evidence of ever so little practical acquaintance with the matter on which he was posing as an arbiter. He carefully avoids the test.

Mr. MacKay, however, delivers himself of a grand pronouncement. Says our critic, "In my opinion any one who is not capable of seeing the same merit, that is of high cultivation and perfection as a flower of its class, equally as well in an undressed as in a dressed flower, is not worthy of being termed a florist, and certainly is not qualified to act as a judge." Agreed *nem. con.*, only it isn't the point, and Mr. MacKay knows, or ought to know, that it isn't the point. The point in question is, of course, not the simple recognition of quality in an individual bloom, but the determination of *comparative* excellence in numbers pitted against each other in competition, and this comparison cannot be adequately made in the Carnation nor relative merits determined unless the latter are fully revealed to the judge by the display of the petals of the flowers, effected in the operation we call dressing.

A responsible writer desirous to know the facts might be simply recommended to grow and to study the character of the flowers and to read what experienced cultivators have had to say on the subject. These homilies by the critics of the florist instructing him in all the ways he should go would claim no notice but for the position of the journals in which they from time to time appear. Delivered always by persons who do not grow the flowers, and who write therefore without practical acquaintance with their subject, full of assumption of artistic knowledge equally baseless, these utterances of censors dogmatising on matters of which they have not learned the rudiments, only amuse the specialist and need impose on nobody else.—*M. Rowan.*

Once again the annual grumble appears anent the presentation of dressed Carnation blooms on the show table. It has been said that there is but a wrong and a right, but observation teaches us that there are many wrongs, and but one right. Our friends appear to be in earnest, and the battle waxes strong, but it occurs to me that as there is such a diversity of opinion, would it not be well to apply some special test that the public may be able to judge between the combatants. I must confess that I admire the Carnation as it grows in the open border in all the abandonment of its floral beauty. I have grown them for a good many years, but I never ventured to stage my flowers until I took a box of blooms raised from Continental seed to one of the Oxford shows. On seeing the marvellous blooms staged by those veterans, E. S. Dodwell, Robert Lord, Martin Rowan, and others, I quietly consigned mine to a rubbish heap in a corner of

friend Dodwell's garden, as I did not like to appear worse than others, but they were not allowed to remain there. My friends sought them out, and their kindness led them to dress and stage them, and when I returned to the table I was so astonished that I dared to question their being my flowers at all. The metamorphosis was complete—the blooms were nearly twice the size of those I had taken to the show, there was not a small petal to be seen; in fact, my boxes were a thing of beauty, and I was compelled to admire them. Nay, I was told that I had won a prize, it was but a minor one, still, there was the fact.

Now comes the question—How had the change come to pass? Well, I was told that a friend had taken the blooms in hand and had dressed them so as to make them worthy of exhibition. In that case the prize was not awarded for excellence of cultivation, it was the skill of the dresser that won. As I had never seen anyone dressing a Carnation, naturally I was anxious to learn the *modus operandi*, that I might be able to compete with others. I applied to that master of the art, Mr. Ben Simonite, who with characteristic good nature took me in hand. He told me to get him a bloom, and I got one of the best in the garden, an exquisite flower of Favourite, ever the most perfect. He laughed at me, remarking that I must be a "Natural" to think of dressing such a bloom. "Bring the roughest bloom you can find, so long as there is plenty of stuff in it," said Ben, and I thought it would be better that he chose for himself. Well, his choice was certainly a rough one, and I told him I could not conceive how he could make such a thing fit for exhibition. But he did. He carefully picked out every small, rough edged, or otherwise imperfect petal, then gently turned down the segments of the calyx, and proceeded to arrange the petals left. The largest or guard petals were regularly placed on the circular card, and the minor ones made to regularly overlap them so that a perfect circle was formed, the central ones being raised so as to obtain the hemispherical form. "There," said Ben, "there is some credit in dressing such a thing as that," and it was really beautiful. My first lesson was a revelation. I began to practice, and spent many an hour over the blooms, until I began to flatter myself that at last I could compete with some chance of success. But I was mistaken, for I could not find in my heart to cull out the small petals which seemed to me designed for filling out the centres and so form densely double blooms. I must find a place for every part as Nature intended, and while in so doing I did satisfy my own conscience, I did not satisfy the judges. I might have got an expert to dress my blooms for me, but I did not consider that that would be honest. If the judges are guided in their decisions by the dressing, then the dresser should share the honour, and the legend on the show cards should run—"Grown by Mr. A. and dressed by Mr. B.," or "grown by Mr. A., dressed by Mr. B., and exhibited by Mr. C.," such combinations of talent not being unknown. There would be nothing unusual in this. We often read on the show cards at cattle shows—"Bred by Mr. A., and fed by the exhibitor, Mr. B." When an exhibitor dressed his own blooms he would simply say, "Grown and dressed by Mr. A.," and if he were successful would thus obtain additional glory.

I do not consider the practice right, and therefore do not now exhibit, and I think there must be many more like me. In any case certain it is that there are hundreds of growers of Carnations, and but very few exhibitors, and there must be some reason for this. Doubtless there are many gardeners who are skilful growers, but who have no knowledge of the art of dressing, and if they had, it may be that their fingers have not the delicacy of touch necessary for the manipulation of the tweezers. What I would suggest to this section of the community is that they should combine to raise a fund for a schedule of prizes for blooms placed on the table in their natural form as cut from the plants; and when such a Union is flormed, let there be consultation with the managers of flower shows in order to discover the most attractive way in which the blooms can be exhibited.

Our midland friends have made a successful attempt at reform, for which every lover of the Carnation must thank them, but still there is room for improvement in the manner in which the blooms are staged. I do not approve of the plan of showing them on long stalks, and in bunches placed in blacking bottles and pickle jars, but something more pleasing can surely be devised.—*William Wardill, Luton.*

Mr. Wardill has overlooked one insuperable difficulty in the way of showing flowers undressed as he suggests. The perfect bloom of "Favourite," which he has referred to, should have taught him this lesson—that Carnation flowers come so perfect, from the florists' point of view, at times that dressing is not required, while dressing can be so done that neither he nor anyone else can detect it, or prove that it has been done, so long as the dresser keeps his own counsel. What therefore is the use of striving after the unattainable, or of making laws that cannot be enforced.—Ed.]

Gardeners' Improvement Associations.

Manchester, *January 19th.*—At this meeting, at at which Mr. Bruce Findlay presided, Mr. E. Griffiths Hughes read a paper in reference to some of the medicinal plants at the Botanical Gardens, Old Trafford. Specimens of the plants were exhibited at the meeting. In the course of his remarks Mr. Hughes said that a collection of plants for educational purposes is not only an advantage but a necessity in such a place as Manchester, where so many young men are trained for the professions. The Botanical Gardens should be supported as an educational establishment, and take its rank amongst the first of the kind in the United Kingdom. He proceeded: It has often struck me when going through the houses where these plants are located that they were very much like other creatures kept in captivity, stunted in their growth, and as it were pining for their natural atmosphere and freedom. This is very noticeable when we compare the specimens whose roots are confined in a pot, with those which are planted out in the large tropical house, especially the Sarsaparilla plant and the Eucalyptus. There you can see these glorious specimens indicating what the plants are like when growing in their native soil. It may not always be possible to give sufficient room for the cultivation of tropical or subtropical plants in order to see them in their natural size, yet where room can be made, it is of great advantage, as it enables the plant to develop its roots and branches, so that its full importance can be noticed and its value realised, and this brings to the consideration of the difference which exists in the value of medicinal plants of the same order which grow in different localities. This may be accounted for in several ways, but we need not go further for a substantial reason than that plants, like all other living objects, thrive better in certain localities than they do in others. And as they cannot move about to seek the more favoured spots they do the best they can, and accumulate much or little of the properties which make them famous as medicinal agents for the cure of diseases in man.

The same thing happens also with flowering plants, as in certain countries where the climate is suitable a much larger quantity of perfume is accumulated than in plants of the same species cultivated in a less favoured locality. There is another point which I should like to touch upon respecting the accumulation of the medicinal properties in certain plants. It is known to most of you that a very large number of them come from the East, and as the physicians of old had no correct method of ascertaining the exact quantity of the medicinal properties in any plant, they exercised very great care in the ripening of such as were cultivated for the purpose of medicine, and always had them gathered when certain planets were in the ascendant. This we can well understand, as the study of astrology would lead them to place important plants as well as important events under the direct influence of the stars. In our time, however, matters have altered as regards the planets, and we no longer trust to the influence of the stars, but we go a much surer way, for we take the plants, or any given portion of them, and by means of another science, much more certain in its method of procedure, we extract from each the quantity it contains, and calculate the value of the plants by the quantity of alkaloids which can be found in them. Thus the chemist of the present day can calculate to a certainty the medicinal value of any specimen which may be brought to him, while the herbalist still follows in the way of the ancients, and if he will only make use of such plants as are known to contain non-poisonous ingredients, he may go on to the end, for whether strong or weak little harm will follow.

The Chairman said with regard to the collection of plants at Old Trafford it had been arranged that Professor Weiss should give a series of lectures, illustrated by living specimens and diagrams. It was hoped that these would be the forerunner of something useful being done from an educational point of view in reference to the study of plants. Messrs. Robert Tait, W. B. Upjohn, Thomas Rogers, and W. Plant, each said a few words in the conversation which followed the reading of the paper.

Woolton, *January 19th.*—The fourth annual meeting of this association was held on the above date at the Mechanics' Institute, Mr. B. Cromwell, of Cleveley, presiding. The report presented by the committee proclaimed a very healthy state of affairs. The lectures in connection with the Lancashire and Cheshire Association for the extension of university teaching included two courses, that in the spring by Mr. R. J. Harvey Gibson, M.A., lecturer on botany at the Liverpool University College, on "The Geographical distribution of Plants," and the autumn course by Dr. T. L. Bailey, University College, Liverpool, on "The Chemistry of Soils and Manures." The competition for the prizes offered for essays proved to be generally keen, and the papers sent in were highly spoken of by the adjudicators. The successful essayists were Messrs. W. Disley, on "Mushrooms"; A. Rowlands, on "Hardy plants suitable for cottage gardens"; H. Corlett (first), and J. J. Craven (second), on 'The Principles of Heating." The "Floral Concert" produced a balance of £12, which was equally divided between the Gardeners' Royal Benevolent Institution and the Gardeners' Orphan Fund. The library, which has received several additions by gifts and purchase, has been well used during the year. The statement of accounts showed income:—Concert, £25 6s. 10d.; extension lectures, £31 11s.; general account, £8 12s. 2d.; and expenditure:—Concert expenses, £13 6s. 10d.; gardening charities, £12; lectures, £31 11s.; general, including purchase of books, £5 2s. 11d., leaving a balance in the treasurer's hands of £3 9s. 3d. The election of officers resulted as follows:—Treasurer, Mr R. G. Waterman; secretary, Mr. W. Disley; librarian, Mr. T. R. Burrows. It was announced that a spring course of lectures on "The History of Botany and Horticulture" would be delivered by Mr. R. J. Harvey Gibson, M.A.

THE VEGETABLE GARDEN.

Parsnips.

The seeds of this vegetable should be about the first to be sown in the open ground. Of course this must be regulated by the state of the soil. A piece of ground should be selected that has been deeply trenched in the autumn; the seed must be sown thinly in drills, from 18 in. to 2 ft. apart, depending upon the size of roots required. If for exhibition plenty of room must be given, and the holes must be specially prepared with an iron bar and filled with sifted soil, or perfect roots cannot be expected. As to varieties The Student is the best for general purposes.

Shallots.

These may be planted as soon as the soil is in a good working state, in drills about 15 in. apart and 9 in. apart in the rows. Plant near early Peas or Potatos, as the ground will then all be cleared at the same time for the next crop.

Cabbage.

If the frost has killed or injured the autumn Cabbage plants, a box or two of some early variety should be sown at once in heat. Do not sow thickly, and take care that the plants do not become drawn. Ellam's Early is as good as any for this purpose. As soon as the seedlings show the rough leaf, prick them out in a frame or pit, and when large enough plant out on a well-manured piece of ground.

General Work.

Keep a sharp eye on all seedling plants of Cauliflowers, Lettuce, &c., to see that they do not get drawn or damp off. All these things will be doubly valuable after the late protracted frost, which I fear has done great mischief to many vegetables; some varieties of Brocoli have suffered severely. Those who require early Celery should sow a pinch of seed at once in pans or boxes.—*G. H. S.*

FLORICULTURE.

The Auricula in January and February.

THE Auricula is showing signs already of gathering itself together for the active season immediately before it. As soon as fine weather with a heightening temperature follows close upon the shortest day, the pulse of life in the plant throbs more rapidly, for its season of bud and blossom is at hand. By the time the month of February is half way through there will be a noticeable change of habit and size, and its spring life, which is its most active as then it is that the plant puts forth its supreme effort. If plants which have been wintered in cold houses or frames, and laid by captives of the frost for days, are showing a forward movement, those which have had about them during the winter season an atmosphere of artificial heat will be even more advanced. But under whichever of these conditions the plants may have been wintered, it is a time when the plants need and should have much attention.

Such points—very important any one of them—as cleanliness in the plants, the destruction of any green fly which have survived the winter, the sweetness of the surface soil, which should be stirred if no top-dressing is added as was an old custom, cleanliness on the pots, the sweetness of the surroundings, these and other matters have influence upon the well being of the plants. My own plants being in a cold house without the addition of fire heat, but with air on the southern side always on, were allowed to go pretty dry, but since the mild weather came in they were passed in review and made as clean as possible, and then thoroughly watered with slightly chilled water. The Auricula will bear a good deal of dryness at the root during mid-winter, care being taken the fine fibrous roots do not become shrivelled; there is much moisture in the atmosphere, and the plants appear to absorb it through their leaves. Some care is required in watering, as it would be unwise to give it when frost threatens. When water is applied at this time of the year, and there is no help from fire heat, watering should be done between eleven and twelve o'clock, when solar heat is at its fullest; and this admits of the shelves or material upon which the plants are standing, drying up somewhat by dusk.

The roots of any plant that does not appear to be doing well, should be at once examined. It may be the drainage is imperfect, or that the rot which affects all collections, however choice and well cared for, may have commenced at the base of the root, and then it is as well to shake the soil from the roots and repot it. It may spoil the spring bloom, but save the plant.

Though I have already referred to watering, I return to it again for the purpose of pointing out that plants which were allowed to grow dry at the roots should be watered thoroughly as soon as it is safe and seasonable to do so. Water may be given to a plant which instead of finding its way to the centre of the ball may run down between its circumference and the inner side of the pot, through the shrinking of the soil which happens in time of drought. One can soon tell if the roots are in dry soil by the lightness in weight and by the hollow ringing of the contents when tapped, and all such in my own collection when they have been cleaned are stood in slightly chilled water, nearly up to the rims of the pots for a short time, and then allowed to drain freely before returned to the stage. By adopting this process the answer can be made sure, the ball of soil is thoroughly saturated and the newly active roots are finding about them conditions favourable to increased development.

Young stocks may soon be repotted with advantage. When put into fresh sweet soil, they feel the inspiration of the growing spring time, and are able to avail themselves of the impetus the opening spring time affords them. Small plants, with proper care, can be pushed on into large ones by the end of summer, and will give promise of a good head of bloom in the following spring. It is bad when, through want of proper care, young stock goes back, instead of along the line of free and healthy development.

Seedling Auriculas.

I AM a strong advocate for sowing seeds of Auriculas as soon as ripe, as valuable time is gained, though I sow both in autumn and spring, as opportunity offers. About the middle of August I made a sowing of some choice seeds in a shallow wooden box which was placed upon a shelf of the greenhouse, and covered with a square of glass. Some of the seeds quickly germinated, and as it is popularly held by Auricula raisers that the early seedlings are frequently the most inferior in point of quality, as well as of the strongest growth, it is an advantage to get such plants into size and out of the way to make room for the products of slower germination. As soon as warmer weather comes these forward plants will grow rapidly into size, and then they will be pricked off into other boxes, thus making room for the successional plants. I am certain it is a great advantage for the small seedlings as well as the young stock to catch the moving influences of the day, and they can do this when seeds are sown in August. It will be days before any shading is needed from the sun; and the little seedlings respond cheerfully to the warmth they derive from its beams. Some of the romance of plant culture comes into the process of seedling raising—the raiser leads on the tiny subjects from stage to stage until they bloom; and whether it be satisfactory or the reverse, there is always the enjoyment of pleasant hopeful anticipation that is always an effectual spur to the grower.—*R. D.*

Hybrid Violas.

IN reference to Mr. McLeod's note on this subject, I hope he will be able to give the information you ask for as to the species of Viola that was used in the production of Violetta. Failing him, will the raiser kindly give the information. Being the raiser of Viola Goldfinch, it may interest some of your readers if I state that the first break was a sport from Ardwell Gem, but Goldfinch proper came from seed twelve years ago. It had a narrow edge. For six seasons about twenty plants were grown, but not one fertile seed was obtained from them. Having a strong-growing dark seedling which I observed the bees appeared to be very fond of, the next season I planted them together in mixture, in round groups of eight, so that the flowers opened closely together. The bees did not seem to distinguish the different colours, but generally stayed a much shorter time on the yellow blooms, as if there was nothing there for them. Had Goldfinch been an average fertile variety there would have been a thousand good seeds, but only eleven germinated. Four came selfs, and the remaining selfs more or less edged. Such is the pedigree of Goldfinch.—*J. Baxter, Daldowie.*

WITH reference to your remarks regarding the parentage of Violetta, I write to say that I have asked Dr. Stuart to give me the particulars, and he replies as follows:—"Violetta is a true cross from the Pansy Blue King and Viola cornuta, a weedy plant much used for edgings many years ago. It is not from the first cross but after many years seeding, and Violetta was a chance find in 1887, on a bed of seedlings sown broadcast from seed of the strain just alluded to. The spur so observable soon shows its relationship to the original Viola cornuta."—*Geo. McLeod, Chingford.*

Striped Violas.

I NOTICE that some of the seed trade profess to sell seeds of Viola that comes striped. I should be grateful to any of your readers who may have given the seed a trial, if they will state what percentage came striped with them. Viola York and Lancaster, striped, originated here five years ago. I did all I knew to make about thirty plants produce seed, and raised 500 plants, and not one was lost by snails or accidents until they flowered, but to my intense disappointment only three came faintly striped.—*J. Baxter, Daldowie.*

Violas in Pots.

FOLLOWING up the correspondence of the last few weeks, I received from Mr. George Steel, Heatherslaw, N.B., on January 11th, blooms of seedlings from Violetta which were very charming and sweet scented. Mr. Steel remarks:—"The blooms sent will prove your remarks in THE GARDENING WORLD lately regarding winter bloom. I would have sent you a bunch, but my friends are always calling to see them." I was quite charmed with them.—*Geo. McLeod.*

WASTE PAPER makes a good thing to banish rats from buildings. Soak the paper in strong oxalic acid in solutions and then, while wet, ram it tightly into the chinks through which the rats travel. The rats will never come near the place again.—*Paper Record.*

PLANTS RECENTLY CERTIFICATED.

THE awards mentioned hereunder were made at the meeting of the Royal Horticultural Society on the 17th inst.

BEGONIA GLOIRE DE SCEAUX.—Although not a new Begonia, the group of it shown by Leopold de Rothschild, Esq. (gardener, Mr. J. Jennings), Ascott Park, Leighton Buzzard, consisted of plants so grandly grown that many visitors imagined they had never seen it before, and considered it a new thing. It is a continental hybrid, and has been in this country for a number of years, but has we believe never been shown to such perfection and in such quantity anywhere before. It is usually grown in stoves amongst mixed collections of plants, and has never, therefore, a chance of developing in proper form. The leaves are of great size, roundly cordate, undulate, rugose, wavy and toothed at the margins, bronzy olive-green above, and purple beneath. Flowers are freely produced in cymes from the axils of the leaves, are thrown well above the latter, rose-coloured in bud, and pink when fully expanded. They are also of appreciable size, and handsome as well as the foliage. A First-class Certificate was awarded it, together with a Silver Banksian Medal for the group. We now expect that other growers will follow the example of Mr. Jennings in the culture of this fine winter-flowering Begonia.

PTERIS SERRULATA GIGANTEA.—This differs from the type chiefly in its much greater size. The arching fronds vary from 2 ft. to 3½ ft. in length, and are proportionately stout, with more leathery pinnæ. It would prove serviceable to those who require large specimens for furnishing large conservatories. An Award of Merit was accorded it when shown by Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton.

CHRYSANTHEMUM PINK MRS. E. D. ADAMS.—The blooms of this variety as shown measured about 6 in. in diameter without spreading out the florets in any way. All the outer ones droop considerably, making the flower appear of great depth; they are also more or less twisted, while the inner ones are incurved and short, but well developed. In this latter respect the bloom differs from the ordinary Mrs. E. D. Adams which has a hard centre, remaining of a greenish black colour for a long time. It also differs in colour, being pink, and paler towards the centre, where the younger florets are yellowish; those of the type are white. Both belong to the Japanese section. Award of merit.

CHRYSANTHEMUM NEW YEAR'S GIFT. — This variety also belongs to the Japanese section, but is entirely different in form, being flat-topped, with broad flat florets of a pale creamy or sulphur white. The outer florets are longest, and the central ones relatively short. It is an English seedling, and would evidently prove useful as a late variety for market work, as the blooms are not heavy, and the stalks are easily able to support them. The blooms vary in diameter from 4 in. to 6 in., the apparent great size being due to the stiff and spread-out character of the florets. An Award of Merit was accorded it. Both this and the preceding variety were shown by Mr. Robert Owen, Castle Hill, Maidenhead.

FRUIT NOTES.

APPLE BLUE PEARMAIN.

THE fruit of this Apple is large or above the medium size, globose or slightly angled, especially round the eye, which is closed and seated in a moderately deep cavity. The skin is yellowish-green at this season, of the year, heavily suffused, and splashed or striped with bronzy-red or crimson. Earlier in the season when the skin is quite fresh, it is suffused with a bluish bloom. The flesh is sweet, but not brisk, and is now considered to be of very good quality, but handsome in appearance, and may be used either for culinary or dessert purposes. It is still in a good condition, and may be considered a late keeping variety. It was exhibited at the Apple and Pear Conference at Chiswick, in 1888, and had been grown in the society's garden there; it was brought up to the Fruit Committee again on the 17th inst. from the same place, and was accorded an Award of Merit by the Fruit Committee. It originated in America.

NEW CHRYSANTHEMUMS.

Among the raisers of seedling Chrysanthemums in the United States, whence have come to us so many good things during the last few years, the young firm of Pitcher & Manda, of Short Hills, New Jersey, have very rapidly come to the front. As our American correspondent recently told us (p. 275), their stock of seedlings last autumn numbered 35,000, and from such a number it is not to be wondered at that they can send out so many novelties. This season the number to be sent out is, we understand, about fifty, and to-day we give an illustration of one, of which blooms were furnished to us after the Chrysanthemum season had well advanced, and which was of no ordinary merit. This has been named Primrose League. From the earliest stages of its growth onwards the buds of this variety give promise of something good. As they begin to expand they appear of a primrose-yellow colour, and retain that hue till the young bloom has attained a considerable size. Then the outer florets change to creamy-white, with the centre primrose-yellow. At last the fully-expanded bloom is almost pure white, with a yellow tint in the centre. At this stage, when it has been well grown, it measures 6 in. to 7 in. wide in the natural position, without spreading out the florets, and 4 in. to 4½ in. in depth. This latter fact would indicate that if the florets were spread out as is occasionally done, the bloom would measure considerably larger. The outer and longest florets are drooping, the middle ones spreading, and the upper ones ascending, and all are of moderate width. The variety therefore belongs to the Japanese section, and is bound to make its appearance on many exhibition stands in November next. Large as the blooms were last autumn when exhibited in public, we should expect to see them even larger when placed under the care of specialists who grow for exhibition. It was exhibited at the meeting of the National Chrysanthemum Society, on the 23rd December last, when it received a First-class Certificate.

We have much pleasure also in including in our columns this week (p. 337) a portrait of the European representative of the firm, Mr. A. J. Manda, who has settled down among us at Hextable, near Swanley. Mr. Manda is a younger brother of the Mr. W. A. Manda, who is a partner in the Short Hills firm, and is a young man who from commencing to work early has acquired a large measure of horticultural experience and keen business capacity. He was born in Bohemia in 1870, and commenced working in a nursery at the age of thirteen. Two years later he came to England, and was for about twelve months in the Broxbourne

Chrysanthemum, Primrose League.

Nursery of Messrs. Paul & Son. He then went out to the Cambridge Botanic Garden, Massachusetts, where his brother was curator, he having succeeded in that capacity, Mr. William Falconer, now of Glen Cove, and who in the seventies was well known in London as a horticultural journalist. At Cambridge Mr. Manda stayed until the firm of Pitcher & Manda was founded in 1888, when he went to Short Hills to take charge of the herbaceous department, but came over here with the stock of Chrysanthemum Mrs. Alpheus Hardy, in January, 1889, and started the business he is now carrying on, first at Dulwich, and now at Hextable, with every prospect of success.

GARDENING MISCELLANY.

THE R.H.S. FLORAL COMMITTEE AWARDS.

I do not care to criticise the acts of the Royal Horticultural Society's Committees if to be avoided, but I must say that I was surprised at one of the decisions of the Floral Committee on the 17th inst. There could be no question whatever but that the most remarkable and meritorious plant exhibit of the winter was Mr. Jennings' splendid group of Begonia Gloire de Sceaux. True, the plant is not new, but at least no one has done it in such remarkable form as Mr. Leopold de Rothschild's gardener, and as seen it makes the very finest flowering and foliaged pot plant for winter work that has been seen for a long time. It was not some two or three plants, but a splendid group of a score, and all superbly grown and bloomed. It was a case for a Gold Medal if the society had such an award to make; as it was the committee gave the group a Silver Banksian Medal. But then, to my surprise, a very common-place group of late cut Chrysanthemums got a similar award. They were very fair flowers for the time of year, but not at all equal to what has been seen from Knebworth and elsewhere; not comparable for quality to some blooms staged by Mr. Owen, and literally miles less meritorious than were the Begonias. Whatsoever of honour the committee proposed to pay to Mr. Jennings for his splendid lot of plants was entirely discounted by its other very unfortunate award.—*A Fellow.*

BOTTLED GRAPES FROZEN.

Having cut some late keeping grapes and bottled them in the usual way, we put them into an unheated fruit room. During the late severe weather the water in the bottles was frozen into blocks of ice for a fortnight, but the grapes look none the worse for it at present. Will it injure their keeping qualities? *J. R. W.* [If the water was frozen, the berries were frozen too, and we should expect decomposition to set in quickly. We have had no experience of frozen grapes, and should be obliged if our correspondent would let us know the ultimate result.—Ed.]

AZALEA MRS. STOGDON.

Flowers of a very beautiful Azalea of this name were left with us the other day. They are single, pure white, and even at this early period of the year measure a little under 3 in. in diameter. The segments are very broad, much imbricated and undulated or crisped round the margin, like a regal Pelargonium of the Madame Thibaut type, only they are pure white. Some connoisseurs and florists like flowers of evenly rounded outline and having the segments flat; but we know from the classes of various plants which have been created under the title of decorative, that the masses of the people delight in something of free and easy outline, independent of the florists' notion to the contrary. The foldings or undulations give a richness of appearance to the flower that could hardly fail to be appreciated. The leaves accompanying the flower were of a rich dark green, and leathery in character.

CALLIPSYCHE AURANTIACA.

The species of Callipsyche are very curious plants and possess a certain amount of attraction, but lack in ornament considerably on account of the want of leaves. The latter are not fully developed till June, although the flowers are produced in January or February. Some plants flowering recently in the Begonia house at Kew had scapes about 20 in. high, bearing about six flowers in an umbel. The flowers are deeply six-parted, and similar in form and colour to those of Hemerocallis flava, only considerably smaller, and ultimately they fade almost to white at the margin as they are going past their best. One of the most striking features of all the species of Callipsyche is the length of their stamens. In the plant under notice they are pale yellow, and three times as long as the perianth segments; the anthers are brown. The leaves when produced in summer are oblong and stalked, with a cordate oblong lamina somewhat similar to those of a Eucharis, Eurycles, or Griffinia. The species comes from the Andes of Ecuador, where it grows at an elevation of 8000 ft., and requires the temperature of an intermediate house.

BROMELIA FASTUOSA.

This may be reckoned one of the giants of the family, although it is exceeded in bulk and stature by several others, some of which are in cultivation and others not. It is too large, however, to make its way in gardens generally and too spiny to permit of easy handling. The leaves are linear, grooved, and 3 ft. to 4 ft. long, with spines on the edges directed forward and incurved. The central flower spike is only 2 ft. long, and therefore more easily accommodated. For some time past a large plant of it has been fruiting in the Victoria house at Kew. The flowers are purple and scarlet, but the fruits are more striking on account of their large size, great numbers, and rich yellow colour. The pannicle of berry-like fruits is spindle-shaped, bearing ellipsoid fruits that vary in size from that of a small to a large Gooseberry. They look tempting enough to be edible. It has several names, such as B. sceptrum and B. antiacantha.

ARDISIA TRIMACULATA.

The general habit of this plant is similar to that of A. mamillata, but the leaves are not liable to the same objection of having a dense coating of coarse, bristly hairs upon them. In A. trimaculata the leaves are oblong, revolute at the margin, deeply channelled along the centre, and of a dark green. Like A. mamillata it is a very dwarf grower, with stems only 2 in. to 3 in. high, terminating in numerous short shoots bearing clusters or umbels of bright red berries of good size. It is a recent introduction from China, and may be seen fruiting in the stove at Kew.

CYRTANTHUS CARNEUS.

This appears to have been introduced to cultivation many years ago, but apparently has never been extensively cultivated in this country. The bulb is of large size with a long neck, and pale brown outer scales. Leaves are not produced till after the flowers are over. The scape rises through the long neck and reaches a height of 2½ ft., bearing a drooping umbel of flowers about 2½ in. long. They are cylindrical and slightly widened upwards to the short six-lobed lamina, and are flesh coloured, with the tube shaded with yellow and the segments edged with rose. It is a native of the southern provinces of Cape Colony, and is allied to another species (C. obliquus) from the same district. A plant may be seen flowering in the Begonia house at Kew. The chief objection to it with gardeners is the want of foliage when in bloom.

ISOLOMA HYPOCYRTIFLORUM.

A considerable number of the members of the order Gesneraceæ receive only a fitful attention in the hothouses of this country. Many of them of course are only to be looked upon as tropical weeds, but others are really showy and useful plants. Some flowers of the plant under notice have been sent us by Captain Robert Twiss, Birdhill House, Birdhill, Limerick, and which, although not so showy as some of the family we possess, yet it must be a useful decorative plant seeing that it flowers with Captain Twiss for ten out of twelve months of the year. The flowers are produced in clusters of four to six in the axil of each leaf as the plant elongates, so that the stems are always well furnished with bloom, in fact are one mass of bloom, according to our correspondent. The flowers themselves are orange-red, tubular, swollen in the middle and much contracted under the five-lobed and small lamina, which is densely spotted with black on a yellow ground. The corolla is velvety and the reflexed calyx even more so. The leaves also are velvety and emerald green. The species was introduced from Ecuador in 1866 and is figured in the *Botanical Magazine*, *t.* 5,655, under the name of Gloxinia hypocyrtiflora.

TREES IN FRENCH CITIES.

The United States Consul at Bordeaux, in a recent report, says that one of the beauties of the larger French cities, and second only to their edifices and monuments, are the trees. The almost interminable vistas of chestnuts and acacias stretching along the broad avenues as far as the eye can reach, their bending branches almost touching one another in an endless arch of verdure, form not only a delightful perspective for the eye, but serve to add beauty to cities already beautiful. This, however, is not the result of nature's handiwork alone, for science and art have lent their aid. The planting, as well as the maintenance, of trees in French cities is an item of no little importance in the annual budget prepared by the municipal council, which does not look upon their preservation as of less consequence than the repairing of the roadways or the lighting of the streets. The climate and soil of France are not suited to the nurture and growth of every tree, so those chosen to line the avenues and boulevards of the cities must be selected with no little judgment. Chestnuts thrive wonderfully; they grow well on a not too rich or generous soil, but require frequent watering at the roots. Elms are favourites with the professional landscape gardeners, though they are, unfortunately, extremely susceptible to destruction by worms and insects. Maples grow slowly, but are hardy and strong. Add to these the Acacia, the Linden, the Sycamore, the Oak, and the Button-wood, and the list of trees that live and thrive to advantage in the great continental cities is nearly complete. France imports a great many of her fruit as well as shade trees, and the utmost care is taken where they shall be planted. Handfuls of earth from every place where a tree is to placed are carefully examined and analysed. Upon ground rich and moist the trees from the United States grow best. A sandy soil is most favourable to resinous trunks, and so on. In squares and parks, though more especially along the principal thoroughfares, where the trees are planted about 20 ft. apart, particular attention is given to the replacing of the dead or dying by healthy trees of the same species. In this way the line of perspective is never broken, nor is the eye repelled by the absence of a single trunk. One reason for the great care which the French bestow upon their arteries of traffic is that the nation spends, whenever the weather permits, the best part of its leisure time in the open air.—*The Surveyor.*

ORCHID NOTES AND GLEANINGS.

Cattleya Percivaliana Wellsiana.

From the first, C. Percivaliana was known to be variable particularly in the hues of the lip, but it is now evident that some of the forms are so distinct as to be worthy of a special name. The other day we received four flowers, all quite distinct, from Messrs. Pitcher & Manda, of the United States Nursery, Hextable, Swanley, Kent. The subject of this note was the most interesting because an albino. The sepals and petals were pure white, and the lip tended in that direction. What should have been crimson-purple shaded with maroon in the centre was reduced to a bronzy orange, extending from the middle of the lamina to the base of the tube. The upper portion was blush, shaded with rose over a small area close to the bronzy orange. The outside of the tube was yellowish and lilac at the margin. The flowers were fully as large as any of the others with a much undulated and crisped but widely expanded lamina, and altogether a showy and distinct thing. Another flower of fine form was a richly coloured one. The sepals and petals were rosy lilac like the type, but the lip was of a rich purple with a large maroon-crimson blotch, covering great part of the centre; below this was a forked and wedge-shaped, orange band, while all the interior and the side lobes were of a rich dark purple striated with white and yellow lines. The lip, on the whole, was of large size, undulated and reflexed rather than incurved all around the sides, and expanded for half way down the tube. A third variety had a long tube with a notably small, roundish, but rich crimson-purple lamina edged with lilac. The fourth had a long, narrow lamina to the lip, purple, deepening to crimson in the throat, then an orange blotch and bronzy crimson to the base with a broad, blush-

coloured margin. Accompanying the above were some flowers of Dendrobium nobile Sanderianum, with the sepals and petals of a deep rose purple, half way to the base. The lip was rounded, well formed, and highly coloured, especially the large, maroon-purple blotch at the base.

Cattleya labiata alba.

It is with great reluctance that I refer to this matter again. I assure M. Linden I did not know at the time I wrote who was the owner or the introducer of the white labiata that was shown at the Drill Hall on Dec. 13th last; and I further beg to assure him that I was equally surprised with him by my letter appearing at the same time as Mr. Hinde's, but it was a mere coincidence, as explained by the Editor. I can assure M. Linden, further, that we still have the identical plant in the identical teak basket, and with the same identical continental label that came to us as C. Warocqueana alba. It will flower again shortly, and I will exhibit it at the Drill Hall, where anyone interested in the matter may see it. I wanted it very much to turn out a white variety of labiata, and for that reason I placed it in a position to bring it, if possible, into bloom at the usual time of flowering of the autumn labiata; and although we have flowered C. Trianæ earlier than this, yet the plant in question will not flower for another two or three weeks. I have nothing whatever to do in this controversy with the natural habitat of the plant; all I maintain is that the plant we have here is not the autumn-flowering labiata alba, but beyond all doubt Cattleya Triana alba.—*T. W. Bond, Elstead, Godalming.*

In reference to M. Linden's statement that our plant has been in cultivation more than two years, Mr. Wells thinks it only fair to Mr. Sander, the importer, to state that any man who knows Orchids can see that it has only made one bulb in this country, and that is the one which flowered for the first time when Mr. Sander exhibited it for us at the Drill Hall. It was the property of Mr. Wells then and before it was shown, and if anyone is sufficiently interested in the matter to wish to see it, Mr. Wells will be pleased at any time to show it to them.—*R. Hinde, Gardener, Broomfield, Sale, Cheshire.*

[Our descriptive notes of the new Orchids certificated by the Orchid Committee last week, are unavoidably held over until next week.]

SOCIETIES.

Brighton and Sussex New Horticultural, *January 19th.*—The annual meeting of this vigorous young society was held on the above date under circumstances of an unusual though exceedingly gratifying character. The retiring president, C. W. Catt, Esq., occupied the chair, and the special business feature of the meeting was the amalgamation of the Brighton and Hove Chrysanthemum Society with the new society, which was unanimously resolved upon.—After the alteration of the rules, Mr. Miller, who was chairman of the Chrysanthemum Society, observed that during the ten years in which the society had been carried on it had been a great success. When they wound up their accounts last year they had a balance in hand of £142 15s. 5d., out of which they granted £10 to the Gardeners' Orphan Fund, and a sum of £20 to be given in testimonials to various officers of the society, leaving a balance of £112 15s. 5d. to be handed over to the new society.—On behalf of the "new" society, the chairman tendered Mr. Miller and his committee a hearty vote of thanks for the sum which they had handed over. The "new" society had held two shows, and had a deficit of £28 8s. 4d., but with the balance which had been handed over to them they would be able to start the year with £84 7s. 1d. to the good.—The vote was unanimously agreed to, and Mr. Miller briefly acknowledged the compliment on behalf of the committee of the old society.

The next business was the election of officers.—Mr. T. Billing, in proposing the election of Mr. C. W. Catt as president for the ensuing year, said they could not have a better president than that gentleman, who had the interests of the society at heart, and gave his personal attention to it. They all knew how interested Mr. Catt was in horticulture, and they could not find a better man to fill the presidential chair if they searched throughout the town of Brighton and neighbourhood.—Mr. G. Bunny seconded the motion, which was carried by acclamation.—Mr. G. King next proposed that Mr. W. Balchin, jun., should be elected chairman of the society.—In seconding, Mr. Lewis observed that Mr. Balchin had always been indefatigable in working on behalf of the society, and he had been most regular in his attendance at the meetings.—Mr. T. Spottiswood supported the motion, which was carried *nem. con.*—The President proposed the election of Mr. R. Miller as vice-chairman. They all were aware of the way in which he steered the Chrysanthemum Society to such a successful ending.—Mr. Thorpe seconded, and the proposition was unanimously agreed to.—Mr. W. Balchin, jun., then proposed that Mr. Billing be asked to fill the office of treasurer. He was an amateur gardener, and took a pride in every phase of horticulture. Moreover, during the past year, in which he filled that office, he met the deficit on their account.—Mr. G. Miles seconded the proposition, to which unanimous assent was given.—Mr. G. Bunny proposed, and Mr. Miller seconded, the appointment of Mr. Mark Longhurst as secretary, and the proposition was carried unanimously.

A committee of twelve gardeners and three amateurs was next elected by ballot, the names of the successful candidates being as follows:—Gardeners, Messrs. J. Bunney, Turner, E. Bunney, Cheal, Spottiswood, Richardson, Fry, House, Miles, Netley, Wickham, Hill. Amateurs: Messrs. Coleman, Lewis, and Thorpe.

Obituary.

Death of Mr. J. Sheppard.—There are many hundreds of gardeners who will have learned of the untimely death on the 16th inst. of this excellent gardener with deep concern and regret. It is distressing enough that a man should be removed at so early an age as sixty, for practically it is early for many; but that distress is much increased on learning that so terrible a disease as cancer in the stomach was the cause of death. There is something to add to this distress in the knowledge of the sufferer that his end was so near. A good honest, straightforward, and yet we might almost say old-fashioned gardener was Mr. Sheppard. He had been associated with Woolverstone for the unusually long period of thirty years, and so long a residence in one place, and that place so isolated as Woolverstone on the banks of the Orwell between Ipswich and Harwich, hardly helped to render a gardener broad or modern in his methods or ideas. Yet our old friend, for we enjoyed the pleasure of his acquaintance for nearly a quarter of a century, was in no sense narrow or bigoted in his opinions. If sometimes a little suspicious of new ideas, he yet regarded them as worthy of all consideration because so appreciative of what is inevitable in gardening progress. Mr. Sheppard was one of the oldest contributors to periodical gardening literature, and his writings were always characteristically plain, sound common sense. He was a good all round man, who strove to have as full a knowledge as could be obtained of every department of gardening. Men who spend the best years of their lives in one place are apt to find themselves in time somewhat behind the age, and that there is much going on in the world in a garden sense from which they are debarred. On the other hand men who are less isolated and have frequent opportunities of attending exhibitions or garden gatherings have openings to obtain knowledge of contemporary facts, such as give them undoubted advantages. Our sympathies therefore rather lie with the isolated man who finds it harder work to keep abreast of the times, and who in doing his best to that end merits our warmest regard and admiration.

Mr. Sheppard's earliest experiences in gardening were gained in the nurseries of Messrs. Garroway & Co., at Durdham Down, near Bristol, and in the gardens at Longleat and Bowood. At the latter place he had the great advantage of serving as foreman under Mr. Spencer, one of the most accomplished gardeners of his day, and who was for some time one of the proprietors and conductors of the old *Florist and Pomologist.* As was to be expected from such a training Mr. Sheppard was an excellent fruit grower, and a good pomologist, and his services were in frequent request as a judge at horticultural shows in the Eastern Counties. During his career at Woolverstone he carried out many improvements, including the planning and planting of the grounds surrounding the Model Dairy, which are a very pleasing feature of the place. The kitchen and flower gardens were always models of forethought and good management. Mr. Sheppard was one of the first to advocate the extension system in the culture of young trained fruit trees, and the gardens at Woolverstone contain many examples of his skill. Those who have had the pleasure of seeing the beautiful conservatory attached to the mansion will not soon forget the specimen Camellias which it contains, and which cannot be surpassed. A very pleasing feature in Mr. Sheppard's character was the warm interest he took in every young man who was faithful in duty to him, and many rare good gardeners he has turnedout.

WHAT TO DO IN THE GARDEN.

The Stove.—No advantage will be gained by raising the night temperature at this early period of the year. The days do indeed begin to lengthen, but the sky is not yet very clear, and we cannot yet reckon upon much sunshine. Indeed during the prevalence of cold and frosty weather it would be more advantageous to the plants if the temperature were allowed to drop a few degrees below 60° rather than press the boiler too hard. As a result of much firing there may already be an increase of thrips or red spider, especially near the hot-water pipes. Fumigation will destroy the former, and the latter will be kept in check by occasionally syringing the plants with water taken from a tank in which a bag of soot is kept.

Gymnogrammes.—The so-called golden and silver Ferns should be kept in the driest and warmest parts of the stove, and not wetted with the syringe, otherwise many of them will damp off before the return of more genial weather, and the resumption of growth. Avoid removing green fronds from the plants, even if not very clean, as they serve to keep up the vigour of the crowns till fresh growth has been made.

Adiantums.—Where Maidenhair fronds are largely used in a cut state for mixing with flowers, the old plants, or a part of them, may be turned out and repotted. Large pieces may be broken up and put in smaller sized pots. This has generally been found the best practice with A. Farleyense, that is, when large crowns get in a bad way, to break them up. Formerly this class of Ferns was mostly potted in peat; good fibrous loam in well-drained pots gives better results and more durable fronds.

Statices.—Large plants of Statice profusa, and other species and garden varieties, are useful for exhibition purposes, but smaller pieces are more serviceable for greenhouse and conservatory work. For this purpose a few plants should be propagated annually from cuttings, and grown on to keep up a stock of vigorous young plants. Place the old plants in a moderately warm house for a short time previously to the taking of the cuttings, and the latter will root all the more freely.

Bouvardias.—Where plants are wanted to flower early a batch of cuttings should be put into the propagating frame at once, kept rather close and moist to induce rooting. They will be ready to grow away freely when the weather becomes warm in spring, and should be encouraged to become bushy by pinching in the early stages.

Lachenalias.—Some of the earliest batches of Lachenalias are already in flower, but later kinds or batches are only showing their flower spikes, and should be encouraged to make vigorous growth by applications of liquid manure. Keep the pots as near the glass as possible, to prevent the foliage from getting drawn.

Vines.—With the continuance of severe weather, alternately freezing and thawing, it is unadvisable to force the early vines very hard. Even those that were started in November need not be kept higher than 55° at night, with a rise of 10° early in the day. When they come into flower keep the atmosphere a little warmer, and tap the rods about the middle of the day, or a little earlier, to assist in the dispersal the pollen.

Figs.—The difficulty with forced Figs at present is the impossibility of admitting a sufficient quantity of fresh air without reducing the temperature to a degree which would injuriously check the growth of the plants. If the plants are plunged in fermenting material a bottom heat of 75° to 80° will be necessary. While relatively rapid growth is being made a liberal supply of tepid water at the roots is impera-

tive; for if the roots are allowed to get dry, even for a short time, the results will be disastrous. Trees that are planted out will also require a liberal supply, although not necessarily so continuous as in the case of pot plants. Their root room should be restricted when planted out.

Orchard House.—Unless the fruit is really wanted early, a little care will have to be exercised in the amount of artificial heat given, so as not to excite the trees during the prevalence of wintry weather. Unheated houses will be in little danger at present, but whenever sunshine prevails, ventilation should be given to prevent the trees from coming into bloom till all danger from frost is over.

Forced Potatos.—It is a difficult matter to keep Potatos free from harm and in a healthy condition during long continued frosty weather. It is necessary to keep the frames heavily matted up at night; but it is equally essential for the welfare of the plants that they be exposed to light as long as possible each day to ensure sturdy growth and green foliage.

QUESTIONS AND ANSWERS.

Propagating Holly.—*McG.*: The common Holly is raised from berries in quantity by putting the latter between layers of soil for a year, and then sowing them in autumn when most of them will germinate. Some of the variegated varieties produce berries, but, of course, cannot be depended upon to reproduce themselves true to name or character in this way. They should be budded or grafted on the seedlings of the common one when they are four or five years old. Whip-grafting is most suitable for Hollies, and should be done in March. Budding may be performed in July when the bark rises easily. The variegated varieties are also propagated from cuttings of the young wood taken in autumn when the shoots have ripened, and firmly inserted in sandy soil on a shady border and covered with lights or hand-glasses. They root more or less freely the following spring. By cuttings, if you manage the operation successfully, you could raise a large quantity if you have plenty of old plants from which to get cuttings. Should you possess only a limited number of small plants, then budding would be the most practicable and quick way of raising a good stock of plants.

Planting Fruit Trees.—*Omega*: If you could not manage to plant in October and November, the next best time would be February and March, early in the latter month rather than late, particularly in the case of Peaches, Plums, Apricots and Cherries, which commence to grow early in spring. Apples start later, but in the south of England, even the latter must be planted by the end of March. The end of March, when all danger of severe frost is over, would be the most suitable time to plant Roses; but many growers would keep on planting the hardier kinds at any time provided the weather is open and the ground in suitable condition. We have also planted all through April and even in May when obliged to, but we would not do so by preference.

Herbaceous Plants.—*Omega*: Those that are perfectly hardy may be planted at any time after the stems die down in autumn till they have commenced to grow in spring. By planting in September, October and November, they get partly established long before spring, and are therefore better able to withstand the drought of summer in dry soils, than if they had been planted in spring. March and April are however very suitable months for transplanting, except in the case of those that start early into growth, and even then, if you use proper discretion, a great many of them may be transplanted with safety provided you water them if it should prove necessary till they get established. Tender things do best when put out in April, so as to get thoroughly established before winter.

Gumming of Peach Trees.—*Omega*: If the trees are very badly affected, they may be looked upon as incurable, and in that case we should replace them by healthy young ones. If the disease prevails only to a slight extent, then wash the affected parts occasionally in moist weather so as to wash away the fungus germs. Badly affected shoots might be cut away and burned, but this must be done with caution because severe pruning is one of the chief means by which the trees are made liable to attack, and opens up a way for the entrance of the spores. Should the trees be planted in very rich soil, they grow too strongly thus necessitating severe pruning, and sometimes the removal of large branches. By transplanting into poorer soil you will be able to check the exuberance of the trees and thereby encourage a slower but more healthy growth, and so greatly avoiding the causes that lead to gumming.

Cocoanut Fibre Refuse.—*G. L. S.*: Nurserymen and florists use Cocoanut fibre refuse largely for plunging plants in both under glass and out-of-doors, for mulching in summer, for covering plant staging with a view to maintaining a moist base for the pots to stand upon, and to some extent for mixing with sand, &c., for propagating, and for mixing with other things in making up composts for plants.

Winter Flowering Carnations.—*J. H. B., Lincoln.*: We cannot learn that any of them are in the trade, but will make further enquiries.

Pocket Book. — *McG.*: Not for sale, and of no use to you for the special purpose you indicate.

Cypripedium Dominyanum.—*Capt. Robert Twiss*: The flower you sent reached us in rather a dilapidated condition, so that we could hardly guess at the colours it possessed when fresh. The lip did indeed appear different from that of the type, but the pouch itself had become limp, dried up, and brown, excepting the portion close to the opening and in front. This was brown and would appear to have been so when still at its best. The infolded sides showed the characters you referred to best, being creamy-white with a shade of yellow across the middle. and marked there with an arching band of rich brown spots instead of rose. It would be interesting to keep a watch upon the crown which produced the sport in order to see whether it proves constant the next time it flowers. If so it would be worth the trouble, perhaps, of cultivating as a separate variety. For the reasons we stated above, we cannot pronounce more definitely upon it at present, but should like to see it again.

Plants Mentioned by Old Writers.—*Flos*: It would be impossible to say with certainty what bush was meant by the writer unless he gave a description of it. Many old writers ascribed remarkable properties to many plants simply because they did not understand them. The Butcher's Broom (Ruscus aculeatus) or some of the Brambles (Rubus) might have killed the other plants you mention, but there are many others which might have had the same effect to a greater or less extent, merely because they might be stronger growers than the plants they killed. They could do this simply by overshading the plants beneath them, or by appropriating all the food and moisture in the soil to themselves, thus starving the others. Flowers noted for their fragrance, colour, and early flowering, are Wallflowers, Violets, Jonquils (Narcissus Jonquilla), Primroses, Polyanthus, some Auriculas, Lily of the Valley, also varieties of the Poet's Narcissus (Narcissus poeticus), and others. You may take it for granted that all are more or less common flowers rather than otherwise.

Carnations not rooted.—*G. B.*: Surely you must have put down the layers very late in the season, or failed to keep them moist after being layered, or the work was improperly done. At all events you could now lift them, potting them up singly in small pots and plunge them in a mild hot-bed. Under those conditions they will soon form roots, and be ready for planting out in April. After they have formed roots, gradually harden them off in a cold frame before putting them in the open air.

"McIntosh's Practical Gardener"—*J. W.*: There is a new edition of this work by Mr. J. Anderson, published by Mackenzie, price 38s. *The Gardener's Assistant*, by R. Thompson, price 35s., is altogether better value for the money. It is published by Blackie & Son. You can sometimes pick up either of the books second-hand on the bookstalls at very reasonable prices.

Fern Spores.—*R. P.*: The newspaper containing the spores must be damp. Dry it gently and the spores will easily be removed. Mix up some ordinary loam with a good quantity of sand, and sift it through a fine seive. Take some 48-size pots, drain them well and fill with the compost, pressing it firm. Sow the spores as thinly and evenly as you can on the surface, and do not cover them with soil. Plunge the pots in cocoanut fibre or ashes, in a frame in a warm and moist house. Water the soil in the pots before sowing the spores, sow the latter when the superfluous moisture has drained away, and cover the pots with small squares of glass till the spores germinate. If watering becomes necessary afterwards, stand the pots in pans of water reaching nearly to the rim, so that the moisture may rise to the surface.

Communications Recived.—J. W.—H. J. V.—W. S.—H. J. C.—R. D.—H. T.—J. R.—H. & S.——G. B.—A. J. M.—Q. C. F.—J. S.—J. C. & Co.

TRADE CATALOGUES RECEIVED.

W. Baylor Hartland, 24, Patrick Street, Cork.—Year Book of Seeds.

John R. Box, Croydon.—Tuberous Begonias, etc.

George Phippen, Broad Street, Reading.—Select List of Garden Seeds.

H. English, Clevedon, Somerset.—Roses, Fruit Trees, Clematis, Greenhouse Plants, &c.

W. Drummond & Sons, Stirling, N.B.—Garden Seed Catalogue.

H. Cannell & Sons, Swanley, Kent.—Vegetable and Flower Seeds.

Dicksons & Co., 1, Waterloo Place, Edinburgh.—Garden Seeds, and Select Catalogue of Fruit Trees.

Thomas Laxton, Bedford.—New Vegetables for 1893.

W. Clibran & Son, 10 and 12, Market Street, Manchester.—Vegetable and Flower Seeds.

Harrison & Sons, Leicester.—Vegetable and Flower Seeds, etc.

LONDON SEED TRADE.

January 23rd, 1893.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a brisk demand for Clover Seeds, medium grade English Reds meeting a ready sale. Foreign Red Clover steady. White Clover easier. Alsike unchanged. Trefoil 2s. per cwt. dearer. French and Italian Ryegrasses higher, supplies short.

COVENT GARDEN MARKET.

January 25th, 1893.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Grapes..... per lb.	0 6	2 0	Pine apples.		
Kent Cobs...100 lb.	120 0	125. 0	—St. Michael's, each	2 6	6 0
Peaches ... per dozen			Apples...per ½ sieve	1 0	3 6
Melons ... . each			Plums...per ½ sieve		

Vegetables.—Average Rstail Prices.

	s. d.	s. d.		s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0	Lettnces ...per dozen	1 6	2 0
Beans, Frencb, perlb.	1 0		Mushrooms, p. hasket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per hunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per hunch	0 6	
Carrots ... per buncb	1 0		Radisbes... per dozen	1 6	
Cauliflowers, Eng.dz.	3 0	5 0	Seakale .....per hkt	2 0	3 0
Celery.....per bundle	2 6		Smallsalading,punnet	0 4	
Cucumbers .....each	0 9	1 6	Spinacb ... per strike	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 9	1
Herbs .....per hunch	0 2	0 6	Turnips .....per hun.	0 6	
Horse Radish, hnndle	2 0	4 0			

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d
Azaleas ... per doz.	24 0	42 0	Foliage Plants, doz.	12 0	60 0
Cyclamen per doz....	9 0	24 0	Hyacinths, doz. pots	8 0	15 0
Cyperus .....per doz.	4 0	12 0	Lily of theValley doz.		
Cineraria ...per doz.	8 0	12 0	pots	12 0	24 0
Dracæna term., doz.	24 0	36 0	Marguerites, perdoz.	6 0	12 0
Dracæna viridis,doz.	9 0	18 0	Palms in variety,eacb	2 6	10 0
Erica Hyemalis, doz.	12 0	18 0	Palms, Specimen ...	15 0	63 0
Evergreens,invar.doz	6 0	24 0	Poinsettia...per doz.	10 0	15 0
Ferns, invar..per doz.	4 0	18 0	Primula Sinensis		
Ferns, small, per 100	6 0	10 0	per doz.	4 0	6 0
Chrysanthemum, doz.	4 0	9 0	Solanums.....per doz.	9 0	12 0
			Tulips—various.....	8 0	12 0

Cut Flowers.—Average Wholesale Prices.

	s. d.	s d		s. d.	s. d
Anemones, doz. hncb	4 0	6 0	Mimosa (Frencb)p.hh.	1 0	1 6
Azalea, doz sprays.....o	6	1 0	Mignonette... 12 bun.	2 0	4 0
Arum Lilies, 12 blms.	4 0	6 0	Narcisse, varions, doz.		
Bonvardias, per hun.	0 6	1 0	bnchs	4 0	6 0
Carnations, 12 blooms	2 0	4 0	Pelargoniums, 12 sps.	0 9	1 0
Chrysanthemum,dz bn	6 0	15 0	—scarlet.....12 bchs.	6 0	12 0
Camellias doz hlooms	1 0	4 0	Primula, double, bun.	0 6	1 0
Cyclamen doz hloomso	6 0	9	Orchid Bloom in var.		
Eucharis ...per doz.	5 0	6 0	per hloom, from	0 3	1 0
Euphorbia Jackminafolia, doz. sprays	1 0	4 0	Roses, yellow, dozen	3 0	6 0
Gardenias 12 hlooms	12 0	24 0	— French, per bnch	1 6	4 0
Heliotropes,12 sprays	0 6	0 9	— French, 100 blms	6 0	12 0
Hyacinths, doz. spikes	3 0	6 0	— Red..... doz. hlms.	2 0	4 0
Hyacinths Roman			— Saffrano...per doz.	2 0	3 0
doz. sprays	0 6	1 0	— Tea ..... per dozen	1 0	3 0
Lilac, White, French,			Tuberoses, per doz	1 0	1 6
per buncb...	3 0	5 0	Tulips, red, per doz.	0 9	1 0
Lilium Harrisii,			— White, per doz. ...	1 0	2 6
doz. hlooms	6 0	9 0	— Yellow, per doz....	1 6	2 0
Lilyof tbeValleydz.sps.	0 6	1 6	Violets,Parma,French		
MaidenhairFern,12bs.	6 0	9 0	per hnnch ..	7 6	9 0
Marguerites, 12 hun.	4 0	6 6	—Czar, Frencb, bun.	2 0	4 0
			Small ,, doz. hun.	4 0	6 0

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ANTHRACITE COAL.

The British public are only just beginning to appreciate Anthracite Coal for house (in stoves) and horticultural puposes; those trying it, should take care that no poor quality is supplied, as it is injurious both to the health of people and plants (as is also Gas Coke) from the sulphur fumes given off.

Should you have difficulty in getting DOBELL'S "*True Vein*" from your own Coal Merchant, write direct to Messrs. DOBELL & Co., Rock Castle Colliery, Llandebie, South Wales, for the Analysis and Price List, giving the name of station where the Coal is required, and whether for malting, hop-picking, or conservatory use. "*True Vein*" gives off No Smoke and no Sulphur.

THE GARDENERS' ORPHAN FUND.

Notice.

THE ANNUAL GENERAL MEETING of the *Subscribers* to this *Fund* will be held at the *Cannon Street Hotel*, on *Friday, February 3rd* next, for the purpose of receiving the Report of the Committee and the accounts of the Fund for 1892, Electing Officers for the ensuing year, and for the *Election of Eight Children* to the benefits of the Fund.

The Chair will be taken at 2 o'clock precisely, and the Ballot will close at 4 o'clock.

A. F. BARRON, *Hon. Secretary.*

Royal Horticultural Society's Gardens, Chiswick.

January, 1893.

P.S.—The Voting Papers have all been issued. Any Subscriber not having received one is requested to communicate with the Secretary.

WEBBS'

NEW PEA,

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Feb. 6th.—Sale of Greenhouse Plants at Protheroe & Morris' Rooms.

TUESDAY, Feb. 7th.—National Amateur Gardeners' Association, meeting at 7 p.m.

Special Sale of Imported Orchids, Camellias, Azaleas, &c., at Protheroe & Morris' Rooms.

WEDNESDAY, Feb. 8th.—Sale of Tuberous Roots, Bulbs, &c., at Protheroe & Morris' Rooms.

THURSDAY, Feb. 9th.—Sale of Plants from Belgium at Protheroe & Morris' Rooms.

FRIDAY, Feb. 10th.—Sale of Orchids and Hardy Plants, at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, FEBRUARY 4th, 1893.

OUR AMATEURS.—To the horticultural journalist there are, perhaps, few garden associations of a more pleasing kind than are those connected with the amateur element found in gardening. The practical gardener is always a very practical minded man, some few may be enthusiastic, but only in a mild way. To him the work of gardening is only a means to an end. It is a struggle all through for a livelihood, and no wonder if in his case the sentiment gives place to more grovelling considerations. With the true amateur things are very different. It is his great enthusiasm, his intense sentimental regard for his flowers, or whatsoever he makes in horticulture his particular fancy, that keeps him an amateur.

Remove the sentiment, and the amateur's gardening would soon collapse. So far from finding it profitable, he generally finds the hobby expensive; yet if so in a pecuniary sense, he is, in the exceeding pleasure derived from pursuing his fancy, far more than repaid. The ordinary practical gardener cannot at all realise the peculiar delight with which the true amateur enters into horticulture. The latter may be so far human that he may like to win prizes, because, after all, few human souls soar so lofty as to be utterly indifferent to hard cash. Still our amateur most probably does but regard his hard won spoils as something to be spent in furtherance of his pet objects. In any case our amateur loves to score honours, and most of them who exhibit may consider that honour is after all their chief reward.

May horticulture never lack its amateur element. Their intense earnestness infuses itself into our otherwise prosaic life, and makes life worth living. Very much indeed have amateurs done in the past for flowers. Horner with Auriculas, Dodwell with Carnations, Fellowers with Dahlias, Foster with Pelargoniums, these are but a few who evidence what we have asserted; and they have hundreds of disciples who are doing their best in a humbler way. So may it ever be.

The Railway Rates.—The railway companies are already retreating from their high rate position, they are in fact climbing down. Some of the companies have begun to do so through sheer alarm lest they will, by their exorbitant charges, kill that "goose" traffic which lays for them the golden eggs; others have yielded to the pressure of public opinion, and some are intending to follow suit, but professedly have waited for the result of the great meeting held at the City of London Mansion House on Monday last. A more truly representative meeting has rarely been held in London, or one more indignant at the action of the railway companies in relation to their increased charges for the carriage of goods.

It would seem as if these bodies, realising that agriculture was passing through a severe trial, were anxious to strangle this great industry effectually, and also to choke so far as possible the growing efforts being made to promote fruit and vegetable culture. We, in referring to this matter a few weeks since, intimated that the companies' action would strengthen the demand now being made in certain quarters for the nationalisation of the railways; that effect has been found already in a marked degree, and it is but reasonable that people should ask that a national service for the transit of people and goods from place to place, practically enjoying a monopoly of traffic, should not be employed for private profit, but should, as is the Post Office and Telegraph, be utilised solely for the benefit in every way of the nation at large.

We do not hesitate to say that this present antagonism on the part of the railway companies to the public interests is a scandal that ought not to be tolerated. To the horticultural trade, in a hundred ways, the question of transit rates is one of the greatest importance. All trade hitherto has been conducted on the basis of low rates for transit, and when these are suddenly and without cause raised 100 per cent., as is now frequently found, trade is dislocated and nearly ruined.

Rosarians.—If Roses have their beauty and sweet perfume they also have their thorns. So it would seem the rosarians who grow Roses have their little quarrels. They find it very hard to suit each other's tastes in this direction and the other, and do not always differ, or agree to differ, in an amicable spirit. It would be hard to say when the spirit of competition in products of any description began to display itself, but it must have an ancient origin; even in times somewhat remote persons who competed against each other did not always manifest a spirit of lofty courtesy and gentleness, and to-day, in this advanced and enlightened age, human nature remains pretty much the same.

Differences arise and they lead to sturdy paper warfare: those who have holding on like grim death to their chances, those who have not striving hard to get the better of their opponents. Just now our friends the rosarians are having a little quarrel over the dates of their annual rose exhibitions; the southern men like an early date, and being the strongest hold on; the northern men want a later date, and being the weakest have to go to the wall. Of course these contending parties are only concerned for honour, such things as money prizes or cups are quite beneath notice. No one who grows Roses, and growers of these flowers are the very *crème de la crème* of horticulturists, would for one moment have thoughts relating to lucre. It is so very vulgar.

But they are tremendous sticklers for honour, hence it is that the southerners set the northerners at defiance, lest not the prizes but the honours should for once go north. We, in common with many others quite disinterested, look on amused. The Rose exhibitions are gloriously beautiful, and it is so nice to reflect as we gaze upon them with ecstatic enthusiasm, that not one—no, not one—of the exhibitors sigh for other rewards than such as honours or fame can afford.

The Timperley Collection of Orchids.—A portion (duplicates) of Mr. George Hardy's famous collection of specimen Orchids will be sold early in March next by Messrs. Protheroe & Morris, on the premises Pickering Lodge, Timperley.

Long Service in a Norfolk Garden.—The death is announced, at the age of 84 years, of Mr. Isaac Witham, who for the long period of 69 years was employed by the Irby family in the gardens at Boyland Hall, Long Stratton, Norfolk.

Fruit Culture in the Isle of Man.—A correspondent in the Isle of Man states that about forty or fifty years ago fruit growing was largely carried on in the island, and almost every farm had an orchard and garden attached to it, and Pears and Apples were sold in large quantities at the autumn fairs. The orchards have been either rooted up or are left neglected, and our fruit is now for the most part imported. More's the pity.

The Newcastle-upon-Tyne Flower Show will be held this year in the Bull Park Recreation Ground, in conjunction with the Northumberland Agricultural Show.

Brixton, Streatham and Clapham Horticultural Society.— At the annual general meeting of this society the date of the Autumn Show was fixed for the 8th and 9th November, at the Streatham Town Hall, and on the suggestion of the hon. sec., Mr. W. Roupell, it was resolved to affiliate the society to the Royal Horticultural Society.

A Remarkable Phenomenon Indeed.—We quote the following extraordinary story from a provincial paper of the 17th ult.:—"A remarkable scene was witnessed in the parish of Woodham Ferris, Essex, on Old Christmas Eve. On that night a number of persons went on a pilgrimage to the village to witness the bursting into leaf of a bush locally known as the "Holly Thorn." It is a fact that at midnight the bush did burst into leaf. The peculiar features of the phenomenon are that the bush assumes its normal condition a few hours afterwards, and breaks forth with renewed vigour in the spring." The Glastonbury Thorn must take a back seat after this.

The Favoured Isles of Scilly.—There is not one Englishman in 10,000, a London contemporary remarks, who can explain why the climate of the Scilly Isles should permit the Cactus of the West Indies to grow in the open in January, yet for some reason these wonderful islands, lying under the lee of the Land's End, can to-day show an outdoor luxuriance of foliage such as can only be seen in the South of France, and then under most favoured conditions. No snow has fallen at Scilly since the spring of 1890, and yet English people with weak chests will insist on going to the Canaries or the Riviera. It is just on the cards that during the next few months an enterprising syndicate of fruit growers will lease the entire group of the Scilly Isles from the proprietor, and English-grown Oranges may in 1894 be competing with Valencias in Covent Garden Market.—*Western Morning News.*

A New Pea: Day's Conundrum.—One of the comparatively few novelties among vegetables that are being introduced this season is a new Pea, which promises to quickly take first-rank honours. It is being sent out by Mr. J. Day, under the name of Conundrum, and it possesses qualities in regard to flavour, continuous cropping, vigour of growth, and a power of resisting mildew that can be claimed for few other Peas. It is a wrinkled Marrow, for mid-season and late use, and has the further valuable quality of retaining its fine Ne Plus Ultra-like flavour, after the Peas have become comparatively old, and when other sorts would be unfit for use. Mr. Day, it will be remembered, was the raiser of that grand market Pea, Sunrise, which was sent out about eleven years ago, and which is still grown in large quantities for market.

Artistic Flower Guard.—A St. Andrew's correspondent writes:—Mr. James Bennett, blacksmith, Arncroach, Fifeshire, has lately executed a very elegant and artistic hammered iron flower guard, from a design drawn by H. R. H. the Princess Louise. The front section is 2½ ft. long, and the same height; the hinged sides, or wings, are 1 ft. 8 in. in length. It is intended for the inside decoration of a window, and will no doubt be very effective as such. Interwoven in the design are the crown, Rose, Thistle, and Shamrock, and also the initial "V." The flower-guard was presented to Her Majesty the Queen at Christmas by the ex-Empress Eugènie. Mr. Bennett has now made a reputation for himself for hammered ironwork in the line indicated. He has made, amongst other things, some very pretty grates, candlestick-brackets, vases, and gates, all wrought out in a very skilful manner.

Carter's "Practical Gardener." — When over 100,000 copies of a work have been sold, and still another edition is called for, nothing that a reviewer can say is likely to affect its sale one way or the other. The "Practical Gardener," edited by Mr. E. J. Beale, F.L.S., and published at a shilling by Messrs. James Carter & Co. of High Holborn, has achieved both these distinctions, and the 18th edition lies before us. The special articles are all written by well-known men, some alas! no longer with us, and the Calendar of Garden Operations is plain, practical and trustworthy—just in fact, what an amateur gardener wants.

Golden Wedding of Dr. and Mrs. Paterson.—Dr. and Mrs. Paterson, of Bridge of Allan, on the 25th ult., celebrated the fiftieth anniversary of their marriage, which took place in Edinburgh in 1843, where the doctor also took his degree of M.D. when twenty-one years of age. He has long been in practice in Bridge of Allan, where he is much respected, and is as notable a figure there as Professor Blackie in Edinburgh. He has been a noted Orchid grower in his day, and is never without an Orchid bloom or some other flower in his button-hole. His sale of Orchids a few years ago attracted buyers of these lovely flowers from all parts of the country.

Cornish Vegetables and Railway Rates.—As a set-off against the heavy railway charges for the conveyance of Vegetables to the London markets, Cornish market gardeners are congratulating themselves that their supplies are realising higher prices than usual. The weather has not been at all unfavourable to the growth of seasonable vegetables, and if matters proceed as they have begun there will be no reason for a repetition of the grumbling so prevalent at this time last year. The only sore point at present is the excessive railway charges, and it is more than possible that some of the larger growers will, combined, charter vessels to London. There is, of course, the delay to take into consideration, but the counter advantage will be in saving many pounds per ton.

Flower Growers of Scilly have already began to show signs of the usual activity so marked at this season of the year. Indeed this is likely to prove to them a more abundan. harvest than for many years. There are direct reasons for this. In the first place a larger number of "glass acres" are in use this year, and nearly double the quantity of Narcissus being grown. On the other hand, the demand for Scilly flowers will be greatly enhanced, owing to the fact that recent severe weather in the South of France has proved most destructive to early flower growth. Extremely large orders for Scilly flowers are flocking in, and the price is considerably higher than in former years.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

HAVING been elected a member of the committee of the above institution at the recent general meeting, I hope I may be excused for approaching my fellow gardeners (in the interest of the institution) in the hope that I may be the means of influencing their minds in favour of a more general and generous support of its funds. It cannot be said that I am asking others to do what I have not attempted to do myself, as I have contributed in one way or another between £70 and £80 to its funds.

It is difficult to understand why every gardener does not rally round this splendid property of £29,000, especially when it is said that every shilling of it is their own. One would think that even from motives of selfishness, if from no higher, every gardener would rally round it and strive to do all in his power to promote its usefulness and prosperity. There cannot be less than 30,000 gardeners, nurserymen and others engaged in horticultural pursuits, who are interested in its welfare, and if as many of these as can afford it subscribed their guinea a year, and if the remainder, who are unable to do this, were to collect small sums amongst themselves *annually* for the benefit of its funds, the question of old age pensions as far as it relates to gardeners would be solved.

Objections have been advanced by many against the institution because it is not founded on the lines and principles of a benefit society, where a member can claim help at any time in case of need. On the surface this may appear to be a reasonable objection, and I am afraid has been the cause of many not subscribing to its funds. But I think on a little consideration that this objection may be proved to be an erroneous one, and especially as in the case of gardeners whose wages are scarcely now stopped in time of sickness, and who therefore do not feel the pinch of poverty at this time like mechanics and others who are paid by the hour, and whose pay is stopped when work ceases. As bearing on this point I may say that I have been a member of a benefit society for upwards of twenty years, paying about 22s. a year, and if I am to remain a benefit member I shall have to go on paying that sum as long as I live, and the benefits are:—in case of sickness and permanent disability from work I am entitled to 10s. a week for the first year, about 7s. the second year, and after that I believe the pay is reduced to 3s. per week for life. Let me ask my fellow gardeners who are still sceptical on this point to compare this with the advantages offered by the G.R.B.I., even from a benefit point of view, where after subscribing a guinea for 15 years, or £10 10s. down, a member is almost certain to be placed on the pension list if he is of good character and incapacitated from work, and in want; receiving, without any further cost or trouble to himself, £20 a year for life, whether his life be short or long. Another objection has occasionally been levelled at the institution, viz.—that some gardeners who had subscribed but little and others who had not subscribed at all were occasionally elected pensioners. On this point, I may say, that we must not lose sight of the fact that by far the largest proportion of the funds of the institution have been subscribed by gentlemen out of pure benevolence for the relief of aged and destitute gardeners, and I for my part would be very sorry to see this principle of benevolence infringed upon or curtailed in any way, and I hope and believe it will not be allowed to impose a barrier to prevent subscriptions flowing in.

The committee, as is well known, have introduced a clause into their rules giving almost absolute certainty of election to those who may have subscribed for 15 years, and the new rule passed at the general meeting a few days ago will give subscribers substantial advantages over non-subscribers in so far that a subscriber for four years will have fifty votes credited to him, and fifty more added for *every* year subscribed afterwards up to fourteen years.

My appeal in favour of the institution, even from a benefit and an investment point of view, will, I hope, commend itself to the judgment of your readers. But I beg very respectfully to appeal to my brother gardeners from a higher level than a benefit one. That man's life is a poor and a barren life who lives entirely to himself, and nothing noble or good has ever yet been accomplished without a sacrifice of some sort.

The gardeners of the past half a century (and others interested in gardening and gardeners) have built up a noble standard of garden charity, which is now shedding gleams of joy and brightness round the declining life of many of our fellow workers who have fallen helpless by the way. Let me then appeal to all gardeners and others associated with them in the calling to rally round this noble institution, and to strengthen it with their active support, that all the deserving in our craft may claim a shelter under its wings in the time of adversity and want.—*Owen Thomas, The Royal Gardens, Windsor, Jany. 23rd.* 1893.

DRESSING CARNATIONS.

WHY does not your correspondent, Mr. Wm. Wardill, exhibit his Carnations under the Martin Smith schedules of prizes, where, from what he writes, he should be quite at home? These answer all the requirements of those who wish to show the flowers as cut from the plants, and no one can complain here that he is debarred from exhibiting by the question of dressing. The Martin Smith prizes offer to him and others who feel themselves handicapped in this respect every encouragement to bring forward their flowers.

I only remember once to have had the advantage of seeing flowers exhibited by your correspondent, namely, at the Royal Aquarium Show some two or three seasons ago. They had a special note attached, to the effect, I think, that they were shown as cut from the border. Whether or not it was to be taken as implying that therein lay the secret of the difference between them and the highly cultivated and dressed flowers shown, many did so take it, and were not a little amused. I think your correspondent, and others like him, will find that whether as to dressed or undressed flowers the judges must still go for high cultivation and quality, and that no dressing can avail in any case if these are absent.—*H.*

Is it possible that a man may be thought to be a mouse because he has once slept in a barn? Or to put it plainer, that we who have the good or ill fortune to reside in the West of England, have never seen a dressed Carnation bloom after it has left the hands of the competent dresser, and upon this hypothesis be classed as the irresponsible frivolity, whose childish effusions are (but from the fact of their appearance in responsible papers) unworthy the notice of the specialist. Very neatly put, Mr. Rowan, but this is not the point which, however, might be placed in a nutshell.

The question to me appears to be, is the dressing of blooms (be it Carnations or otherwise) to be considered as the last and most important stage of the highest possible culture, and as such worthy of the florist, and of our highest commendation? Or is it simply to be looked upon as the work of a clever artist, who uses it as a means to attain the florist's ideal of perfection, which, in some instances, Nature has failed to award to his persistent labours? If so would it not be equally as justifiable to apply the same art to destroy some of the imperfections in other kinds of flowers, not amenable to dressing, by painting over such blotchings and runnings of one colour into the other as are not considered desirable in a perfect flower of its class?

My imperfect knowledge leads me to but one conclusion, that, to deal honestly with the public at large, the florist should consider dressing as only a borrowed plume, and should conscientiously discard from his collection of ideal flowers all such as require the hands of the artificer to make them perfect, and concentrate his mind and great abilities on trying to obtain perfection by those ample means Nature has unfolded and placed at his disposal. The art of dressing can be, at its best, but a short and somewhat royal road to this end, and, unfortunately both for the florist and the public who support him, but a fleeting pleasure.

It is upon these grounds alone that I base my objections, not to the art of dressing, as an art, let it be understood, but to its pernicious consequences and the imposition it is on the unwary. As regards the specialists in this particular art I care little. My ideas may amuse them, and so far will not be altogether explained in vain. Would it not, however, be better did they not take their pleasure so sadly? Reform in the way our exhibits are staged is yearly taking place, and will I hope continue to do so. One great drawback to its doing so more quickly is, I think, the great expense entailed by exhibitors, especially those from a distance, having to carry so many appliances about with them, and the more artistic they are arranged, the more and better appliances they require.—*W. MacKay, Exeter.*

Gleanings from the World of Science

The Death's Head Moth and Bees.—A correspondent in *Nature Notes* for January looks upon the Death's Head Moth as a plunderer of bee hives when it can effect an entrance. The correspondent gives a reason for this undesirable habit of the moth by stating that it has a short tongue compared with its relatives of the Hawk Moth tribe and is therefore unable to collect nectar for itself from the long tubed flowers secreting it, and available to the long-tongued species. The shortness of its tongue must only be relative to its size, for it certainly has a remarkably long proboscis coiled up under its head. We believe Kent is the county where it is most commonly met with, and from whence we have had the full grown caterpillar collected in Potato fields. The perfect moth, and a fine animal too, we have had from Hertfordshire; but it is not particularly abundant anywhere in this country, so that bee-keepers need not be alarmed at its possible depredations in their hives. Besides, the construction of the entrance to hives built on modern principles is such as to prevent the entrance of smaller insects than the Death's Head Moth, or, at all events can easily be defended by the legitimate and rightful occupants of the hives. The same writer says that some continental bee-keepers have discovered that bees are aware of this intruder and fortify the entrance of their hives accordingly against it. We are of opinion that bees fortify themselves, to the best of their abilities, against all hostile comers rather than any given foe. For instance, hives are liable to be entered by mice, wasps, snails and even the inhabitants of another hive occupied by a community of their own species. The members of some hives occasionally contract a predatory habit, becoming robbers not merely for the time being but for all time to come, that is, so long as they live, according to the opinions and testimony of many bee-keepers. Weak hives in spring are specially liable to attack, and in all such cases it is important that the entrance to the hive should be reduced to the smallest possible dimensions so as to permit the egress and ingress of the rightful owners and enable them at the same time to defend it easily against a large number of would-be robbers.

Value of Nitrate of Soda to Tomatos.—The experiments with Tomatos in 1891 carried on at the Cornell University Agricultural Experiment Station, were repeated last year, and the results recorded in *Bulletin* 45. In 1891 the Tomatos were grown on very poor and untractable soil so that nitrate of soda alone gave very poor results, while a combination of nitrate of soda, bone black and muriate of potash gave a better return, though still a very poor crop. Last year the experiments were carried out upon good gravelly soil that had been enriched in previous years. The six plants to which nitrate of soda alone was given, produced an average of thirty fruits each, weighing 9·5 pounds, up to the time that frost cut them down. Adding to that the green and immature fruits, the average number of fruits to a plant was 50·6, weighing, likewise, on an average, 14·5 pounds. The phosphatic manure supplied in the form of bone black when used alone gave during the whole season on an average 25·4 fruits per plant, weighing 7·2 pounds, or just half of that produced by the dressing of nitrate of soda. When used by themselves, one pound of the latter was given to six plants, and two pounds of the bone black to an equal number. The second best result of this series of trials occurred where all the three kinds of manure were used in combination, that is, in mixture: Nitrate of soda, one pound; bone black, two pounds; and muriate of potash, one pound, were applied as a dressing to six plants, and the net results for the whole season were 48·2 fruits to a plant, weighing 14·4 pounds. The small results of the two latter either singly or in combination were remarkable, but more so when six plants entirely unmanured gave a return of 40·2 fruits weighing 12·6 pounds per plant. It is clear then that on fairly fertile soils, nitrate of soda gives the best results as a manure for Tomatos.

FRUIT-GROWING IN CALIFORNIA.

The following interesting experiences and instructive figures on Fruit-Growing in California, have been given by Mr. William Laing Malcolmson, a native of Aberdeen, who is at present on a visit to his native city After lauding the fine climate and noting the absence of cyclones, blizzards, and thunderstorms, Mr. Malcolmson says :—The great industry of California to-day, and one that in a few years, if it continues its growth, will overshadow all others, is fruit-growing. While fruit has been grown in the States for over a century past, having been introduced by the Mission Fathers over a hundred years ago in the southern part of the State, and by the Russian traders early in the present century in the northern portion, it is only during the past twenty years that any rapid progress has been made in this direction. But in that time California has forced her way ahead of all other States in the Union, until she is to-day the garden and orchard of the world.

With a continually widening market for our orchard products, with stories of fabulous returns from investments in fruit farms, it is natural that people of small means, desirous of making a home and an income should seek for information in regard to it. To this class of my countrymen I have much pleasure in giving the following particulars; and I think the information I give can be relied upon as authentic, I being myself one of the largest raisin-vine growers in the State, owning a vineyard of over 160 acres.

The intending settler will naturally ask.—" What assurance have I that my investment will be permanent as well as profitable? What are the causes that make California superior to the other parts of the United States as a fruit producer? Will not other portions of America enter into competition ith us and overstock the market, and thus make our investment unprofitable and our labour a failure?" These doubts will quickly disappear with a knowledge of the advantages that California enjoys. These are climate, geographical position, and physical peculiarities. While descriptions of California's climate have become a household word, it is, nevertheless, the one great cause of its superiority as a fruit section; and its climate depends upon its geographical position. California's position also gives it the world for a market; and while, with the continually increasing home-market, it is now beginning to ship large quantities of fruit to Australia, China, Japan, and India, within the last few months shipments of fruit have beeu made to Great Britain. With, therefore, the United States and the rest of the world for a market, and the ever-developing taste for Californian luscious fruits, there is no danger of over-production.

To give some idea of the profits that can be made out of fruit-growing, I shall cite one or two instances which will go to show what one may expect for his labour and capital on only a moderate-sized orchard in California. Major Robert H. Nolton, formerly a railroad employé, nine years ago purchased the Mountain View Orchard at Vernondale, consisting of 19 acres. It had been planted in fruit six or seven years before. He manages everything with railroad precision and neatness, and the following is his report from December, 1890, to December, 1891. (I give Major Nolton's report as an example of the various kinds of fruits that can be grown on such a small orchard as 19 acres, and the net results will, no doubt, startle many readers) :—

Income.

	£	s.	d.
2,500 boxes of Oranges	500	0	0
1,500 ,, Lemons	400	0	0
37,000 lbs. Peaches	148	0	0
2,000 lbs. Pears	8	0	0
3,500 lbs. Apples	24	0	0
1,000 lbs. Walnuts	16	0	0
500 lbs. Crab Apples	2	0	0
400 lbs. Nectarines	2	0	0
	£1100	0	0

Expenses.

	£	s.	d.
Two men employed	146	0	0
Hay and grain for three horses	54	0	0
Taxes	24	0	0
Family expenses and domestic	248	0	0
Net income over all expenses	629	0	0
	£1100	0	0

Major Nolton's family consisted of six. In this report no account is made of eggs, fowls, and two cows, the returns being consumed, but at a glance it will be seen that the handsome return of £629 was netted off such a small orchard as 19 acres.

As another illustration I quote the returns of a property near my own—that of the late Mr. F. R. Storie, an Aberdonian—" My gross receipts from four acres of Peaches amounted to £206. Among Pears I consider Bartlett's the best variety. From an acre and a half of young trees I took off £25 worth of fruit. Nectarines are a very good crop, bearing and paying well. I have netted £20 an acre on this fruit. Apricots pay from £25 to £30. French Prunes do very well, and from four and a half acres of this fruit I received £200. With a judicious selection of fruit trees there is much money in fruit."

Both of these accounts are very satisfactory, and it must not be forgotten that both Major Nolton's and Mr. Storie's orchards are still yonng, and that the older trees become, the heavier will be the returns. In giving such instances as these—although these are only two out of thousands—I do not wish readers to think that such results can be attained immediately on a settler's arrival in California, unless he is in a position to purchase outright an improved orchard or vineyard. Long, weary months of anxiety and labour are necessary before either a vineyard or an orchard can yield such returns as the two cited. Still, in no part of the world can a man so soon see the result of his labour as in California, and in a very few months from the time of his going on to what may be considered a waste and useless piece of land, it can be transformed into a veritable paradise. As an instance of this, I may *en passant*, cite my own vineyard, of which I took possession some four years ago, in a desert state.

Within some sixty days I had the whole 160 acres ploughed over twice to a depth of 18 inches, and carefully harrowed; the whole planted with some 70,000 vines, 10-ft. by 8-ft. apart; some five miles of roads and avenues laid out; whilst on the borders of the avenues I planted, one alternately, Fig and Olive trees. In that time I also constructed some seven or eight miles of irrigating ditches and canals; enclosed the whole property under close wire fence; erected suitable buildings, stables, and coach-house; and planted no fewer than twenty-nine different varieties of fruit trees, and a vine arbour of some twenty varieties of grape vines; whilst, as an adornment to the residence, I laid out a lawn and flower garden. So that within the short space of three months I had transformed into one of the most promising vineyards in California a piece of land which only sixty days previous might have been considered a barren piece of waste and useless land. This will give some idea of the forcing nature of the soil, and the magnificence of the climate of California.

With such results as these it is but natural that the intending settler should wish to know what capital is required for the opening up and bringing into successful bearing a vineyard or an orchard. This, of course, is largely determined by the amount of capital he has available for investment; but my advice—with the experience I have had—is that it is better to own a well-kept twenty acre orchard or vineyard than a forty acre tract poorly attended to owing to lack of sufficient capital. But assuming the settler, to have sufficient capital to open up and properly cultivate a twenty acre orchard or vineyard, until it begins to yield him a return—which cannot be calculated sooner than three or four years—I estimate that he should possess at least £500. With this sum and provided he is willing to work, he ought in the course of four or five years to be in an independent position. With such a sum to commence with, he will be in a position to pay a portion of the price of his land, build himself a modest house, erect a barn, stable, and fowl-house, and purchase all requisites necessary for making himself a comfortable home; and should he be further blessed with a thrifty wife, it will be no time before he is enjoying himself, with her help, under his own vine and Fig-tree.

Although I mention this sum as necessary for the intending settler to possess before proceeding to California, I could enumerate hundreds of instances where I have known men landing in California without any other capital than their own labour, and working themselves (with the help of a wife) up to such a position as to be able, through saving and economy, to own an orchard or a vineyard within a few years of their arrival. In no country in the world can a man who is willing and anxious to get on be so successful as in the Golden State of California.

In this account I have given you of California and its possibilities as a field for emigration, especially to those who are willing and anxious to work, and who are, at the same time, not afraid to put their shoulder to the wheel, I do not wish readers to imagine that my description has been over-drawn, or that I have been carried away in my statements—as is generally credited to the ordinary American.

Mr. Malcolmson intends, through the influence of some prominent citizens of Aberdeen, to arrange for the purchase of a most desirable tract of land, of some 16,500 acres, known as the San Fernando Ranch, near the City of Los Angeles, in Southern California, and to colonise the same with a thrifty lot of Scotchmen.

BEGONIAS AND GLOXINIAS.

Where one is to get the best results from seeds of these splendid bulbous subjects they should be sown at once. Above all things choose seed of a good strain; a very little of this is infinitely better than more of an inferior character. It is more necessary to sow the former of these two subjects than the latter, because the Gloxinia will produce small crowns if sown during midsummer, and these may be left in the pans where they have been pricked off into at the first time of handling, and by potting them on early the following spring, good plants may be had for the ensuing summer.

In sowing seeds of these and similar dust-like kinds of seeds, it is very necessary to prepare the soil carefully. It does not matter so much what constitutes the compost so long as it is porous, and the pans or pots are well drained. Not so much that the seed needs to be kept dry, as that the fine thread-like roots should be able to penetrate into the soil, and not be liable to stagnate when watered. Much the best plan is to thoroughly saturate the soil after the pans are prepared, and then sow the seed and keep it close and dark by placing a shaded pane of glass over the pan. If these are plunged and kept in a gentle bottom heat of some 65° to 70°, the seed will soon germinate, and may then be gradually hardened off to the light and ordinary air of the house.

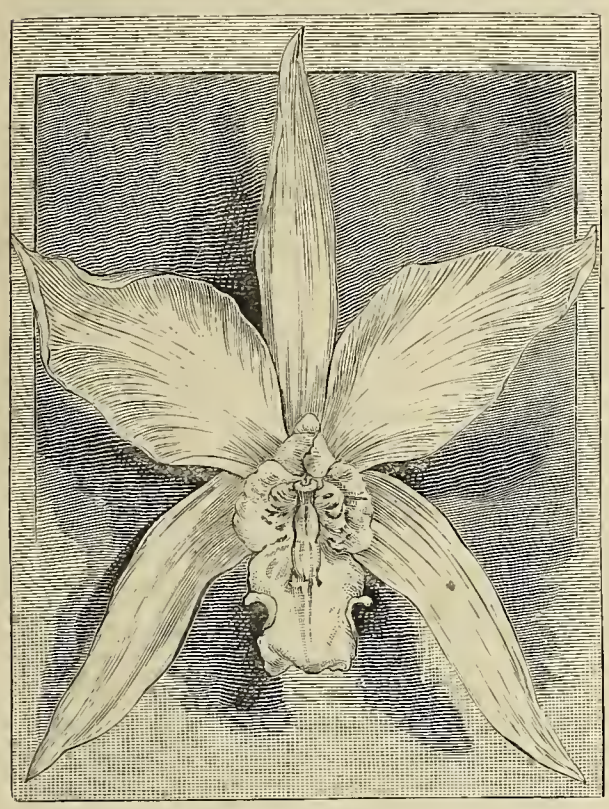
Prick them off into other pans of similar material as soon as you can handle them, giving them a very gentle watering with a fine rose or syringe, and growing them close to the glass after having placed them in the warm bed to gain a fresh start.—*P.*

ARUM PALESTINUM.

This recently introduced plant comes from the Holy Land, and apart from that association, seems likely to meet with a considerable amount of favour in this country, on account of its distinctness and well marked characteristics. Large quantities were introduced to Germany recently, and were sent out from thence under the name of A. sanctum in allusion to its native habitats, but it had previously been named as above by Boissier in his *Flora orientalis*, as well as in the *Botanical Magazine*, t. 5,509. The habit of the plant is similar to that of the common Arum maculatum of our hedge banks and woods, but is stronger in growth, and taller, but nevertheless, fairly compact, and easily accommodated as to house-room, compared with Richardia africana, the Trumpet Lily or Arum Lily of the market, and requires the same cultural treatment as the latter. The leaves are hastate, light green and shining. The flower scape rises slightly above them, bearing a spathe 12 in. to 18 in. long, about 4 in. broad, recurved above the middle, and more or less twisted. It is blackish or maroon-purple, velvety and shining, while the protruding portion of the spadix is almost black. The under surface of the spathe, curiously enough, is green. The plant also possesses the recommendable property of not being fetid when in bloom, as so many of the other members of the order are. It is beginning to find its way into this country, and has been flowering for some time past with Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, in a cool greenhouse.

THE USES OF LIME.

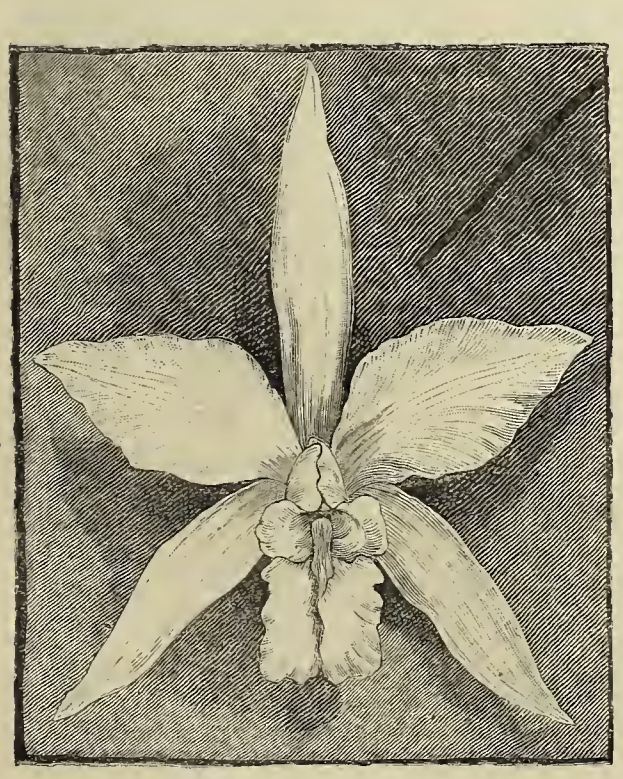
This, one of the most valuable substances we have in connection with horticulture, is often used far too



A. Lælia anceps Williamsii.

indiscriminately. It may do a considerable amount of good one season, and positive harm the next. Let us look at the reasons of this. Take for example a garden that is rich in humus from frequent applications of farm-yard manure, much of which has not been assimilated by the growing crops. To give further dressings of manure is not of full benefit to any future crop, in fact, this only serves to make the soil too rich in the very constituents it is already overcharged with, and the natural consequences are an inferior crop, or else some of the many diseases peculiar to plant life. Had a slight dressing of lime been given to such soil, instead of another dressing of manure, the stagnant nature caused by so much animal and vegetable matter still remaining unabsorbed would be remedied.

The lime would hasten the complete decay of this, and release the ammonia and make it easily soluble, so that any crop might assimilate the inert fertilizing properties that were contained in the soil. Almost any crop, especially vegetables, will grow well upon



B. Lælia anceps alba.

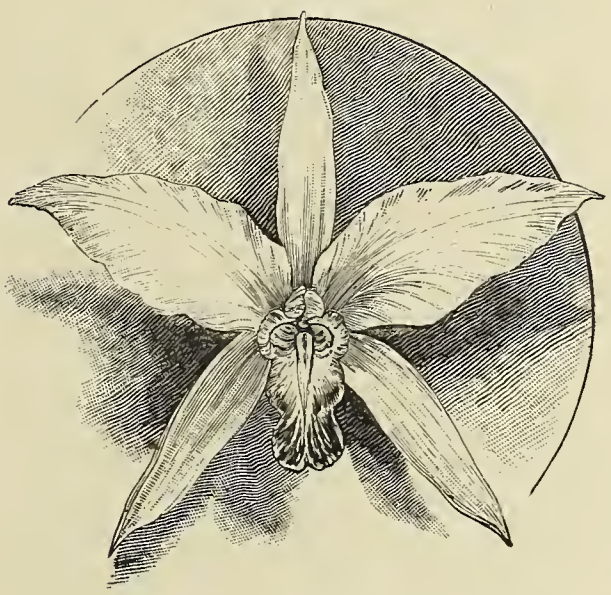
ground so treated. But it must be borne in mind that lime so completely releases the manurial properties from soil, that it is not well to use it too frequently. It is a grand purifier of the soil, and renders it sweet and fit for future crops. One of the best and safest ways of applying it is to turn over the refuse heap of weeds, leaves, vegetable matter, etc., and incorporate a good lot of lime among this during the process.

It is also important not to add lime too long before cropping the ground, or much of the manurial properties will be distributed in the air in the form of ammonia, and thus be lost to the plants. Simply because a dressing of lime produced such satisfactory results one season is no reason why it should be used on the same ground the following year. Indeed, it is quite suicidal to do so, and probably there is no agent that would exhaust ground sooner than lime. Its good qualities lie in its power to release the manurial constituents already present in the soil, and render them fit for plant life to feed upon. Once in five years should be quite often enough to apply lime as a dressing. It may, of course, be used as a slight dressing to kill slugs and other insect pests in the meantime, but not as a heavy dressing in the or linary sense of the term.

Be very cautious about using lime on light sandy soil. Here it is harmful unless used seldom and in small quantities. Stiff soils, on the other hand, are rendered more fertile and easily worked, because the lime absorbs the moisture and makes them less close and stiff.—*Experience.*

VARIETIES OF LÆLIA ANCEPS.

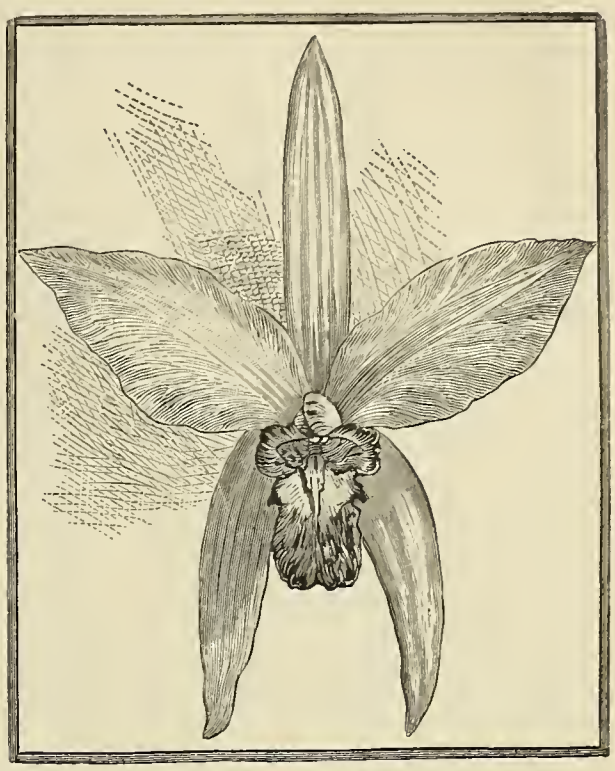
Lælia anceps has justly been termed the Queen of Lælias, and this may be readily accepted if we take



C. Lælia anceps Veitchiana.

into consideration the great number of fine varieties of it which have found their way into cultivation, and the fact that they all flower in winter, during December and January as a rule. It is not our purpose to mention all the varieties which have been described from time to time since L. anceps was introduced in 1835, as it would occupy a great amount of space. Besides, it is possible that some of them may have become lost. The more distinct of them will be preserved as long as Orchids meet with public favour. The other day a bloom of the true L. anceps Percivaliana was sent us by Mr. R. Hinde, gardener to W. Wells, Esq., Broomfield, Sale. The sepals and petals were of a delicate rosy-pink, tinted with white. The side lobes on both surfaces and the apex of the lip were of a rich amethyst purple, the latter being darkest. The lower part of the lamina was white, and the interior of the tube pale yellow striped with deep purple. There is a figure of it in Sander's *Reichenbachia*, *t.* 36, but it depreciates rather than does justice to the original, as it would be difficult to reproduce the delicacy of the sepals and petals faithfully.

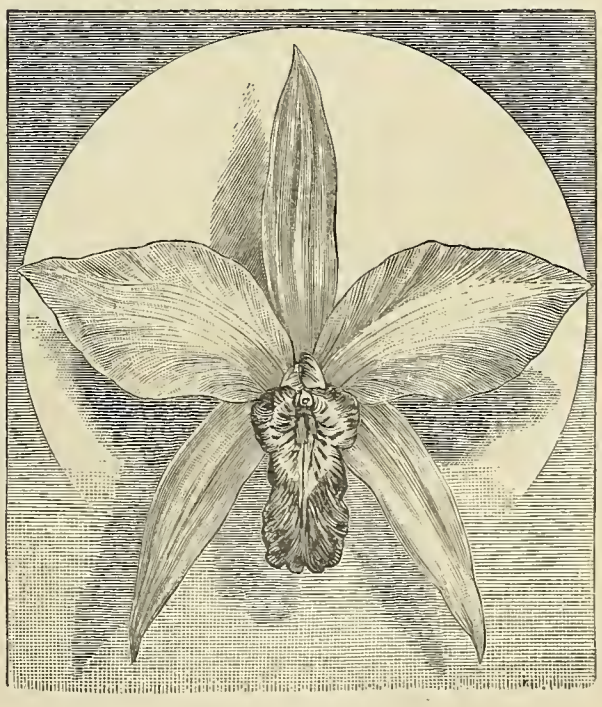
We give an illustration of the type (fig. E) showing how marked is the contrast between it and L. a. alba, also known as virginalis (fig. B). The latter is pure white with exception of the pale yellow disc of the labellum. A large number of plants of this variety have been introduced from time to time, but it is still much sought after. One of the most highly coloured and popular is L. a. Barkeriana (fig. D), which was introduced by Messrs. Hugh Low & Co., Clapton, from the Orizaba district of Mexico. The petals are narrower than usual, pointed like the



D. Lælia anceps Barkeriana.

sepals, and of a rich purple colour. The lip also exhibits the same elongated character. L. a. Dawsoni we figured recently; it is one of the choicest and most admired of the varieties. The ovate-elliptic petals are very broad, and they, like the sepals, are pure white. The terminal lobe of the lip is rich purple, margined with white, and the interior of the side lobes is richly striped with purple on a white ground.

Another very choice variety is L. a. Veitchiana, also known as Veitch's variety (fig. c). The sepals and petals are white, and the side lobes of the lip streaked and spotted with pale rose, but the terminal lobe is of a mauve-purple with deeper markings. In these respects the lip has some resemblance to that of L. a. Percivaliana, but the other parts are entirely different. Another well-marked variety is L. a. Williamsii (fig. A), which has large flowers with elongated sepals and petals, all pure white and nearly equal. The lip is also white with exception of the purple lines on the interior of the side lobes and the yellow disc. It was introduced by Messrs. F. Sander & Co., St. Albans, from the Pacific coast side of Mexico, while the same firm introduced



E. Lælia anceps.

L. a. Veitchiana, L. a. Percivaliana, and others from Orizaba and other districts on the Atlantic side of Mexico.

THE VEGETABLE GARDEN.

Sowing Onions.

EARLY in March, if the soil is in good working order, is a good time to sow Onions. The ground should have been manured and trenched in the autumn, and the site should have been selected as free from wireworm as possible. If insects are generally troublesome, a good dressing of quick lime at the time of trenching will do good. Do not attempt to sow until the soil is quite dry enough to allow a person to walk across it without any soil sticking to the boots. Supposing the ground to be fit it should be trodden twice, and then if raked level it will be ready for the drills to be drawn. These may be 12 in. or 15 in. apart, and 2 in. deep. Do not sow thickly, as it is not only a waste of seed, but the excessive thinning is hurtful to those allowed to remain. After sowing, the drills may be filled in and the soil trodden with the feet, and after again raking, if the soil be of a light nature, it may be rolled with an iron roller. If the Onions are required for exhibition, they must be sown at once in boxes in heat, and when large enough should be pricked out in other boxes and grown on until ready to plant out in April on ground prepared as described above.—*G. H. S.*

Planting Seakale.

As the roots are lifted for forcing, care must be taken to save all the side roots for planting. The best cuttings for planting are about half an inch in diameter, and should be from five to six inches in length. As they are prepared for planting they should be tied in bundles and laid in the ground about two inches under the surface until planting time comes. Now as to planting time, it is a common practice to plant Seakale as soon as the ground is in anything like working order, so as to get the work out of hand, and in consequence of this early planting the ground becomes covered with weeds before the rows of Kale can be seen. This entails very careful hoeing, and a lot of hand-weeding, which takes up much time when time is scarce, and work plentiful. Now if the cuttings are allowed to remain where laid in until the growth on the top of the cuttings is an inch or so long, and then planted on clean ground, the rows will be clearly seen a few days after planting, and what hoeing is necessary can be done quickly without injury to the plants.—*G. H. S.*

Celery destroyed by Frost.

THE recent severe frosts have totally destroyed my crop of Celery, notwithstanding that I covered up the rows with 3 in. to 4 in. deep of stable litter, a plan that I have hitherto found more or less successful. The frost in this district penetrated the ground from 2 ft. to 3 ft. A short time ago I read in a contemporary that if Celery was taken up before frost set in and divested of the roots and green tops, then put into a shed for a day or two to partly dry and subsequently packed in sand in a cool shed or cellar, it will keep in good condition. Have you or any of your readers tried this plan, and can say whether it has any effect in deteriorating the crisp, nutty flavour so essential in this vegetable?—*H. W., Sandhurst.* [We should expect the crispness to be quickly lost under such treatment, and should only resort to it as a temporary measure; but perhaps some of our readers may be able to give our correspondent more consolation. We fear he is not the only one, by many, who have lost their crop this season.—ED.]

SEASONABLE NOTES ON VEGETABLES.

MIDWINTER is not the most promising time for seeing vegetables in their best possible condition, but, as far as gardeners are concerned, it is an interesting and important time to make an inspection of the vegetable grounds to determine what supplies they can count upon till a further supply has been grown by the advent of spring and summer. The continued though intermittently severe frost in January played havoc with vegetables of many kinds out of doors, so that really only the hardiest have come through the ordeal. The intermittent nature of the frost was even more mischievous than if it had been more continuous; and when we add to this the unfavourable influences of a smoke-laden atmosphere in the suburbs of large towns we cease to wonder at the difficulty in growing and preserving winter vegetables. The trial grounds of Messrs. J. Veitch & Sons, at Chiswick, come within the latter category, and the ground itself is so heavy, rich and moist that many things are more liable to injury than they would be in poorer and drier ground.

Cabbages and some kinds of Broccoli have suffered considerably, while sprouting Broccoli and Kales have stood the test admirably. A good plantation of Ellam's Early Spring Cabbage, made from a sowing on the 16th of July last, made wonderful progress up to Christmas. In fact many of the plants were forming heads that in a week or two would have been fit for cutting. As it was many of them could have been used in default of more matured kinds. As might have been expected the young and tender growth suffered severely, and many of them will not now recover. but a large proportion will yet come through. The Rosette and Hardy Green Coleworts have been partly injured, but the last named is decidedly the hardiest, and retains a much richer and dark green colour as we have noted elsewhere, as well as here. In some cases where the heads had been turned over so as to face the west, the heart as well as the leaves did not seem to be the least injured. The north-east winds have the most damaging effect upon the occupants of the trial grounds here owing to exposure, and it might be worth while laying over such things as Cabbages, Coleworts, Broccoli and others of that kind so as to face the west, and test the efficacy of the same for preserving the crops from injury.

Purple Sprouting Broccoli is grown to some extent, and the sprouts are now beginning to appear. A few of the plants show the effects of frost, but the bulk of them will yet come to perfection, or at least recover from what injury they have received. Some of the rows were dug up in October last and laid on the surface of the ground for a week in order to check their exuberant growth, and learn what effect it would have upon their relative hardiness. It would be premature to state what will be the ultimate result, but at present they appear quite sound.

The various kinds of Kale or Borecole furnish us with the means of having greens in most winters; but none outside the radius of large and smoky towns know the difficulty of contending against the combined influence of smoke, fog and frost, even upon such hardy subjects as these, which as a rule retain their freshness remarkably well even in the severest of weather in country districts. Although not destroyed the freshness of the leaves of the Dwarf Green Curled kinds has been considerably impaired. The Moss Green Curled was the first to suffer. Read's Hearting is still wonderfully healthy, the central leaves forming a sort of head which constitutes very delicate eating. The Tall Green Curled Kales have partly lost their outer leaves, but this is largely compensated for by the great number of sprouts on the stems, and which may be used now or later on in spring, when fresh growth will make them more bulky and tender. The heads, however, had been mostly cut before the advent of severe weather.

Hardier than any of the above apparently for suburban gardens is Cottager's Kale, with stems varying from 18 in. to 30 in. in height, and numerous sprouts in different stages upon them, and all perfectly sound. There are several plantations of this variety, and one of them was made in rows alternating with Potatos planted 2½ ft. apart. They have formed good heads even under this treatment, with a more or less solid crown, and the sprouts although later than those on the plantations not so planted, they will be useful in spring when vegetables are scarcer even than they are now. A selection of this named Cottager's Selected differs only in the plants being all of a uniform light green colour. If the brown or bronzy variety had been selected in the same way it would have proved even more useful, as it is more hardy. This is the case with the Brown or Purple form of the Curled Kales, and growers as well as those who use them would do well to remember this fact. The variegated Kales were comparatively effective before the advent of frost, but their beauty has now been somewhat marred. Buda Kale is a sprouting variety of quite a different kind, and more like Thousand-headed Kale than any of the above mentioned; but it is dwarfer, more refined, with flat, glaucose leaves, and very numerous sprouts that develop iuto useful size in spring. It is very hardy and does not seem to be injured in the slightest. The inference is that smooth-leaved Kales owe their apparent hardiness to the fact that they do not collect the dirt from a filthy smoky atmosphere in the same way as the curled kinds.

In a collection of late sown Turnips, it is interesting to note the hardiness of Golden Ball compared with the white kinds. The skin is of a deep golden yellow, and the interior as solid almost as a Swede would be under the same conditions. A breadth of Spinach was also sown early in autumn, and had made considerable progress before the advent of severe frost. Since then many of the plants have suffered owing to the richness and moist nature of the soil, but there is still a good percentage of crowns of Prickly Spinach in a sound condition. The Victoria Spinach, a round seeded kind, is apparently in a better state of preservation, but the ultimate results cannot yet be foreseen. As usually happens, the leaves of all the kinds of Celery have been destroyed, but the blanched portion beneath the soil is still in usable condition. One of the kinds being dug for use now is Standard Bearer, a moderately strong growing kind with pink stalks of good quality. Veitch's Superb White is considered a very choice variety, because it is dwarf, and the stalks solid, crisp and white. It is the best of the white varieties, and was in splendid condition up to Christmas while it was being used.

TROPICAL PLANTS.

Mr. J. P. Abraham, tropical and ornamental plant merchant, Colombo, Ceylon, has sent us his catalogue of tropical plants, including a general collection of all sorts of fine foliaged and flowering plants, such as may be grown in the open air in that warm part of the world. An inspection of the catalogue reveals a large number of old acquaintances with which we are more or less familiar in our hot-houses, such as Aroids, Ferns, Selaginellas, Palms, Cycads, Dracænas, Ixoras, Panax, Crotons, and a great variety of others. Some of them are of course rare, and others not at all in this country. The Orchids are interesting, seeing that the bulk of them are native to Ceylon. Quotations of prices are generally given for large quantities, say 100 to 200, while the quotations for tuberous and bulbous plants, such as Cannas, Crinums, Gloriosa superba, Amorphophallus, and others of that class, range from 1,000 to 5,000, and all are comparatively cheap. The Orchids are probably only partly under cultivation, the rest, we imagine, being collected from their native habitats. For instance, 100 plants of Dendrobium Macarthiæ only cost £10. This species is peculiar to Ceylon, and, notwithstanding the rumours as to its being rare, an abundance of plants seemingly can yet be procured. The lists of tropical fruit trees and medicinal plants are interesting, but although a large proportion of them may be met with in this country, they are seldom seen out of botanical gardens. The Wood Strawberry (Fragaria vesca) and a few other British plants, curiously enough, may be noted in the catalogue. Commercial plants and trees for estates and gardens are comparatively novel when placed alongside of similar lists current in this country. Amongst the vegetable seeds suitable for Ceylon, we note various kinds of Runners (Phaseolos) and Kidney Beans, as well as the common Pea. English vegetable seeds are also offered in quantity. Palm seeds are offered in apparently unlimited quantity. Ferns assorted in cases, and also dried herbarium specimens in lots from 100 to 500, are offered, the latter being an unusual feature of plant catalogues. There is yet considerable room for improvement in the "get up" of the catalogue, particularly in the illustrations, which are rather primitive. The spelling of the names wants a considerable amount of revision throughout the lists.

CRASSULA LACTEA.

THIS is one of the best winter blooming subjects we have, whether grown in baskets or pots. Introduced from the Cape of Good Hope in 1774 it is an old favourite, but not so widely known as it should be. There is a variegated form of it. The flowers are a valuable and pure white, and any ordinary greenhouse temperature will secure them in full beauty. Four or five cuttings placed into a 3 in. or 4 in. pot, will root very readily at the present time. Leaf soil, loam, and sand, in equal proportions, is a good compost for them, and they may be shifted into 6 in. pots later on. If large plants are wanted they may be shifted again, and have a little well-decayed manure incorporated in the mixture. Let the pots be well drained; and during the summer months grow them in a cool pit.—*A. P.*

GARDENING MISCELLANY.

CHRYSANTHEMUM JOHN H. TAYLOR.

This new American variety is said to be a great advance upon Miss Lizzie Cartledge, and if so it must be an acquisition. It is of robust constitution, of dwarf habit, and easily grown. Large blooms can be obtained from plants grown in 32-size pots. It is as a late variety, however, that it seems likely to prove of particular service to the lover of Chrysanthemums. Flowers were shown by Messrs. Pitcher & Manda, Hextable, Swanley, at the Royal Aquarium in November last, and plants of it have been flowering ever since. A bloom sent us the other day showed how useful it might prove for cut flower purposes. It could hardly be expected, and was not intended, that the blooms should be of large size at this period of the year; but the flower sent us measured 3½ in. across, and 4½ in. deep. This latter character is due to the fact that the outer florets are very long and pendent, while the upper ones are shorter but recurved except in the very centre. If the lower florets were spread out the flower would appear very large, but we always consider it undesirable to give unnatural width to a flower by such treatment, and measure it as it naturally comports itself. The lower half of the bloom is rosy pink, and the upper half white.

GREENHOUSE HEATING.

No doubt there will have been many complaints during the last year about gas bills where this fuel has been used for greenhouse heating. The weather during the year 1892 has been most exceptional. We expect in this district on an average about forty nights and twenty days below freezing point, when firing is necessary to prevent damage to plants in a cold greenhouse. Instead of this average there were eighty-seven nights and fifty days, when the thermometer descended below freezing point, and twenty nights on which the temperature ranged from 20° to 11° Fahr. The duration of the frost and the continuous very low temperatures recorded means that the gas consumption in plant houses would be nearly treble the annual average.—*Thos. Fletcher, Warrington.*

APHELANDRA AURANTIACA.

Of the various species of Aphelandra in cultivation, this still remains the best, notwithstanding the showy character of most of them. Its dwarf character is a great recommendation, as it occupies but small space, the whole plant as a rule not exceeding 6 in. or 8 in. in height, terminated when in flower with a square spike made up of opposite and decussating bracts, from the axils of which the flowers are produced in succession over a considerable period of time. The flowers are also in four rows and face in all directions. The leaves are leathery, of a rich dark green in the type, and serve to set off the handsome, orange-scarlet flowers. The latter are yellow while still in bud. Young plants may be raised in spring either from cuttings of the young growths produced at that time or from seeds. The latter is a very convenient method with this species on account of its slow growth and the small number of available shoots it produces. It is a native of Mexico and requires stove temperature, to be kept near the glass and not checked in its growth by great variations in the temperature, nor by drought, as, like all others of its congeners and many others of the family to which it belongs, it is very liable to drop its leaves under unfavourable circumstances.

BILLBERGIA BRUANTI.

Hybrids are now getting pretty numerous in the Pineapple family. They are mostly of Continental origin; for cultivators in this country do not seem sufficiently interested in this class of plants to take to hybridising them. That under notice has been obtained from B. pallescens and B. decora, but seems to take most after the latter. The leaves are strap-shaped, spiny-serrate, thinly covered with grey scales, but not banded with them as in B. decora, and ranging from 6 in. to 24 in. in length. They are also arranged in a vasiform tuft, and become arched or spreading upwards. The arching flower scape is arching towards the top and rosy, bearing large, lanceolate or elliptic deep rosy-red bracts. The ovary is pale green, surmounted by nearly white sepals with blue tips. The petals are pale yellow with blue tips. The anthers are golden yellow and the stigmas blue, thus adding considerably to the appearance of the whole plant when in bloom. The bracts, as in many other members of the order, are the most conspicuous part of the inflorescence. The plant flowered finely a short time ago in the stove at Kew.

PRIMULA POISSONII FOR WINTER FLOWERING.

This Chinese species is evidently one of the best, if not the best, and most ornamental of recently imported species. Already its value, both for summer and winter flowering, has been demonstrated. It may be that it will be necessary to occasionally raise fresh batches of plants from seeds to get them in condition to flower during winter, or if like some of the Himalayan species it may habitually flower a second time in autumn should the conditions as to weather prove favourable. Of course the conditions may be made suitable by placing a batch of plants in a greenhouse where the frost is simply kept out or where the temperature is kept about 40°. Under such treatment the dark, glaucous green foliage is always good. The flower scapes vary from 18 in. to 3 ft. high, producing whorl after whorl as they slowly elongate, varying in number from three to eight according to the strength of the plant. One plant therefore keeps up a succession of flowers for weeks or even months together during the winter months. The flowers are paler in winter than in spring or summer, owing probably to the diminished light, and vary from lilac to lilac-purple, with a yellow instead of an orange eye.

CALLICARPA PURPUREA.

Pot plants of this species fruit most abundantly, but the fruitful nature of the plant can only be seen to the fullest advantage when it is planted out in a bed of some stove or intermediate house pretty near to the glass and allowed to attain the dimensions of a large bush or little tree. The branches from top to bottom get laden with small violet-purple berries. There is a plant which has been treated in this way in the Begonia house at Kew, and which stands 6 ft. or 8 ft. high, many of the slender branches being borne down in a pendent position by the weight of the fruit. The species is a native of India, from whence it was introduced in 1822. The berries keep good all the winter, so that it should not be cut back till spring. For a short time previous to this it may be kept rather dry, and when the seeds begin to push afresh the plant may be repotted, if grown in pots, using a compost of equal parts of loam and peat with plenty of silver sand. Cuttings may be taken, if young plants are desired, just when the young shoots are long enough to remove as such. They strike root readily.

FREESIAS.

Of all easily-grown bulbous flowers, I think these are the best and sweetest. Mine have been in flower since Christmas, and I have them in batches that will continue until May at the least. The earliest were potted end of August, and the main crop—those that will flower from now onwards—in October. Any light sandy compost of a fairly rich nature will suit them. After potting, place them in a cool pit or frame; in fact, treat them similar to other bulbs for a month or so, but avoid having the soil too moist. As soon as the bulbs start, they may be moved to the greenhouse shelf, and have more water. I prefer to bring them on in batches, lifting the forwardest from the frame as they are wanted. When in growth, and showing for bloom, a little weak liquid manure helps them very much. They last a long time, both on and off of the plant, are very cheap, and may be forced in any ordinary greenhouse.—*Experience.*

CYRTANTHUS LUTESCENS.

The clear, soft yellow flowers of this species are both interesting and pretty during the winter months, and easily produced in a house with a temperature of 40°, or just such as is suitable for the keeping of Cape Heaths in this country. It is a native of the eastern provinces of Cape Colony, Natal and Transvaal, and does not require a high temperature. The scapes, about a foot high, bear from three to six flowers in an umbel. They are ascending and curved with six revolute and short segments, all of the same colour as the slender tube, which widens upwards to the mouth. The leaves are developed at the same time as the flowers, slender, linear, and 3 in. to 5 in. long. The species was originally introduced as early as 1863, but is by no means so commonly cultivated as it deserves by the lovers of bulbous plants. It forms a suitable companion to the white-flowered C. Mackenii, to which it is closely allied.

FICUS PARCELLI.

The fruits of this species do not attain a large size, but curiously enough they are variegated, as are the leaves. They may be compared to a small marble in size, and are cream coloured, shaded with pink and striped with green. The leaves are of course the most important feature of the plant, and render it a useful subject for decorative purposes at all times of the year. They are oblong, unequal at the base and deep green, variously splashed with grey and silvery white, and irregularly shaped blotches sometimes cover nearly the whole leaf. It is a relatively slow growing plant, and therefore easily accommodated where house room is limited. Of course it may be kept within desirable bounds by pruning it back some time before growth commences in spring, and by having always a stock of young plants in small pots by striking the shoots that are removed from large ones. It is a native of Polynesia, and like most other species requires a stove temperature to get it in the best possible condition. Heat and moisture are essential to its welfare.

IRIS FIMBRIATA.

It is to be regretted that such a pretty Iris as that under notice should be too tender for outdoor culture in this country. The flowering season being in winter, it would fare badly, especially during such severe frost as prevailed during the early part of last month. The greenhouse is therefore the only fitting place for it. We have seen it grown under various conditions as to heat and moisture in different establishments, and in each case it flowered abundantly and appeared happy. At present it may be seen in a cool greenhouse in the nursery of Mr. T. S. Ware, Hale Farm Nurseries, Tottenham. The falls are of a beautiful soft lilac, fringed along the edges and beautifully marked or spotted along the centre with yellow and white. The falls are narrower and less conspicuous, but they as well as the petaloid stigmas are lilac and serve to fill up the centre of the flower. The leaves are somewhat similar to those of a Marica, being rather slender, elegant and slightly drooping in the upper portion. The species is a native of China and Japan, and has received names indicating whence it came, such as I. sinensis and I. japonica, the latter being considered as the true name by botanists.

IRIS BAKERIANA.

The winter flowering Irises have had a bad time of it lately compared with last year. Whenever mild weather sets in however, the flowers are ready to push above the surface in all their freshness and beauty. One of the prettiest and most highly coloured is I. Bakeriana. The flowers keep slightly in advance of the leaves, and rise only about 3 in. above the soil. The falls are the largest and most conspicuous segments, being of a rich velvety violet, almost black, and spotted with a clearer violet on a white ground towards the base. The standards are of a rich blue, and the petaloid stigmas somewhat paler. The plant belongs to the same group as the better known I. reticulata, but differs in its leaves being glaucous and ribbed, but not square as in the last named species. It varies considerably in the time it flowers, in different seasons from late autumn till towards spring. It may be seen in the nursery of Mr. T. S. Ware, of Tottenham.

AN EASY WAY OF FORCING LILAC.

When I called recently upon Mr. G. Latter, the genial gardener to F. Tooth, Esq., Park Farm, Sevenoaks, Kent, I was shown some branches of Lilac, both purple and white, in full bloom. There was not much in that, of course, but I was certainly interested in the means adopted to insure this end. Having some very large bushes about the pleasure grounds that had to be cut down, it occurred to Mr. Latter that it might be possible to get the bloom buds to expand by simply placing the branches

without roots in heat. Accordingly those shownig for bloom were stuck into the inside border of a Vinery, close to the hot-water pipes, and kept syringed and watered, the result being a fair amount of flowers at a time when flowers are scarce. Of course, the flowers were not so well developed as they would have been had they the aid of roots, but the perfume was very sweet, and the flowers acceptable. I have never seen this plan tried before, and should like to know if the idea is new.—*S.*

CRYPTANTHUS ACAULIS ZEBRINUS.

SOME years ago this plant made its appearance in various collections as an ornamental foliaged subject, but lately it appears to have been neglected in all but botanical gardens. The foliage is not devoid of beauty and peculiar markings, however, especially after the young leaves have been produced and fully matured. The peculiar wavy bands of colour running across the leaves are due to the presence of scales arranged in bands. The leaves are rather spreading in habit, forming a dense rosette 6 in. to 12 in. in diameter; they are undulated, serrate, deep olive green, covered with very wavy bands of sulphur yellow scales, that become grey when mature, and uniformly of that colour beneath. The upper surface only is exposed and is very pretty, well deserving the varietal name of Zebrinus,. It is better known in gardens under the name of C. undulatus zebrinus, the specific name being given on account of the wavy character of the leaves and the varietal name in reference to the zebra-like stripes. There is also a purple-leaved variety in cultivation. The plant under notice may be seen at Kew.

ORCHID NOTES AND GLEANINGS.

The Orchid Grower's Calendar.

CATTLEYA HOUSE.—The weather we have been favoured with lately has been very favourable to the development of the later spikes of Lælia anceps, amongst which the white forms play a most prominent part. All lovers of Orchids are very much indebted to the firms who were the means of bringing the white forms to this country in such quantity, and to the collectors for their untiring labours in search of such gems. There cannot be said to be a bad one amongst them, but some are certainly better than others, and the one that carries off the palm is undoubtedly L. a. Schroderiana, which is a massive and pure white flower, with the exception of the dark lines in the throat, which together with its square-shaped labellum form its distinctive characteristics. L. a. Stella comes next, and is also pure white, but the flower is not so large, and the labellatum takes more after the shape of an ordinary anceps. L. a. Sanderiana is somewhat in the way of L. a. Dawsoni, but the purple blotch on the lip is not so rich, and in some instances it is almost imperceptible. It appears, however, to be a free bloomer as compared with the other two, and on that account is valuable.

POTTING.—This work must now be pushed along in earnest. We shall repot the white varieties of Lælia anceps that are not flowering first, as they begin to root earlier than the dark ones. We repotted a few of these in the autumn, just to see which plan suited them best, and I am pleased to say that they have kept rooting steadily into the new material, and have kept plump without much water being given them otherwise than by syringing between the pots, and should there be any that do not make flowering growths this coming season they will be treated in the same way. The dark varieties and the white ones too as they go out of flower will have a thorough clean up. and be allowed to plump up their pseudo-bulbs before being shifted. Those in pots will be repotted, but those in the baskets (unless they have outgrown them) will only have the old material and all the crocks possible removed, and replaced with fresh peat and moss, and clean crocks.

POTTING COMPOST.—The peat must not be too wet nor too dry when using it, and the same remark applies also to the sphagnum moss. The latter is easily dried by spreading it along the paths of the Cattleya house, but not too near the hot-water pipes. We make up a potting bench in the same house as the plants to be repotted are growing, and the material for use is allowed to stand in this house twenty-four hours before being used; it is then of the same temperature as the plants, which is very essential. If the compost is about right as regards moisture, very little, if any, water will be required for a week other than a sprinkle with the syringe, as the roots enter the new compost more readily when it is not too wet.

COOL HOUSE.—Cattleya citrina is showing well for flower, and as ours are grown on bare partially charred blocks of deal, we have to feed them to keep them in vigorous health. Consequently, weak guano water will be afforded from now onwards once a week.

THE TEMPERATURES of all the houses should be raised a few degrees. East India 65° at night; Cattley House 58° at night; Cool House 50° at night, with a rise from 5° to 10° by day, according to the weather —*C.*

Odontoglossums from Birdhill.

FOUR varieties of O. crispum have reached us from Captain Twiss, Birdhill, Limerick. Three of them were round flowers of average size and very choice. One was pure white with exception of a few reddish brown spots and a yellow disc on the lip, All parts of the flower were beautifully crisped. The other varieties are flowering for the first time. One of them was in the way of O. crispum guttatum, but differed in the petals being devoid of the bold blotches characteristic of the other segments. The prettiest flower of all, in our opinion, was that in which the sepals were tinted with rosy purple with a few brownish-purple spots about the middle. The petals were slightly flushed with the same hue, as was the lip, the latter being spotted with deep cinnamon brown in front of the crest. The whole flower was beautifully crisped and undulated. The fourth flower was the largest, but not so choice according to our taste. The sepals were long but relatively narrow, and the petals deeply cut. The lower half of the lip was beautifully edged with purple spots like a Picotee. A noteworthy feature of the flower was an oblong purple blotch at the base of each of the sepals and petals, recalling what occurs in O. odoratum, O. mirandum, and others of that group.

THE undermentioned Orchids, exhibited amongst others at the meeting of the Royal Horticultural Society on the 17th ult., were accorded certificates according to merit:—

Calanthe gigas.

NOT a few of those present at the meeting gave vent to the expression that this was the finest new thing amongst Orchids exhibited that day. It is indeed a giant amongst its kind, as might have been expected when we consider its parentage. We understand the seed-parent was C. vestita gigantea, crossed with the pollen of C. Sanderiana gigantea. The flower-scape is stout, standing erect without support of any kind, reaching a height of 3½ ft. or 4 ft., and bearing a raceme of noble flowers on the upper portion. Altogether it is certainly a bold and stately plant. The leaves themselves are lanceolate, 2 ft. long, and were in perfect condition when the plant was shown. The sepals are lanceolate-elliptic, the petals narrowly obovate and all of a faint blush tint. The lip is rather deeply four-lobed, and rose, deepening to crimson at the base. Each individual bloom is of great size, and quite in proportion to the vigour of the plant. A First-class Certificate was deservedly awarded it.

Cypripedium Penlaus.

THE seed-parents of this hybrid was C. calurum, itself a hybrid, and the pollen-parent was C. caudatum. All three therefore belong to the section Selenipedium. The leaves are lanceolate, channelled and shining deep green. The scape bears two or more flowers. The upper sepal is lanceolate and yellow. The petals are intermediate between those of the parents, linear-lanceolate, longer than those of the seed-parent, but never reaching the dimensions of C. caudatum, and deep purple with the central and basal portion greenish yellow. The lip is also very dark, being of a deep reddish purple, with the infolded sides yellow and spotted with purple. The staminode is yellowish, with a line of purple hairs on the edges. A First-class Certificate was awarded it.

Cypripedium Phædra.

HERE, again, we have a hybrid of complicated parentage, C. Sedeni candidulum being the seed-parent and C. Lindleyanum the pollen-bearer. All are, therefore, of the Selenipedium group. The linear, channelled leaves are 12 in. to 18 in. long, and of a rich shining green. The scape bears five to six or more flowers. The upper sepal is oblong, nearly of equal width throughout, and therefore very unusual for a Cypripedium; it is of a creamy hue on the upper and pink on the lower half. The petals are oblong-lanceolate, blunt, and pink, with purple hairs at the base. The lip is short, and roundish or inflated, purple and yellow on the infolded sides, which are spotted. The curiously shaped staminode, or central shield, is somewhat three-lobed, and yellow, with purple hairs on the edges. An Award of Merit was accorded the hybrid.

Cypripedium germinyanum.

ALTOGETHER different in type is this from any of the above-named Cypripediums; and as C. villosum was the seed-parent and C. hirsutissimum the pollen-parent, it therefore belongs to Cypripedium proper. The ligulate leaves are faintly tesselated, and the scape bears a single flower. The upper sepal is narrowly obovate, incurved at the sides, and deep bronzy brown, reticulated with darker nerves and yellow towards the margin. The petals are undulate on the upper margin, spathulate, rosy purple on the upper longitudinal half, yellowish flushed with lilac on the lower longitudinal half, and having a brownish purple mid-rib. The lip is rosy purple, and yellowish spotted with purple on the infolded sides; the staminode is roundish and pale purple. An Award of Merit was accorded it. The Calanthe and the three Cypripediums above noticed were exhibited by Messrs. J. Veitch & Sons, Chelsea.

Cychnoches pentadactylon.

SOME sensation was caused by a fine piece of this, consisting of three young growths bearing ten long racemes of showy flowers, exhibited by W. W. Mann, Esq. (gardener, Mr. J. Simmon), Ravenswood, Bexley. Individually the flowers were of ample proportions, although, as might be expected, they are much inferior in this respect to the better known C. chlorochilon. The sepals are lanceolate, and pale yellow blotched with crimson, while the petals are similar in colour, but falcate or curved. The lip, singularly enough, is the least conspicuous organ of the flower, and at the same time the most curious. It is white, spotted with purple, slender, and three-lobed; the lateral lobes are incurved and hook-like, while the linear terminal lobe has two small lobes or teeth likewise, about the middle. The pseudo-bulbs are 9 in. to 15 in long, cylindrical, and the larger would bear about eleven leaves of various sizes. A First-class Certificate was awarded it. The numerous beautifully marked flowers intermixing with the foliage were very attractive.

Cynorchis grandiflora.

THE habit of this terrestrial Orchid is very similar to that of a Lachenalia as far as the leaves are concerned, but the flowers at a little distance strongly resemble those of a Pinguicula in their form and general appearance. The various species of the genus are natives of the Mascaren Islands, and differ chiefly from that of our native species of Habenaria by the lip being adherent to the face of the column. The leaves are linear, channelled, and keeled, and the scape one-flowered. The sepals are oblong, and greenish spotted with purple on both surfaces, but most conspicuously on the inner face. The petals are connivent under the upper sepal, and white. The lip is deeply four-lobed, and rose-coloured, deepening to crimson at the base, with four white lines running along it at the base; the two lower lobes are oblong-obovate, and the upper pair linear. The spur is about 2 in. long, stout, and purplish. A Botanical Certificate was accorded it when shown by Messrs. Lewis & Co., Southgate.

Bulbophyllum comosum.

IN general appearance this approaches some of the species of the sub-genus Cirrhopetalum. The flowers are white, and densely crowded together in a cylindrical spike at the top of the flower-stalk. The latter makes a sharp curve or bend just beneath the spike of flowers, so that the spike is pendent or drooping. The sepals are linear-lanceolate, all considerably elongated and ciliated on both edges with white hairs. The flowers are slightly fragrant, and on the whole possess a considerable amount of interest to collectors of botanical curiosities. Cut flowers were sent over from the Royal Botanic Garden, Glasnevin, and were awarded a Botanical Certificate. The species is a native of Burma.

Gardeners' Improvement Associations.

DEVON AND EXETER, *January 25th.*—At this meeting, a large one over which Mr. G. Lonsdale presided, Mr. E. Sparks, gardener to Lord Idsleigh, The Pynes, read a paper on the Zonal Pelargonium which teemed with practical knowledge, useful suggestions, and much information that is essential to the successful culture of this useful class of plants. In taking cuttings from old plants, he recommended taking them off at the joint with a slanting cut, placing the cuttings singly in small thumb-size pots, using a compost consisting of two parts fibrous loam, one part well decayed leaf mould, and one sharp sand. August or September—or earlier, if possible—is the best time to do this. In April these cuttings, now rooted, should be shifted into 6-in pots, using for compost two-thirds fibrous loam, one-third well-rotted cow manure, and a little coarse sand. If wanted for exhibition in August, shorten the growth in April by cutting off straggling shoots. They will then break into new and sturdy growth. At this season they want assistance in the way of manure in liquid form. Of course, the very large specimens seen at shows are two and three year old plants, which have been cut hard back in autumn and trained in spring. It is well to pinch off the early flowers, as this will eventually produce stronger trusses and larger blooms. The plants should be, when grown indoors, shaded from hot sunshine, which causes them to drop their petals. Mr. Sparks emphasised the fact that early cuttings were best, as owing to the sap vessels being still free and open, they grew more vigorously, and became well established before the winter set in. Among those taking part in the discussion were Messrs. Rowland, Weeks, Webber, Truscott, Andrews, Luxton, Bartlett, and others. Mr. Hope (Hon. Secretary) announced a further contribution of books to the association, and said that the volumes were of more than ordinary interest and value, inasmuch as they were standard works which were getting more scarce every day, being years ago out of print. The books were—four volumes of the "Horticultural Cabinet," illustrated with hand-coloured plates; three volumes "Gardener's Magazine," by Loudon; "Loudon's Encyclopædia of Agriculture;" "Fruits and Trees of America," with illustrations; and Adam Smith's "Wealth of Nations" (1799 edition, two volumes). The donor was Miss Croker, of Bovey Tracey, and she was awarded a hearty vote of thanks by the associati n for her acceptable donation.

WHAT TO DO IN THE GARDEN.

Palms.—Where it is necessary to repot some of the Palms that are getting too large, that operation may now be effected. Be careful never to overpot, as no advantage is gained by it. The roots and likewise the foliage can be maintained in a healthy condition much easier in relatively small than large pots by a plentiful supply of water and liquid manure. Large pots induce a rapid and coarse growth, which is undesirable in the case of Palms for decorative purposes, and in other cases the plants get into bad condition.

Ixoras.—If the plants were cut down after having flowered last autumn they will now be in a condition fit for repotting. They succeed best if repotted just as the buds begin to move again, but in any case they ought to be cut down a week or two before the operation. Use a compost of fibrous peat, a little leaf soil and plenty of sand, and pot very firmly. Water down the soil with a rosed watering pot, but no more need be given for some time afterwards, as very little water is really required at present.

Aspleniums.—Old plants of this class should be repotted before they commence to make fresh growth, reducing the ball in all cases where the plants are as large as desirable, so as to get them into the same sized pot with a quantity of fresh soil. Young stock of many of them, including A. bulbiferum, A. b. minus, better known as A. Collensoi, A. viviparum, and others, may be obtained by removing some of the old fronds and pegging them down on the bed of coco-nut fibre in the propagating pit, or by pegging them on sandy soil in pans, where the little plants will soon strike root and may be potted separately. Small plants in 48-size pots always come in handy for decorative purposes.

Tree Ferns.—Where necessary to do so, tree ferns should be potted before they begin to make fresh growth, as they do not then experience a check, but starting away freely at their proper time make good heads.

Cycads.—Early potting is also a matter of consequence with this class of plants. Cycas revoluta, C. circinalis, and some of the Zamias are the kinds most frequently grown in private collections. They do not frequently require repotting, but when the pots get altogether too small for the mass of roots, a slightly smaller size should be given, using a compost of good substantial and holding loam with plenty of silver sand. Pot very firmly.

Tree Carnation.—By taking off cuttings now, they will be rooted and ready to grow away strongly by the advent of finer weather and clearer skies. Cuttings of various sizes may be used, but if they are sufficiently long to be pulled off with the basal joint they root well and form useful stocky plants. Cuttings of immoderate length should not be employed.

Annuals for pot work.—A sowing may now be made of such things as Rhodanthe, Acroclinium roseum, Ten-Weeks Stocks and Mignonette. As soon as well up, keep them near the glass to prevent their getting drawn. Should the Stocks show signs of damping have them pricked off into other boxes and placed in a cooler, better ventilated house. The Mignonette will form a succession to that sown in autumn.

Peaches.—The fruits in the earliest house should now be fairly well set, except perhaps on late trees if there are any in the house. At all events, when this stage has been reached the night temperature might be raised to 55° with a corresponding rise by day, especially from sun heat. When the fruit is well set the trees may be syringed twice a day with water of the same temperature as the house. The afternoon syringing should be given early enough in the afternoon for the foliage to get dry before night. Attend regularly to disbudding every day, doing the upper part of the trees first and where growth happens to be strongest.

Melons.—Hitherto we have escaped the intense fogs that have in former years proved so disastrous to young Melons in the neighbourhood and suburbs of large towns. It would be well, however, where the early production of Melons is an important matter, to make another sowing in case of any mishap to the first lot of plants. A bottom heat of 80° and a top heat of 70° to 75° will meet the requirements of young plants at present

Cucumbers.—A lower night temperature may be maintained for Cucumbers than in the case of Melons; and a relatively low degree is preferable on frosty and windy nights than to render the atmosphere arid by the overheating of the pipes. A temperature of 50° to 55° will be quite sufficient to tide them over a stormy time.

Forcing pits and frames.—See that Radishes are sufficiently thinned out to allow the leaves to develop sufficiently to form useful sized roots. Short Horn Carrots should be thinned to 2 in. apart, and then gradually thin as required for use. Keep shifting early sown Tomatos as the pots get filled with roots. Earth up Potatos in good time.

Obituary.

AMERICAN papers announce the death, on December 30th last, of that distinguished horticulturalist Mr. THOMAS HOGG. His father (says *Garden and Forest*), whose name was also Thomas Hogg, was ardently devoted to horticulture and had charge of the greenhouses belonging to William Kent, Esq., of London, who had the largest private collection of plants then in England. In this situation he became intimate with Macnab, of Edinburgh; Aiton, of Kew; Pursh, Goldie, Don and other collectors of note. Thomas Hogg, the younger, was born in London on the 6th of February, 1820, and was brought to this country by his father when only nine months old. In the spring of 1822 Thomas Hogg, senior, took a piece of ground in this city where Twenty-third Street and Broadway now meet, but which was then quite out of the city, and commenced business as a nurseryman and florist, the only other nurseries then about New York being those of Messrs. Prince, of Flushing, and Floy & Wilson, in this city. In 1840 the nurseries were removed to Seventy-ninth Street and the East River, and here young Thomas Hogg and his brother James, who had been brought up to the business, assisted their father and took charge of the very flourishing establishment at his death in 1855. In 1862 Thomas Hogg received an appointment from President Lincoln as United States Marshal, under which he went to Japan where he remained eight years. He then resigned and after a short visit to America he returned to Japan late in 1873 and remained there for two years longer in the Customs service of the Japanese Government. His close relations with the authorities gave him opportunities for exploring the islands which other foreigners did not possess, and he collected many plants and seeds of horticultural value and sent them home.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "THE EDITOR" or "THE PUBLISHER," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa, London."*

CHINESE SACRED LILY.—*A. G.*: Yes, it may be grown in soil precisely in the same way as the other varieties of Polyanthus Narcissus, and naturally the bulbs would be in better condition when so grown, especially if not forced, than when bloomed in water and fine gravel. The latter is merely placed there to keep the bulbs steady, and certainly serves to add to their elegant appearance when in flower. The flowers and leaves grow at the expense of the bulbs when grown in sand, so that the bulbs are not of great value for flowering a second year. Even those grown in soil in pots get so far deteriorated that it is scarcely worth the trouble of growing on a second year if good effect is desired. Of course you might manage them so well as to get a fairly good return the following year, but it is the opinion of those who have grown the bulbs, that they are sufficiently cheap to render them not worth the trouble of growing a second year.

TABLE DECORATIONS.—*W. Henderson*: There is no good modern book on the subject, and the best of the older works is Miss Hassard's, which was published by Macmillan & Co.; but we do not know if it is now in print

NAMES OF PLANTS.—*A. Grigor*: Cattleya Walkeriana.

CARNATIONS.—*J. H. B. Lincoln*: We cannot learn that any of the varieties named are in the trade, except Sir Henry Calcraft, and that can be obtained from Messrs. J. Veitch & Sons, Chelsea.

ST BRIGIDS ANEMONES.—*R. Herd*: You need not yet feel alarmed at the non-appearance of your Anemones above ground, as their earliness in one season is no criterion as to their appearance the next. Some years they flower pretty freely during October and November; the next year they may not do much till March. It all depends upon the age of the plants and the nature of the weather. Seedlings that have made good growth in summer are likely to flower in autumn, if the weather is at all propitious. After a few years they appear to settle down to the conditions of our climate, and to flower some time in spring, earlier or latter, according to the nature of the weather. It is a good plan, therefore, to frequently raise plants from seeds.

EGG PLANTS IN THE OPEN AIR.—*Alex. Wilson*: Sow the seeds in pots or pans in a gentle heat about the middle of April, in a moderately light compost. As soon as they have made a few rough leaves, pot them off separately in small 60-size pots, and replace them in heat till re-established. Harden them off so as to be fit for planting out in June. To get the most satisfactory results, they must be planted in a warm situation, either on a warm border, against a wall, or on a trellis. During the prevalence of warm and droughty weather, give them copious supplies of water, and when a sufficient number of fruits are set, give them weak liquid manure, to increase the size of the fruits. If the latter are required for exhibition, they should be thinned out so as to leave only a few fruits on each plant, and only one if the latter is not very strong. The smaller fruiting kinds are, however, most suitable for outdoor planting, as they give the largest return. They may also be used for decorative purposes in the flower garden.

NEW ZEALAND FLAX.—*New Subscriber*: The New Zealand Flax (Phormimum tenax) is a native of New Zealand, was introduced in 1798, and is the hardier of the two known species. Rich loamy soil suits it very well, but we have seen it planted in sandy soil, and also in rich soil on the margins of streams and ponds. Of course it makes the finer growth when planted under such conditions. We are not sure whether it would answer first rate as a covert for game. It might not afford the kind of shelter that game would readily take to; but there would be no harm in trying it upon a small scale at first. The plant can readily be produced from seeds, which sometimes ripen in this country; but as there is such a small and uncertain demand for the seeds, we doubt if any seedsman in this country keeps them. You might apply to Messrs. Vilmorin-Andrieux & Co., 4, Quai de la Mégisserie, Paris.

PLANTING VINES.—*New Subscriber*: About the end of March, or just as the Vines show an inclination to start into growth by pushing out their young buds, would be the best time to plant them if they are in pots. Carefully remove the soil and spread out the roots regularly before covering them with soil. The latter should be trodden firm, to bring it in close contact with the roots. Two year old plants, such as are fit for fruiting in pots, we consider would give the quickest return, but they would be more expensive to buy. Your other question we will attend to next week, as our space is limited this week.

ORIGIN OF GLADIOLUS NANCIEANUS.—*R. W.*: The hybrids now grown in gardens under this name were obtained or originated within comparatively a few years ago from G. Saundersii crossed with some of the old Gandavensis type. As a rule they are dwarfer than the varieties of the latter, with more widely spreading segments to the flower and variously coloured, but generally partaking of the same general features as G. Saundersii. They appear to be as hardy as the old types with which we are more familiar.

COMMUNICATIONS RECEIVED.—G. F.—P. & M.—W. M.—T. W.—G. J. I.—H. J. W.—W. B.—A. W. G. W.—J. D.—G. F.

TRADE CATALOGUES RECEIVED.

VILMORIN ANDRIEUX & Co., 4, Quai de la Mégisserie, Paris.—Seeds, Bulbs, Strawberries, &c.

RICHARD DEAN, Ranelagh Road, Ealing, W.—Hardy Plants, Flower and Vegetable Seeds, Choice Potatos, &c.

LONDON SEED TRADE.

January 30th, 1893.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a further advance in price of American Red Clover, and decreased supplies of English Cowgrass. Red and White Clovers, prices hardening. Alsike and Trefoil steady. Ryegrasses unchanged.

COVENT GARDEN MARKET.

February 1st, 1893.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Grapes..... per lb.	0 6	2 0	Pine apples.		
Kent Cobs...100 lb.	120 0	125. 0	—St. Michael's, each	2 6	6 0
Peaches ... per dozen			Apples...per ½ sieve	1 0	3 6
Melons ... . each			Plums...per ½ sieve		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, French, per lb.	1 0		Musbrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	1 0		Radisbes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	5 0	Seakale .....per bkt	2 0	3 0
Celery.....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers .....each	0 9	1 6	Spinach ... per strike	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 9	1 0
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

POTATOS.—Kent Regents. 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d
Azaleas ... per doz.	24 0	42 0	Foliage Plants, doz.	12 0	60 0
Cyclamen per doz ...	9 0	24 0	Hyacinths, doz. pots	8 0	15 0
Cyperus .....per doz.	4 0	12 0	Lily of the Valley doz. pots	12 0	24 0
Cineraria ...per doz.	8 0	12 0	Marguerites, per doz.	6 0	12 0
Dracæna term., doz.	24 0	36 0	Palms in variety, each	2 6	10 0
Dracæna viridis, doz.	9 0	18 0	Palms, Specimen ...	15 0	63 0
Erica Hyemalis, doz.	12 0	18 0	Primula Sinensis per doz.	4 0	6 0
Evergreens, invar. doz	6 0	24 0	Solanums.....per doz.	9 0	12 0
Ferns, invar., per doz.	4 0	18 0	Tulips—various.....	8 0	12 0
Ferns, small, per 100	6 0	10 0			
Chrysanthemum, doz.	4 0	9 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s d		s. d.	s. d
Anemones, doz. bnch	4 0	6 0	Mimosa (French) p. bh.	1 0	1 6
Azalea, doz sprays.....	0 6	1 0	Mignonette... 12 bun.	2 0	4 0
Arum Lilies, 12 blms.		6 0	Narcisse, various, doz. bnchs	3 0	6 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, 12 sps.	0 9	1 0
Carnations, 12 blooms	2 0	4 0	—scarlet.....12 bcbs.	6 0	12 0
Chrysanthemum, dz bn	6 0	15 0	Primula, double, bun.	0 6	1 0
Camellias doz blooms	1 0	4 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Cyclamen doz bloomso	6	0 9	Roses, yellow, dozen	3 0	6 0
Eucharis ...per doz.	3 0	6 0	— French, per bnch	1 6	4 0
Euphorbia Jackminafolia, doz. sprays	1 0	4 0	— French, 100 blms	6 0	12 0
Gardenias 12 blooms	12 0	24 0	— Red..... doz. blms.	10 0	15 0
Heliotropes, 12 sprays	0 6	0 9	— Saffrano...per doz.	2 0	3 0
Hyacinths doz. spikes	3 0	6 0	— Tea ..... per dozen	1 0	3 0
Hyacinths Roman doz. sprays	0 6	1 0	Tuberoses. per doz	1 0	1 6
Lilac, White, French, per bunch...	3 0	5 0	Tulips, red, per doz.	0 6	1 0
Lilium Harrisii, doz. blooms	6 0	9 0	— White, per doz. ...	1 6	2 6
Lily of the Valley dz. sps.	0 6	1 6	— Yellow, per doz....	1 6	2 0
Maidenhair Fern, 12 hs.	6 0	9 0	Violets, Parma, French per bunch ..	5 0	7 6
Marguerites. 12 bun.	4 0	6 6	—Czar, French, bun.	2 0	4 0
			Small ,, doz. bun.	4 0	6 0

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FLOWER SHOWS, 1893.

[*The Editor will be greatly obliged if Secretaries of societies will communicate to him the dates of their exhibitions as soon as fixed.*]

FEBRUARY.

14.—R.H.S., Drill Hall.

MARCH.

14.—Flower Show in Manchester Town Hall.
14,28.—R.H.S., Drill Hall.
22.—Royal Botanic Society.
23.—Shrewsbury Spring Flower Show.

APRIL.

5,6.—Royal Caledonian Horticultural Society.
11,25.—R.H.S., Drill Hall.
25.—Flower Show in Manchester Town Hall.
26.—Royal Botanic Society.
26,27.—Ancient Society of York Florists.

MAY.

9.—R.H.S., Drill Hall.
17.—Royal Botanic Society.
19.—Orchid Show at Old Trafford.
24.—Midland Counties Pansy Show at Tamworth.
25,26.—R.H.S., Temple Show.

JUNE.

6,20.—R.H.S., Drill Hall.
14,15,16.—York Floral Fete.
20.—National Rose Show at the Drill Hall.
21.—Royal Botanic Society.

JULY.

1.—National Rose Show at the Crystal Palace.
5.—Royal Botanic Society.
5, 6.—Lee, Blackheath, and Lewisham Horticultural Society.
11.—R.H.S., Chiswick.
12,13.—Royal Caledonian Horticultural Society.
13.—National Rose Show at Worksop.
22.—Rose Show at Old Trafford.
25.—R.H.S., Drill Hall.

AUGUST.

7.—St. Neots Amateur and Cottage Horticultural Society.
8.—R.H.S., Drill Hall.
18.—Devon and Exeter Horticultural Society.
23, 24.—Shrewsbury Summer Show.
29,30,31.—R.H.S., Agricultural Hall.

SEPTEMBER.

6,7,8.—National Chrysanthemum Society at the Aquarium.
8.—Bute Rose Show at Rothesay.
12,26.—R.H.S., Drill Hall.
13,14.—Royal Caledonian Horticultural.

OCTOBER.

10,24. R.H.S., Drill Hall.
11,12,13—National Chrysanthemum Society at the Aquarium.

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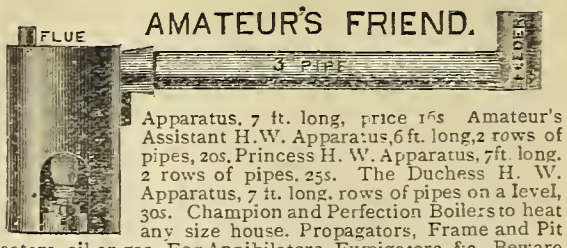

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For Index to Contents see page 377.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Feb. 13th.—National Chrysanthemum Society: Committee Meeting at 7 p.m.
Sale of Plants at Protheroe & Morris' Rooms.
TUESDAY, Feb. 14th.—Royal Horticultural Society: Committee Meetings at 12 o'clock. Annual Meeting at 3 p.m.
Sale of Orchids, Stove and Greenhouse Plants, &c., at Protheroe & Morris' Rooms.
WEDNESDAY, Feb. 15th.—Sale of Plants and Bulbs, &c., at Protheroe & Morris' Rooms.
THURSDAY, Feb. 16th.—Sale of Hardy Plants at Protheroe & Morris' Rooms.
FRIDAY, Feb. 17th.—Sale of Orchids and Hardy Plants, at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R H.S.

SATURDAY, FEBRUARY 11th, 1893.

POINTS AND PRIZES.—It is very well known that the present method of apportioning prize-money to classes at exhibitions has found critics who have proposed that prizes in all cases should be proportioned to points, so that awards may largely equal quality. It is therefore very interesting to learn that at one of the leading suburban shows in the County of Surrey—Carshalton—a special class for collections of vegetables is being this year established which will have the distinction of being open to all classes of exhibitors, gardener, amateur, or cottager, and the sum of £5 has been allotted for so many prizes, the amounts of which will be entirely regulated by the number of points given to each by the judges.

It can hardly be doubted that such an experiment will be watched with considerable interest. Probably had the sum in question been allotted under the usual arrangement we should have seen the prizes ranging from forty shillings to five shillings, leaving the usual great gaps. We are told that it is the large amount of the first prize which always attracts entries and encourages competition, which may be true, only, as there is but one first prize and, say, five exhibitors, four must fail to secure it, and some must come off with very small amounts. Under the arrangement of awards as will be found in the case quoted instead of one competitor getting forty shillings and one five shillings, their respective collections being after all not far apart in point of merit, the prizes may be apportioned in this way—the highest may be twenty-five shillings and the lowest fifteen shillings, the others being apportioned according to value.

In that way every exhibitor will secure not amounts that have been arbitrarily determined, but sums that exactly represent the actual worth of his exhibits. The universal adoption of the plan would be little less than a revolution it is true, but at least every society might have one class on this basis for trial.

THE GARDENERS' ORPHAN FUND.—The election of candidates to the benefits of this fund for the present year is now over, and our readers will find a report of the proceedings in another column. We cannot help drawing attention to the exceeding interest taken in the election this year, and if our readers will but compare the numbers of votes given to candidates last week with those of last year they will be struck with the extraordinary increase. The high figures obtained by the successful candidates indicate very much the amount of energy put forth by friends to secure these results. It is chiefly to these great exertions that the number of votes recorded was so large.

It is true the committee's report mentions a small falling off in the amount of annual subscriptions, but the number of subscribers voting this year was unprecedented. We should like to see a corresponding degree of interest shown by those who being gardeners or horticulturists of some sort, are the very persons whose orphan children, or those of relatives, may some day be only too pleased to benefit from the fund. Whilst to all who co-operate so heartily and so disinterestedly to make the fund prosperous all honour and thanks are due, very specially so are they due to the chairman of the committee, Mr. Marshall, who is most earnest and untiring in his efforts, and far from least to Mr. Barron whose labours, given with the most unselfish aims, are so great that only those fully intimate with them realise how meritorious they are.

A GARDENERS' BUREAU. — We adopt here the name for labour exchanges now so plentiful in France, and which may in good time, although we copy slowly in this country, be plentiful with us. It is but needful just now to look over the published lists of applications for places as gardeners, or other garden workers, and we cannot fail to note that those needing places are in the largest majority. The same thing is but too evident all the year round. It may be that advertising is the best method at present devised of making a gardener's wants known, but to many it is very costly, and productive of great disappointment. The hope deferred arising from our present cumbrous methods of filling or finding situations has broken many a good man's heart. The luck has, in spite of all his efforts and expenditure, utterly failed him.

We welcome heartily the intention exhibited on the part of some gardeners' associations to combine with their usual operations the very important one of making them, in a limited sense, labour exchanges. It may be possible for members out of employ to learn of vacant places through the aid of more fortunate members, and if the secretary be made the medium of communication, he could always be informed of openings, and thus put applicants on to their track. But any organisation which would merit the appellation of a gardener's bureau, must be of a national character, with its centre in London, and branches in all the leading towns. How it should be formed is a matter for consideration, but we have ample examples in France, and other trades in this country can show us excellent leads.

We have no bias or prejudice in the matter, but do most earnestly desire to see any form of organisation introduced which shall enable any gardener once he is lacking work to find some again as speedily as possible. In many cases it is not the man who is best fitted, but he who is most fortunate, who gets the place. A gardeners' labour exchange might do much to amend these defects.

SUNFLOWERS.—Was that distinguished and able astronomer, Sir Robert Ball, but indulging in a little joke at the expense of the poets when he was the other day lecturing to the children at the Royal Institution. He remarked that talking of the sun naturally led to the Sunflower; and to the assertion of the poets that the flowers followed the sun in its diurnal course, and returned to its eastward position during the night in preparation for the succeeding day's journey.

An Arctic explorer, desirous of seeing how the Sunflower would act during the very short summer in Arctic regions, when the sun was above the horizon the entire twenty-four hours, sowed seed which rapidly grew, and when the plants flowered it was found that the blooms, having no night through which to return to their morning's position, kept on turning with the sun until finally the stems, unable to endure such continuous twisting, snapped off. There is nothing like ridicule to kill nonsense, and pretty as is the poet's conception it could not long out-last the fun of the Arctic story. But there is some truth in the idea all the same, as indeed it is so in reference to the habit of many flowers which are naturally attracted to the sun, so that the finest show of flowers may always be seen on the south side of the plants.

Without doubt we have in the motions of plants very much that is curious and interesting, the mechanical action of the sensitive plant, or of the Sundew, the midnight flowering of the Cereus, the odd evolution of perfume by the night-scented Stock; these are but a few of many strange and indeed almost unaccountable acts of plants that may well command the attention of the acute observer. It will be long ere the field of inquiry which Darwin commenced will be entirely exhausted, if indeed it can be.

Glamis.—We understand that it is most probable Mr. Whitton's successor at Glamis Castle will be one of his old foremen.

The Windsor, Eton and District Chrysanthemum Society's second annual exhibition will be held at the Albert Institute, Windsor, on Friday, Nov. 10th.

Gardeners' Royal Benevolent Institution.—We have great pleasure in announcing that the Baron Schroder has kindly consented to preside at the 54th annual festival dinner, at the Hotel Metropole, on the 22nd of June next, in aid of the funds of the Gardeners' Royal Benevolent Institution.

Mr. T. B. Dolby, gardener and florist, Skirbeck, recently fell off Peterborough G.N.R. platform, and sustained rather serious injuries, breaking one arm, besides being very much bruised and shaken. Mr. Dolby is going on well towards recovery.

The Widcombe Institute Horticultural Club.—At the annual meeting of this growing institution held last week, the secretary, Mr. Moger, was presented with a barometer, as a slight recognition of his energy and ability as organising secretary of the institute.

Pansy Societies.—The Midland Counties Society has issued its schedule, a very liberal one indeed, for the next exhibition to be held at Tamworth at the end of May, and, if the season should suit, it ought to be a great national gathering of Pansy growers and blooms. The New London Pansy Society has also issued its first schedule, a very liberal one for a young society, and as it is under the wing of the Royal Horticultural Society, it should go ahead. There are 28 classes for Pansies and Violas, and for the first time, these flowers will be seen on an extensive scale in London.

Bulbous Irises.—We quote the following from a circular recently issued from the office of the Royal Horticultural Society:—"About the end of March next, the society will publish a very important work entitled, 'A Handbook of Bulbous Irises,' by Prof. Michael Foster, Secretary, R.S., F.R.H.S., &c. The volume, which will be in octavo form, will contain an exhaustive treatise on 'Bulbous Irises,' besides which will be given a systematic synopsis of almost every known species, with full descriptions and notes as to peculiarities, time of flowering, native habitats, &c."

Tomatos and Cancer.—There is a very prevalent idea that eating Tomatos is an exciting cause of cancer, and it is stated that for the last two years the Cancer Hospital at Brompton has been so inundated with letters on this subject that the Medical Committee have thought it necessary to announce that Tomatos neither predispose to, nor excite, cancer formation; also that they are not injurious to those suffering from this disease, but, on the contrary, are a very wholesome article of diet, particularly so if cooked.

Unskilled Gardeners have been the subject of some recent correspondence in a Dundee paper, and one of the writers thus expresses himself:—I think it is about time that something was done towards gardeners protecting themselves, as at the present time there are hundreds of men occupying journeymen's places who have never served an apprenticeship. But we gardeners are about the slowest moving body of men in existence. You will not see one who is not ready to admit that our profession is being ruined, but you cannot get them to stir themselves and form a Union to try and protect themselves. You cannot expect any good to come of talking about it, but waken up—we have imitated "Rip Van Winkle" long enough now—and do not allow a profession so respectable as ours to be fooled about any longer.

Germinative Power of Beet Seed.—Mons. G. Marck, in his work, *Naturawissenschaftl Fundschau*, gives the results of the researches which he commenced in 1885 with respect to the duration of the germinative powers in the seed of Beet. He has grown ninety samples of various ages from one to eleven years, each trial being made twice in capsules filled with sand. The samples came partly from the best known French and German houses, and were partly selected by the author himself. The temperature was from 13° to 19° Reaumur, and that of the sand from 12° to 15½°, the experiments extending over fourteen days. The results, says Mons. Marck, show that up to the age of five years the seed varies very little in germinative power, but in six or seven years it diminishes in the proportion of 3 to 5 per cent.; in the eighth year the loss rises to 25 per cent., and in the tenth to 40 per cent.; so it seems probable that after this period the germinative power falls so rapidly as to cause the seed to be of little or no use.—*Mark Lane Express.*

Precocious Springtide.—We already read in the papers mention of very early evidence of spring, either in the appearance of flowers or of the incubation of birds, or some other feature which leads thoughtless people to imagine that spring is already here. The sharp frosts of the mornings of Sunday and Monday remind us that we are by no means out of the wood of winter yet, and ere the present month or even March is out may find that the spring, such as we would have, is very remote. It is true the weather lately has been for the time of year fairly soft and mild, but how often have we had similar experience in January even, and then found winter of a very bitter kind following. It would be unfortunate did any unsuspecting one be tempted to garden unduly early. There is ample time yet for most things, and certainly for the bulk of crops.

Frozen Flowers from New Zealand.—At the meeting of the Scientific Society of Ipswich on Wednesday evening of last week, a letter was read from Mr. E. Herbert Fison stating that he should shortly be receiving a large consignment of New Zealand flowers packed in ice. They would be stored in a London frozen meat warehouse and sent on to Ipswich when he wanted them. He should be pleased to have them unpacked at the Museum, in the presence of the members of the Scientific Society about the end of the present month on a convenient date.

Gardeners in Council at Kingston.—Judging by reports to hand, the gardeners of Kingston and Surbiton seem to be waking up to the importance of having an association for mutual improvement, and they held a meeting at Albany Hall, on Thursday of last week, the moving spirit of which on behalf of the craft was Mr. A. Dean. In spite of wretched weather there was a large attendance, and Mr. T. Cusbon, Surbiton Park Gardens, was placed in the chair. The aims and objects of gardeners' associations having been expounded, it was unanimously resolved to form such a society for the district, and a sub-committee, consisting of Messrs. Cusbon, Wilkins, Henbest, Hawkes, Hughes, Benson, Ward, Woods and Woodward, was appointed to prepare a code of rules, and submit the same to an adjourned meeting to be held at the same place, on Thursday next.

Manchester Flower Shows.—The provisional arrangements of the Manchester Botanical and Horticultural Society for this year are:—Spring flower show, at the Town Hall, March 14th and 15th; sacred concert, at the Gardens, on Good Friday afternoon; miscellaneous concert, at the Gardens, on Easter Monday; spring flower show, at the Town Hall, April 25th; Whitsuntide exhibition, open at Gardens, May 19th; Rose show, at the Gardens, July 22nd; Chrysanthemum and hardy fruit show, at Town Hall, November 21st and 22nd. In addition to the above, the exhibitions of the National Auricula, Tulip, Carnation, and Pink societies will be held. The time will, in each case, be duly announced. Technical horticultural education, Friday afternoons or evenings; musical days, Wednesdays and Saturdays during the months of June, July, and August.

Flowers from the Scilly Isles.—To give an example of the extent of this year's flower growing business at Scilly, it is only necessary to narrate the fact that last week no fewer than twenty-five tons of flowers in boxes were despatched to the Midlands and Covent Garden Market. This, for so early in the year, may be looked upon as remarkable. Last year about 330 tons of flowers were sent away, but this year's growth will, it is said, be nearly double. The gardens in Cornwall are beginning to look quite bright with early spring flowers, Primroses, Snowdrops, and the like being in full bloom. This is very early, even for Cornwall. Vegetable crops are looking particularly well.

The New Railway Rates.—A meeting of the Committee of the London Fruit, Flower and Vegetable Buyers' Protection Association, Limited, and of growers and salesmen, was held at the Mona Hotel, Covent Garden, on the 3rd inst., at which it was resolved:—"That a deputation, representing all the different interests of the fruit, flower and vegetable trade, should be appointed to wait upon the President of the Board of Trade and the President of the Board of Agriculture, in relation to the above matter, and to invite the co-operation of all kindred associations in the proposed deputation in order that the same may be fully representative."

IMPORTED FRUIT.

I TRUST that no measures will be taken through legislation to check in any way the free importation of foreign fruit into this country. Parliament is to be invited during the ensuing session to deal with the subject of fruit importation in some way, but if it be in the direction of restriction, not only will that course seriously affect our common trade, by which so many live, but it will serve to rob the poorer classes of foods to which they have become accustomed, and are for them sources of health and happiness. We cannot conceive for one moment that the removal from our midst of the healthful stimulus of foreign competition, whether in relation to fruits, flowers, or vegetables, would be productive of good to any one.

It is terribly hard work as it is to induce persons to embark in the cultivation of these products of the best form and character, even with the examples of foreigners before their eyes. Remove that stimulus and there would be collapse of effort. If we have been so much beaten at our own game, it is so largely because our practices and methods have been so inferior to those of our competitors. It is not enough that we should equal them in quality and in productiveness, we must learn to excel them. If they sample and pack better than we do, and therein lies most largely our deficiencies, we have but to do better than they. If their favoured climate enables them to send us products that we cannot produce, it would be folly for us to attempt to compete with them so far as those products are concerned. Still, we have myriads of products in which none can excel us if we will try to produce them. No nation in the world is so dependent as we are upon the productions of others, yet we have on the whole a grand climate. Sometimes it seems indifferent to our needs; but on the average it is a very good climate, and one which might be very much worse.—*X.*

GARDENERS' ORPHAN FUND.

THE annual general meeting of the subscribers to this charity was held on the 3rd inst. at the Cannon Street Hotel, Dr. Masters, F.R.S., presiding. The following report of the committee and statement of accounts was presented:—

"The executive committee have great pleasure in presenting their fifth report, and in congratulating the subscribers to the Gardeners' Orphan Fund on the closing of another successful financial year, and the continued prosperity of the charity.

"The claims of the fund having been brought under the notice of Her Royal Highness the Princess of Wales, the committee have the honour to announce that Her Royal Highness has been graciously pleased to become Patroness of the fund, and has expressed the hope that 'the fact of her name appearing as Patroness may assist the objects of the charity.' Such exalted patronage being extended to the fund is most gratifying to the committee, and will be of the greatest value and importance in the promotion and furtherance of the cause.

"The munificent donation of £500 from Mr. and Mrs. Harry J. Veitch, as a thank-offering on the celebration of their silver wedding, was an act of generosity unexampled in the history of gardening charities, and the warmest thanks of all concerned in the welfare of the fund are due to them.

"The committee are under deep obligation to Sir James Whitehead, Bart., M.P., for his great kindness in presiding at the annual dinner, at the Hotel Métropole (which was a new departure in the management of the fund), and whose eloquent appeal for support resulted in the sum of nearly £1,000 being received on that occasion. The committee hereby tender him a most cordial vote of thanks.

"During the past year fifty children have been receiving the benefits of the fund, and the committee recommend that eight be elected this day, bringing the roll up to fifty-eight. Two of the orphans on the list, viz., Victor Spyers and Ralph Joseph Gardiner, having attained the age of fourteen years, are no longer chargeable to the fund. See Rule 13.

"The committee again take advantage of the presentation of their annual report to tender their most sincere thanks to the many kind friends throughout the country for efficient help rendered in many ways, but whose names it would be inviduous to mention.

"A slight falling off occurs in the annual subscriptions, which is to be regretted, as this should form the chief source of income. The committee appeal strongly for increased efforts in obtaining new subscribers and more earnest support from the gardening community generally, in whose interests the fund was established and is maintained.

"The committee have to lament the death during the year of Mr. C. H. Sharman, one of their most zealous and active colleagues, who took a very warm interest in the fund from its commencement. The committee have elected Mr. Robert Ballantine, as a member of their body, in the place rendered vacant by the death of Mr. Sharman."

The report and statement of accounts was unanimously adopted on the motion of the Chairman, seconded by Mr. G. Gordon. Mr. T. B. Haywood was re-elected treasurer on the motion of Mr. Harry Turner, seconded by Mr. John Wills; and on the motion of Mr. A. W. G. Weeks, seconded by Mr. B. Wynne, Mr. John Fraser was re-elected auditor. Mr. A. J. Brown and Mr. A. Outram moved and seconded that Messrs. W. G. Head, John Laing, G. Nicholson, W. Poupart, J. Smith, and J. Walker be re-elected members of the executive committee, and this also was carried, as was the re-election of Mr. Barron as honorary secretary, on the motion of the Chairman, seconded by Mr. W. Marshall. These gentlemen were also thanked for their past services.

On the motion of Mr. Wright, seconded by Mr. W. G. Cummins, Sir James Whitehead, Bart., M.P., and Sir Edwin Saunders were unanimously elected vice-presidents. Messrs. A. W. G. Weeks, R. Dean, W. Poupart, and B. Wynne were elected scrutineers of the ballot, and the meeting adjourned until four o'clock, when the result of the poll was declared as follows:—Frederick Price, 445; Nellie Ede, 254; Ada Beddoes, 228; John Mitchell, 227; Emily Kate Neve, 220; Otto Kosbab, 217; Philip Arthur Stevens, 216; Minnie Rapley, 195; Winifred Helen Doherty, 59; Robert Houston, 185; John Keates, 52; Alice Maud Milne, 81; John Titley, 114; Rose Emily King Ward, 143; and Robert Clement Blake, 154. The first eight were declared duly elected. A vote of thanks to the chairman and scrutineers concluded the business.

GARDENERS' ORPHAN FUND.—CASH STATEMENT FOR THE YEAR ENDING DECEMBER 31ST, 1892.

RECEIPTS.

		£	s.	d.
To Balance from last Account ...	£629 19 1			
,, On Deposit with Bankers ...	600 0 0			
		1,229	19	1
,, Subscriptions, General	347 6 0			
,, Ditto Collected by Local Secs.	112 19 0			
		460	5	0
,, Donations, General...	174 5 3			
,, Ditto Collected by Local Secs.	120 4 0			
		294	9	3
,, Silver Wedding Thank-offering from Mr. and Mrs. Harry J. Veitch		500	0	0
,, Annual Dinner		998	4	10
,, General Card Collection		134	3	1
,, Advertisements in List of Subscribers ...		31	16	0
,, Collections in Boxes (General)		17	17	6
,, Dividends on Stock and Interest on Deposit		143	17	7
		£3,810	12	4

NOTE:—INVESTMENTS, &c.

2¾% Consols	£6,070	6	10	
3 % Canadian Stock ...	500	0	0	
	£6,570	6	10	
On Deposit with Bankers...	300	0	0	
	£6,870	6	10	

EXPENDITURE.

		£	s.	d.
By Allowances to Orphans		625	17	6
,, General Card Collection		43	5	8
,, Annual Dinner		167	10	2
,, Printing, &c., Lists of Subscribers		26	13	0
,, Secretary's Clerk	52 10 0			
,, Printing and Stationery	21 1 8			
,, Annual, General and Committee Meetings	6 19 0			
,, Postages	18 9 0			
,, Bank Charges...	2 15 9			
,, Sundry Expenses (Petty Cash) ...	32 14 3			
		134	9	8
,, Purchase of £1,000 2¾ % Stock...	950 0 6			
,, Ditto £500 2¾ % Stock ...	485 13 0			
,, Ditto £514 2s. 3d. 2¾% Stock	500 0 0			
		1,945	13	6
,, On Deposit with Bankers...		300	0	0
,, Balance at Bank		567	2	10
		£3,810	12	4

We have examined the Securities, and the Books and Vouchers supplied to us, and certify the above account to be correct.

(Signed) JOHN FRASER, LEYTON.
WM. SHARP, CHARTERED ACCOUNTANT, 60, GRESHAM STREET E.C. } *Auditors.*

Dated January 13th, 1893.

FLORICULTURE.

Violas and Pansies.

It will be advisable to look over these where they have been out of doors during the severe weather and were planted in the autumn, to press them down firmly into the ground, and surface with a little potting soil or prepared soil. Many plants will in damp and colder situations probably be found to be injured, but by doing what I recommend, the plants can be saved and will throw up young growth presently. A large number of new varieties of both Pansies and Violas are being introduced this season, the popularity of both flowers being now assured, and the coming exhibitions where these flowers are invited will be of more than ordinary interest to lovers of the Pansy and Viola.

Plants wintered in frames should have an abundance of air, and the lights pulled off in mild weather, so as to ensure robust growth, and not weakly growth, as when shut up too much. Damping off should be well looked after, as a great lot of injury is soon caused by neglect of this precaution. If the weather should be favourable in the middle or end of March, and the plants are strong, planting out should then be proceeded with, seeing that the plants are very firm in the ground. Late planting is the cause of so many failures with the Pansy and Viola.—*W. D.*

Carnations in the United States.

For thorough-going heartiness and friendship, and the enjoyment of life, the American florists leave us immeasurably behind in their meetings, thinking little or nothing of a few hundred miles' ride to a flower show and gathering of florists, where business and pleasure go hand in hand, and wholesome fun and enjoyment follows the practical work of the day. British horticulturists as a rule are thoroughly in earnest with their work, but a warmth of feeling and a desire to shake off the cares of our everyday life when meeting together is not so strongly developed as in the States.

Go-a-headedness in any flower they take up is a fashion over there. Now it is the Carnation which seems to be so very popular, and the *American Florist* of January the 19th, in a special, handsomely got up double number, gives a descriptive list of about 350 varieties, almost all unknown on this side of the Atlantic, and apparently valuable at present *only* for forcing purposes with the American florists. Amongst the 350, Germania is described as "poor grower, failed, fine flower, but may be called a Remontant; and useless for forcing." Miss Joliffe is described as "run out, small and discarded;" and Pride of Penshurst as "poor for forcing." So that it is quite evident that Carnations to be of value in the United States must bear rapid growing in heat.

Illustrations are given of several varieties, but they would not generally recommend themselves to our florists here, and the illustrations of "forms of growth" are not at all up to our standard of form of plant, and the illustrations of flowers of some of their varieties do not give us a favourable impression of varieties esteemed in America. The blooms are small and fringed on the edge, not coming up to our standard of refinement and excellence. Such sorts as Germania and Pride of Penshurst we can quite understand being failures when grown in heat, and with us Germania has nothing whatever of the "Remontant" (or Tree Perpetual Carnation) about it. [Oh dear, yes! Mr. Willans grows it splendidly at Blenheim for winter blooming.—Ed.] We have a class of winter blooming Carnations—the Remontants—which are most valuable, in fact they are almost perpetual bloomers, and they are almost all of good form and very varied in colours, but no forcing is applied to them to get them into bloom, neither is any needed.

That the Carnation is an immensely popular flower in America is shown by the large number of Carnation societies existing there, and it is only a question of time with the florists there in getting better form into their new varieties, and Mr. John Thorpe's prediction of the coming Carnation flower will by and bye be realised. If it were possible to transmit in its entirety to New York in the blooming season, the annual display of Carnations and Picotees as seen in Mr. Dodwell's garden at the annual meeting very early in August, I venture to think that it would prove an "eye opener," and an instructive lesson to many. The American florists are very energetic in their work, and improvement is the order of the day with them as with us, and they have taken the Carnation, the Pansy, and the Chrysanthemum well in hand.—*W. D.*

THE GLASGOW PARKS AND BOTANIC GARDEN.

We have now the pleasure to make the announcement that at the meeting of the Glasgow Town Council on the 2nd inst., Mr. James Whitton, gardener to the Earl of Strathmore, at Glamis Castle, was appointed to the post of Superintendent of the Glasgow Parks and open spaces at a salary of £300 per annum; and Mr. Daniel Dewar, of the Royal Gardens, Kew, was at the same time appointed to succeed the late Mr. Robert Bullen as Curator of the Botanic Garden, at a salary of £200 per annum. There were some peculiar developments in the action of the Parks Committee preceding these appointments, but all's well that ends well, and both our friends may be heartily congratulated on their success.

It seems that about the beginning of November the Town Council advertised for a Curator for the Botanic Garden at a salary of £200 a year, with some other emoluments. A few weeks later it was intimated that Mr. McLellan, Superintendent of the Parks, had retired from that office on a pension of

Mr. Daniel Dewar,
Curator, Botanic Garden, Glasgow.

£200 a year. The Committee then appear to have amalgamated the two offices, for on the 10th of December another advertisement appeared, inviting application for the post of Curator and Superintendent at a salary of £300 a year. It was generally considered that this was an error of judgment, and that the Council would have great difficulty in securing the services of a man possessing the scientific and practical knowledge that would be required in the holder of both offices. Yet it is a fact that the Council received nearly one hundred applications, a circumstance which suggests some curious reflections, for if it be true that there are so many men in the horticultural profession possessing the necessary qualifications for such a post, where is an outlet to be found for the exercise of their abilities at a fair renumeration? Their prospects are indeed not of the brightest. But we are digressing.

To the surprise of the candidates the next move of the Parks Committee was to separate the offices, and recommend the appointments that have now been made. We cannot help thinking that the Council has taken a wise course, in making these appointments, but it was not creditable to the Parks Committee to put the applicants to so much trouble and annoyance by their shilly-shally conduct.

Mr. Whitton, the new Parks Superintendent, is a very able man, and we doubt not will amply justify his appointment. He was foreman to the late Mr. George Johnstone, at Glamis Castle, and succeeded him on the death of that most excellent practitioner, having in the meantime been for some six years gardener at Coltness, Wishaw. Mr. Dewar, like Mr. Whitton, is a native of Scotland, and came to Kew some 12 years ago, from the nurseries of Messrs. Dicksons & Co., Waterloo Place, Edinburgh. During nearly the whole of his residence at Kew, he has had charge of the Herbaceous department, a fact which in itself is the best testimony to his ability. We hope sincerely for the success of both in their new spheres of labour.

PROTECTING CELERY.

Doubtless your correspondent, "H. W.," is one amongst the many whose crops has been destroyed by the rigorous action of the ice-king this winter. The character of the seasons of late years has been so variable that really we are at a loss to know whether to anticipate good or evil. Should the weather be open and mild as a matter of course no protection is needed, the plants be they what they may being infinitely better left in the ground without any protection whatever; but the transitions in temperature are so very sudden and so great, that the cultivator runs great risk should he not make ample provision by having the fore horse well in hand, so as to cope with our ever-varying climate.

In my time I have experienced the immense value and convenience of having plenty of cellar-room, having had cellars in the open garden well covered with earth and the whole covered with trees. In these no frost ever entered, and they were always warm and dry. I have also found wide passages leading to the ice-house of great value, in enabling me as occasion required, almost in the twinkling of an eye, to store Brocoli, Endive, Celery, &c., walk outside and whistle in defiance of the cruel vagaries of the clerk of the weather. It has given me the greatest consolation, when the scourging influence of frost has been devastating the whole country, to know that my crops were safely and securely housed.

I may say that it was my practice to mutilate the plants or roots as little as possible, removing only such portions as were decayed or that would leave the plant without the aid of force, and avoiding the making of wounds, as it is much easier to make a wound than it is to heal one. I have had deep brick forcing pits in which I have stored Broccoli that have kept admirably for weeks during the most rigorous winters, to wit, for example, the Crimean winter of 1854-55. They were planted with the roots entire, and put in thickly, but when the leaves were dry, giving air if possible, but covering the plants with dry clean straw which was placed inside, no other material being so suitable for the purpose.

It is the gardener's business and interest to please the cook at all seasons, for should he fail to do so, his position becomes by no means an enviable one, consequently the producing and preserving of all garden products is an important matter with him; and as Celery is a wholesome and with most a highly favoured esculent, it should be so managed as to be supplied under protection as nearly as possible from the soil in which it was grown, and I deem it essential that to insure this the crops must have timely attention, whether it be the protection in the open ground or under cover.

One simple means has been adopted with satisfactory results, viz., by nailing two pieces of boards together, thus—∧—in short lengths of about 3 ft. On the appearance of frost these can be quickly placed on the tops of the ridge, and subsequently well covered with protecting material. These inverted troughs being non-conductors of heat will in themselves be of considerable protection, and help to exclude the air which assists the frost in penetrating the earth, and also prevent the escape of warmth husbanded in the soil; and as we sometimes have sudden changes from frost to rain, and rain to severe frost, the moisture is kept from entering the hearts of the plants, so inimical to plants when exposed to very severe weather. To allow the frost to get hold of the ground before applying remedies to preserve crops is to all intents like the trite old adage—locking up the stable when the horse has vanished.—*George Fry.*

World's Horticultural Congress.—The date for the World's Horticultural Congress has been set by the Congress Auxiliary of the World's Columbian Exposition. The Horticultural Congress will begin at Chicago August 16, 1893, and continue four days.

PRIMULAS AT FOREST HILL.

As the dull and sunless days of midwinter gradually give place to the brighter days of spring, so will the collections of Chinese Primulas come into bloom in greater numbers. Tbe collection of Messrs. J. Carter & Co., at their Forest Hill Nursery is somewhat earlier than last year owing to the greater amount of fire heat which the cold of last month necessitated. There are 6,000 plants altogetber and 5,000 of these are flowering in one long house, producing a very fine effect on the visitor who haply has been contemplating the flowerless condition of plant life out of doors. There are early and late varieties both among the single and semi-double types, so that a succession can be maintained from a single sowing of the different kinds. All are grown in 48-size pots, and being intended for the production of seed, the flowers of tbe first vigorous truss are aded artificially by means of the camel-hair brush to set their fruits. The operators were busy at the work on the occasion of our visit, and being favoured with a fine day and sunshine, the pollen was very plentiful, so that tbe men could proceed apace. The process, as is now well known, is prohibitive of a continuous display of bloom; in the course of a day or two the blooms on flowers that have set their fruit drop, and the energies of the plant are then concentrated on the development and maturation of seed.

Single Palm-leaved Varieties. The old Holborn Blue is still grown in considerable quantity, a fact that is good evidence that the colour, by whatever name it may be called, is still appreciated by the growers of Primulas. It is one of the early-flowering kinds and has red petioles. The name palm leaved is applied here to the ordinary heart shaped and lobed type in contradistinction to the fern-leaved sorts. Another blue variety at Forest Hill is named Porcelain. The flowers are lighter in colour with a dark edge, but they are larger, measuring sometimes 2¼ in. across, wavy, and very effective. It is somewhat later than the old blue variety, but we, nevertheless, like it very much. The leaves are also larger, witb stronger petioles, and the segments of the flower so overlapping that they appear to form a double row. It was obtained by crossing the old variety with the fern-leaved Elaine. Tbe flowers of Magenta are of a deep magenta-purple, pale in the early stages, but getting more intensely coloured as they get older, and the trusses are borne well above the foliage. Vermillion is equally floriferous and early, bearing a profusion of intensely red flowers well above tbe foliage. Tbe flowers of Venus are white, sometimes tinted with blush, and generally mottled and striped with purple. They are of medium size and early. The palm-leaved Elaine has large, pure white, fimbriated flowers, developed early, and pale red petioles to the leaves. Another early variety is Carmine, baving large, rosy-carmine flowers with much undulated segments, and the tresses well carried above the leaves, which have red petioles.

For size and general attractiveness Blush possesses a high standard of merit. It may be compared witb Porcelain, whicb was one of its parents, but the wavy flowers are of a soft blush pink, with a five-lobed, greenisb-orange eye. The petioles of the leaves are green. It is a new variety, and was obtained from the fern-leaved Holborn Queen crossed with Porcelain, and bas the same type of foliage as the latter. The variety named Rose was obtained from Elaine crossed with Porcelain, and possesses tbe general characters of tbe latter in having very large flowers, but they are of a beautiful deep rose, with a white line round the greenish-orange eye. It shows affinity likewise with Porcelain, from the fact that two plants out of the batch have given blue flowers like the latter. The latest of all the single varieties is that named Salmon, the flowers of which are rosy-salmon, with a five-lobed, greenish-yellow eye and a white line round it. The colour is distinct, rich, and desirable. The above does not include all of the varieties that were sent out last year, but several of them are being weeded out, because although they find admirers on account of some distinct feature, they are not appreciated by the many. The worthless sorts obtained by crossing for some purpose in view are kept in a house by themselves and will also be destroyed.

Fern-leaved Sorts. The foliage of this type is so distinct and beautiful that its admirers have always been, and will likely be, numerous. The fern-leaved Elaine is the best of all tbe white varieties on account of the flowers being very large, pure white, overlapping, and wavy. The long, fern-like leaves have deep red petioles. Holborn Queen may be compared with it, but differs in having blush-tinted flowers, and, contrary to what we should expect, has the leaves and petioles wholly of a light green. The flowers of the fern-leaved Rose are large, wavy, rosy pink, deepening to rose with age, and moderately early produced. The leaves have pale red petioles. Another choice variety is Ruby, the flowers of wbich are large, undulated, and pale red, deepening to a rich colour with age, and having a greenish-yellow eye surrounded by a white line. A peculiar feature of this variety is a small white spot at the base and junction of every two segments.

Semi-double Varieties. All the varieties of this type have the ordinary and old form of leaf. Besides being useful for ordinary decorative purposes, they possess the qualities of greater durability, and are therefore bighly serviceable for cut flower purposes. All of the semi-double sorts are, of course, raised annually from seeds. Blue Rosette has flowers of the same colour as Holborn Blue, and was originally obtained by crossing the latter with the semi-double Salmon. Except its being semi-double, it agrees in all other respects with the seed-parent. Snowflake bears a profusion of white flowers, more or less tinted with blush, like Holborn Queen, and perhaps originated from it, as the light green leaves with their petioles also correspond to those of that variety. Princess of Wales, on the other hand, is mottled and striped with purple on a wbite ground, as in the case of Venus. Sometimes the flowers are pure white, or have a large purple splash on some of the segments, and occasionally half of a flower is purple. An early-flowering variety is Lilac Queen, which is very vigorous, floriferous, and throws the trusses well above the foliage. When the flowers expand they are lilac, but soon deepen to a rich lilac-purple as they get fully developed. Carmine Empress is an effective and richly-coloured variety, of brilliant carmine wbether in sun or shade. Tbe flowers are well carried above the foliage, and the petioles of the leaves are red. It is an early variety, and the Prince of Wales, if anything, is even earlier. The flowers of the latter are of a deep salmon, changing to a still darker rosy salmon as they get older. They are freely produced on trusses well displayed above the foliage.

It may be said that the colours of these varieties are but a repetition of what occurs amongst the single sorts, but the doubling of the flowers gives quite a different effect even when the two types are placed in juxtaposition. The colours of the fern-leaved varieties also run more or less parallel with the other, but are rendered distinct by the character of the foliage. A characteristic of the flowers of the modern varieties of Chinese Primulas is that they are all pin-eyed. It is difficult to get at the stigma of the thrum-eyed form with the camel-hair brush, so that they produce seeds only sparingly. What would the Auricula fancier say to this beresy?

Mr. James Whitton,
Superintendent of the Glasgow Parks.

CORNISH MARKET GARDENING.

There is a very apt remark anent the stead starving whilst the grass is growing. and it applies very well to the present condition of the market gardeners of Cornwall, and the rates demanded by the Great Western for transit of goods. It is said that these rates are being revised, but meanwhile the gardeners are paying heavily for the privilege of waiting the normal condition of things. Last week we intimated that the carriage for Brocoli, Potatos, and tbe rest of market produce would be such as to leave the very slenderest of profit. The truth of this case can now be ascertained from the following interesting figures:—The old rate for vegetables from Cornwall to Bath was 32s. 6d.; new 35s. 10d., and 5d. per cwt. for returned empties. There is not much difference to Bristol. To Birmingham, old rate, 35s.; new, 38s. 4d., and a rise of 11d. per cwt. on empties. From London, 2s. 4d. per cwt. for returned empties, against no charge before. This means something like a rise of 30s. per acre. Menthyr, 35s., old rate, 46s. 6d. new, a rise of 11s. 6d. per ton! also a rise of 8d. per cwt. on returned empties. Glasgow, returned empties 2s. 2d. old rate, 3s. 5d. new. Cardiff, 32s. 6d. old; 36s. 8d. new. Liverpool, 38s. 4d. old; 41s. 8d. new, including delivery as formerly.

Garden manures, formerly costing 6s. 8d. per ton, have risen 15 per cent. This rise in rates is perhaps heavier than in any otber part of the country, and it is not surprising that the market gardeners have resolved to send tbeir produce by water instead of rail, as far as possible, though the delay may occasion some inconvenience to Covent Garden.

THE VEGETABLE GARDEN.

Brussels Sprouts at Chiswick.

GREEN winter vegetables of various kinds were greatly thinned out by the action of the severe frost extending from Christmas last until well on into January. The destruction in suburban gardens is greater than in those some distance away into the country, and beyond the reach of smoke and a filthy atmosphere generally. Notwithstanding all these influences, the plantations of Brussels Sprouts in the gardens of the Royal Horticultural Society at Chiswick have stood the test very well. The plantations are not extensive, but the plants made vigorous growth last season, and the stems were well furnished with sprouts that have kept well—that is, such of them as have not been gathered. The greatest objection that can be pitted against them after this season of the year is that the sprouts will expand, becoming open rosettes, if the weather continues mild, so that fresh growth is excited. Cultivators should bear in mind not to use the top of the plant until the sprouts are gathered or about to be, otherwise the sprouts get unduly excited, and cannot last so long in good condition.

The favourite at Chiswick seems to be Dalkeith Sprouts (otherwise known as King of the Brussels Sprouts), judging from the quantity of it grown compared with the others. The varieties, however, are not numerous, seeing that no special trial of Brussels Sprouts was made last year. The stems of the Dalkeith variety are about 2 ft. high, furnished with a great quantity of fresh sprouts, some of which are open, but others solid. The best of them are those just under and sheltered by the leaves of the head or crown. They are, of course, the latest as to the time of production on the stems, but the shelter afforded them by the leaves of the crown has had the advantage also of keeping them clean. The leaves are of a deep glaucous green, wrinkled in the usual way, and the whole plant bears evidence of being a robust growing and superior kind. The leaves, further, have not been injured in any way. Standard Brussels Sprouts are dwarfer, and of a lighter green, with large firm sprouts. The same may be said of Selected Sprouts, which in several respects closely resemble the last-named. All the three are choice kinds, but the Dalkeith variety has the most effective appearance.

Christmas Drumhead.

SEVERAL different kinds of Savoys and Drumheads were planted last summer, on a west aspect border, in the gardens of the Royal Horticultural Society. The greater part of them succumbed to the severe frosts of the last two months, and others were greatly injured. The Christmas Drumhead has stood the test better than any. Only a small quantity of each was grown, and in the case of the variety under notice one plant was decayed the other week, and a second had commenced to split. The plants are very dwarf, with the large, flattened head lying close to the soil; the leaves are very moderate n dimensions, forming a deep, glaucous rosette surrounding the head, the outer leaves of which retain the same rich colour, and the whole yet quite solid. The name would suggest that it would be fit for use by Christmas, or that it lasted till that time, but the evidence of the past two months shows that it will remain much longer in a usable condition.

Hardy Green Colewort.

THERE are several small-headed Cabbages that are recommended for winter use under the name of Coleworts. They are relatively hardy, owing no doubt to their small heads, just as we find that in the case of the large-growing kinds they keep better during severe weather than those which form large and solid heads, especially those termed white Cabbages. The two principal kinds that are sold under the name of Coleworts are the London or Rosette and Hardy Green. The latter not only keeps better after severe frost, but it also retains its rich dark green colour. The two kinds were planted between rows of fruit trees in the gardens of the Royal Horticultural Society at Chiswick, and the difference in colour was very marked after the severe weather had given place to a mild and moist time. If either of the two are to be planted with the view of resisting the severest frost we may experience, the Hardy Green should enjoy the preference, and it might also be planted in soil of a light and sandy nature than otherwise.—*F.*

Tomatos.

THE plants for the first crop will have been sown about New Year's Day, and by this time will have been potted into small pots. They must be kept in a nice growing temperature, as near the glass as possible. Outside the influence of the London fogs, the first crop can be obtained from plants struck in the autumn; these, if potted on in January will give fruit earlier than seedlings. I daresay many gardeners who have never lived within the influence of these fogs think that a great deal of fuss is made about them by those living near London, but all I can say is that it is almost impossible to over-estimate the mischief caused by them. To keep autumn-struck Tomatos through the winter is generally impossible, and two years ago all the early seedlings were so crippled during February as to be quite useless. Such a lot of Tomatos are now required in most establishments that gardeners have to use every available corner under glass to grow them, but by growing a number in pots a good quantity of early fruit may be grown in Peach-houses and vineries. The great drawback to this plan is their liability to disease, as they do not get sufficient ventilation; but as a rule this trouble of disease does not appear until the summer, and by this time several good bunches of fruit will have been gathered off each plant, and as the succeeding crops will be ripening, and Tomatos becoming more plentiful, the early pot plants as they become infested with disease can be thrown away.

Those who have a house or two to devote to their culture can to a great extent defy disease by free ventilation and the use of sulphur or anti-blight composition, but I have not found anything to stop the disease in fruit houses, where a high or moist temperature has to be kept up. For the earliest crop Sutton's "Earliest of All" is about the best, and any good strain of "Perfection" for general use.—*G. H. S.*

AS OTHERS SEE US.

No observant person strolling through the London suburbs, or for that matter through any part of England, can fail to be impressed with the love of flowers which seems to prevail among the people. The typical house in the outskirts of London has a front of some thirty feet, and stands back some fifteen or twenty feet from the street. This front space is almost invariably a garden, lovingly cared for, refreshing the eye with its variegated beauty, and seemingly reflecting in its brightness the happiness of the little circle within. To "keep the Roses over the door" is synonymous with keeping the hearts in the household young and buoyant through weal or woe. This love of flowers extends even to the working classes, and there may be seen about English workmen's houses, renting for say ten shillings a week, more attractive looking gardens than many an American country place renting at from $2,000 to $3,000 a year can boast. More likely than not the small English suburban dwelling will have in addition to the garden a greenhouse, of modest dimensions to be sure, but affording with its "25 x 10" ample opportunity to its owner of seeing flowers in bloom all the year round. The small greenhouse can be, and in fact often is, looked after by its owner. His willingness to do this shows a love for flowers that at the same time indicates the delight with which he must regard the successful results of his care. He knows every flower, every leaf. The finest specimen in his collection may owe the beauty through which it charms every beholder to his tender care of it when it was an unpromising weakling. He has in his modest greenhouse a little family of fronds and flowers—a family, too, no member of which dares dispute his authority.

It is easy to imagine what a garden or greenhouse must be of a bright Sunday morning to the man who has been confined to his business office all the week. I think the English owe much of their hardiness to their love of flowers. In their gardens and greenhouses they find easy and pleasant diversion from the cares of business hours. I should say the sense of restful recreation which comes over the possessor of beautiful plants when he is among them is just what the average American business man needs after the feverish excitement of his everyday life. If the satisfaction and pleasure and the many advantages to be derived from a greenhouse stocked with beautiful plants were generally known here, the greenhouses of this country would many times outnumber those of England. What a delightfully new and stimulating interest is daily awakened upon entering a flowerhouse made brilliant with the freshly opened blossoms, each day unfolding new surprises and wonders. The very air is charmed with sunlight, pure and fragrant. What a stillness and separation from the outside world and affairs of business! Can one fail to recuperate and rest, while enjoying these visits to one's plants and flowers—among stately Palms, waving Ferns, and all the rare and exquisite variations of colour and shape of Orchids, Azaleas, Genistas, and the hundreds of other varieties of foliage and flowering plants?

There are over 300 floral societies in England, and the private places on which professional gardeners are employed number more than 4,400. In this country the growth of interest in floriculture, both professional and amateur, has been wonderfully rapid during the last twenty-five years, showing, of course, an equally rapid growth of love for flowers. The first florist's establishment in the United States came into existence in 1800, and during the two decades immediately following only two more were started. In 1890 a total of 4,659 professional florists' establishments were reported; and eighty per cent. of these had come into existence during the last twenty-five years. These establishments aggregate more than 38,000,000 square feet of glass, cover a space of 891 acres of ground, and are valued at about $40,000,000. The total sales of plants and flowers in 1890 amounted to $27,000,000, a figure which shows the importance of the industry.

The growth of interest in the cultivation of flowers seems to have kept pace with the growth of the public taste in art and of the public interest in science; for floriculture touches upon art on one hand and upon science on the other. This characteristic makes it an exceptionally interesting occupation, the amateur soon discovering that his pastime is also a study of some of the most exquisite works of nature, and at the same time a source of refreshment and delight to his æsthetic senses.

Darwin, it will be remembered, devoted years of study to the fertilization of Orchids by insects, and published a notable work under that title, the results of his observations forming an important link in the chain of evidence supporting what we know as the Darwinian theory. A singular characteristic of the Orchid family for instance, is the inability of the flowers to fertilize themselves like other flowers, and produce seeds Their fertilization is dependent upon the transfer of pollen by insects from one flower to another. Interesting characteristics like these, and the opportunity which floriculture affords of discovering or studying them, make it a most fascinating pursuit.—*James R. Pitcher, in New York Daily Tribune.*

GARDENING MISCELLANY.

EASY WAY OF FORCING LILAC.

WITH reference to the remarks of your correspondent "S.," p. 359, I may say that the idea of forcing Lilac in the way he describes is not a new one, as I have myself adopted the same method for the past five years with fairly good results, and I have lately seen it forced in the same way in two or three places around this neighbourhood. I find that some of the Ghent or American Azaleas will force in the same way, and I have a branch of the latter in flower at the present time.—*Tom Parrott, The Gardens, Beechwood, Clapham Common, S.W.*

HARDY CYCLAMENS.

IN spite of the continued severe weather which prevailed from Christmas onwards, hardy flowers of the early kinds are beginning to make their appearance again, especially those under the shelter of a frame. Several varieties of the C. ibericum and C. Coum type are now flowering in a cold frame in the nursery of Messrs. J. Laing & Sons, Forest Hill, notably C. Atkinsi album, one of the prettiest of the hybrids. The flowers are relatively large, and white with exception of a large violet purple blotch at the base of each segment. The leaves are roundly cordate like those of C. Coum, but they are marbled with grey like those of C. ibericum on the upper surface, while the under surface is purple. There is a variety of C. Coum with blush-coloured flowers and a violet-pur-

ple blotch at the base, not unlike C. C. carneum, but paler. The typical C. Coum, with rose-purple flowers and a deep purple base surrounded at the mouth with a white line, may also be noticed. Along with the above is C. cilicicum, an October flowering species having white flowers with a bright purple basal blotch. The leaves are roundish with a cordate base more or less toothed or angled, deep green, marbled with grey and purple beneath.

IRIS HISTRIS.

THIS beautiful little Iris still persists in flowering during February according to its wont. It is one of the prettiest of the lighter coloured ones with lilac purple falls variegated with purple blotches running down with stripes on a lilac ground, and having a yellow keel down the centre. The narrow standards and the petaloid stigmas are lilac and give to the flower an attractive appearance by contrast with the marbling on the falls. It is a native of Palestine, from whence come several of our interesting early flowering plants. Most of them require the protection of a cold frame to protect their blossoms during the uncertain and ungenial nature of our winter and spring weather. It has been flowering for some time past in the nursery of Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

SINGEING MEALY-BUG ON VINES.

THE mealy-bug is one of the nastiest and most formidable pests that a gardener has to contend with, and when it gets a good foothold is a continual source of annoyance. The addition of a wing to the house here necessitated the demolition of a fernery, and Ferns being preferred to Grapes, my orders were to uproot the Vines to make room for the former. But not liking the idea of losing a promising crop last season, the Vine rods were allowed to remain for a kill or cure experiment. "Scrape all loose bark from the stems and spurs and burn it" is the usual formula when winter dressing the Vines. Good. This was done, but the burning did not end there. I had several yards of small hose piping attached to a gas jet, and brought the flames to bear on the patient Vines. The flame reached all the acute angles and got into the crevices where mealy-bug is mostly found congregated. The ligatures were burnt and the wires passed through the flame also. When finished the rods looked somewhat white, but the usual painting soon put that right. I did think that many buds had shrunk, but when spring came they swelled out with unusual vigour, and we had a good crop of fruit. What is equally important as bearing on the success of the experiment, not half a dozen mothers' nests of mealy-bug were discovered all the season.—*B. L.*

HUGHES' VAPOUR ROLL FUMIGATORS.

HAVING given these a thorough trial in a Rose house I can speak well of their killing power in the case of green and black Aphis. The fumigators are like miniature tin chimney stacks, with four tubular tobacco rolls about the size of one's finger thrust down the shaft. When a light is applied at the bottom, the chimney emits a dense volume of tobacco smoke for about seventeen minutes. They are cheap, neat, clean, and as simple as they are efficacious. I would suggest, however, that the rolls should be sold separately by the dozen in 7 in. or 14 in. lengths, so that the cases can be used over again. At present they are a needless waste.—*B. L.*

CHRYSANTHEMUM JOHN H. TAYLOR.

IN last week's issue of THE GARDENING WORD, I notice that you describe Chrysanthemum John H. Taylor as being one of the best late varieties. In the special Chrysanthemum number of the *American Florist*, published in November, 1892, it is described by Mr. John Thorpe as an early variety, and in the *American Gardening* of January 1st, 1893, Mr. J. H. Taylor (the raiser) names a few of the best late varieties, but does not mention his namesake amongst them. I have no doubt its late flowering in England is due to its being imported or propagated late in the season.—*Importer.*

CROCUS CHRYSANTHUS.

THE flowering season of the species of Crocus extends from the early autumn till spring, provided the nature of our winter would permit. As severe weather gives place to soft winds and a more genial atmosphere the various species of Crocus in their turn make as good a display as they can under the circumstances. One of the earliest of the spring flowering kinds is C. chrysanthus, which has flowers of a rich orange yellow. There are several very distinct varieties of it marked with deep brownish purple to a greater or less extent on the outer surface, and all very useful in their way in helping to fill up the gap of hardy flowers at this season of the year. The flowers individually are not very large, but a patch of them has an enlivening effect. The species is a native of South Eastern Europe, and proves perfectly hardy in this country, but is liable to have its flowers destroyed should they appear above ground just before severe weather. Some of the varieties of it are now flowering in the nurseries of Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

VERSCHAFFELTIA SPLENDIDA.

PALMS of this type are very effective in warm conservatories, where there is plenty of head room to show off their individuality. Should the stem not be sufficiently tall to carry the head of leaves somewhat above the surrounding plants, the pot containing it should be elevated. Unless this is done, all the individuality which a Palm may possess is lost when it is crowded and half hidden by the crowding of surrounding subjects. The leaves of the Palm under notice are obovate and bifid, or they may almost be described as obversely heart-shaped, strongly ribbed and toothed at the edge. The ribs especially on the under-surface are red, and the petioles as well as the stems are covered with long black prickles, which give them rather a formidable looking appearance. The plant soon develops a stem, however, so that it can easily be handled and moved about without inconvenience. There is a nice plant of a suitable size for a tall roofed stove or warm conservatory in the nursery of Messrs. J. Laing & Sons, Forest Hill. It stands about 4 ft. high, and has a spread of about 5 ft., and is in good condition, without having received any special treatment.

EARLY CLIVIAS.

THE main batch of Clivias will not make much of a show till next month, so that those now in bloom may be looked upon as the forerunners of the collection in the nursery of Messrs. J. Laing & Sons, Forest Hill. The trusses of the variety named Exquisite are of a large size, and the long funnel-shaped flowers of a deep orange-scarlet or cinnabar. The segments are moderate in breadth compared with some of the acquisitions in the collection, but the substance and the rich colour of the flowers as well as their earliness make amends for other deficiencies, while the variety would hold its own fairly well alongside of the average sample of any collection. Sunray may be compared with it on account of the shortness of the flowers which are widely expanded and campanulate, with orange segments and a blending of white and sulphur yellow in the throat. The flower-stem is short and developed early. Lady Wolverton, as is now well known, is a very robust variety with remarkably broad, overlapping and revolute segments to the flower. The stem-like neck formed by the sheathing bases of the leaves is remarkably thick, and the leaves are relatively as broad, leathery and dark green. It is now throwing up the third spike within twelve months. Some fine new sorts should be obtained from this acquisition.

LILY OF THE VALLEY.

FEW subjects are more popular than this, and provided one can command a strong heat, there is no reason why amateurs should not have a few early forced blooms. A fairly strong heat, and plenty of moisture, with well-matured crowns, is all that is necessary. Flowering crowns that have been especially prepared are the best for our purpose. Fifteen to eighteen of these in a 4½ in. or 5 in. pot will make a very pleasing feature indeed. Do not pot deeply; quite half of the crown should be left out of the soil. Give a thorough watering, and keep them wet until the crowns have plumped up well. No better structure than a warm and close propagating case can be found for forcing these Lilies, and providing they are frequently watered with tepid water, there should be no disappointment experienced. When the flower spikes are well up, they may be placed on a shelf in the same house, and exposed to more light. In the earlier stages it is much best to keep the crowns dark; but from first to last, they must have plenty of tepid water.—*Experience.*

Gleanings from the World of Science

A rare plant in America.—The Lamb's Tongue (Plantago media) has just been discovered for the second time in North America, and is of course looked upon as a rarity, as stated by *L'Illustration Horticole*. The latter journal also states that it is a common species in every temperate region of old Europe. It is not, however, a native of Scotland, and was only introduced there comparatively recently from England, from whence it was conveyed amongst grass seeds for sowing down lawns, pleasure grounds, and flower gardens. Whether it may ever get thoroughly established there remains to be seen, but it scarcely occurs yet in the cultivated fields and meadows of farm land. There is little doubt but that the seeds were carried to America amongst those of grass, as they were to Scotland.

A Patriarchal Tree—There exists at Athens (as stated by *L'Illustration Horticole*), an Olive tree which is more than 2,000 years of age. That Olive stands upon the Voie Sacrée, and is of enormous and prodigious dimensions. According to the calculations of competent men, it was planted at the epoch of the splendour of Athenian civilisation. It is, then, the only living remnant of that grand epoch of human history.

Tree of Heaven.—Notwithstanding its great beauty and its suitability for town gardens and street planting, the Tree of Heaven (Ailantus glandulosa) is not so extensively planted in this country as it might be, particularly in the South. As we go northwards, the tree becomes less and less hardy, for the simple reason that the climate is neither dry enough nor sufficiently warm to ripen the wood during the course of our short summer. Although the frosts of winter at Paris are often as severe as in the north of Scotland, yet the heat of summer is very much greater at Paris, and the trees ripen their wood perfectly and flower magnificently. *L'Illustration Horticole* says that the tree possesses a disagreeable odour, particularly at the flowering season, and is characterised by irritating properties, due to an acrid, bitter, and very volatile substance, and which can occasion a sort of sleepiness, of giddiness, and even of nausea. The swallowing of the leaves by birds of the poultry yard brings inflammation of the digestive or alimentary canal of the same.

Fertility of dry countries.—At a recent meeting of the Berlin Physiological Society Professor Hilgarth discussed the question of the fertility of dry countries, by reference to numerous analyses of soils that had been made in various parts of America, the results of which showed that the drier the regions, the richer they were in the constituents of plant food. If further actual proof of this were required, there would be no lack of it in various parts of the world. The arid regions of Colorado, as well as the dry yet fertile lands of California when subjected to irrigation, show what can be obtained from them in the form of various crops. The same facts also apply to South Europe, the sandy soils of Australia in the neighbourhood of rivers, and more strikingly to Egypt, where the crop is directly dependent, not merely upon the land being overflowed and submerged by the Nile when flooded during the rainy season, but upon the depth of the flooding. On the contrary, those countries having wet soils and climates, are more difficult to keep in a fertile condition. It is necessary to resort to fallowing, to rotation of crops, and to heavy manuring.

SOCIETIES.

Manchester Botanical and Horticultural.—The annual general meeting of this society was held in the Mayor's Parlour of the Town Hall on the 30th ult., the Mayor, Alderman A. Marshall, presiding. In their annual report to the members, the Council stated that in consequence of the arrangements made with the committee of Old America Limited, several fixtures set forth in the last annual report had to be abandoned—notably, the annual National Horticultural Exhibition held for the last twenty-five years at Whitsuntide, which had been a source of so much interest and enjoyment. The other floral and horticultural exhibitions were held, and gave evident satisfaction to the subscribers and to the public. Mainly in consequence of the very unfavourable weather which prevailed throughout the whole of the

season, the promoters of the Old America exhibition sustained a serious loss, and the Council had accepted £1,000 less than the amount (£4,250) agreed upon. Several items of expenditure connected with the Fruit Conference held in the autumn of 1891, were included in this year's financial statement, besides which a considerable amount had been expended upon the buildings. It would be seen, by referring to the provisional arrangements for the year, that a new departure was recommended in connection with the Whitsuntide exhibition. It was suggested that this exhibition should consist of two specialities, namely Orchids and artistic groups. The Council had pleasure in stating that several gentlemen had offered special prizes to be competed for at this exhibition, and it was hoped that others would follow the example thus set. Another feature of considerable importance would be incorporated in the year's proceedings, namely, that of technical education in connection with horticulture. The Council ventured to hope that this educational effort, in relation to an important branch of industry, would be appreciated. When the details were complete, the public would be made acquainted with the same. Special exhibitions of bulbs, Auricula, Roses, Chrysanthemums, Tulips, Carnations, Picotees, and Pinks, would also take place during the year. The musical days would be Wednesdays and Saturdays. The Council were most anxious to give the greatest amount of instruction and pleasure to the greatest number, and they trusted that the public of Manchester and the surrounding districts would supply the means to bring about this result. The subscription to the society was small compared with the benefits it conferred, and the Council respectfully asked those who were already subscribers to exert themselves to get additional ones, and to bear in mind that every additional subscription affords the means for more extended benefits to the community.—On the motion of the Mayor, seconded by Mr. S. Barlow, the adoption of the report was carried after some discussion.—On the motion of Mr. George Donald, seconded by Mr. Lowcock, the Council were thanked for their services during the year.—On the motion of Mr. Albert Cooper, seconded by Mr. James Collins, the officers of the society for the ensuing year were elected as follows:—President: The Earl of Derby. Vice-presidents: Messrs. S. Barlow, J. Broome, W. Grimshaw, and W. Tattersall. Treasurer: Mr. Joseph Broome. Council: Messrs. Charles Agnew, B. Armitage (Sorrel Bank), J. Bowden, J. Galloway, Jun., J. R. Hampson, D. M'Clure, W. H. Milner, F. Robinson, R. Tait, T. S. Turnbull, J. Wainwright, and James Brown.

ORCHID NOTES AND GLEANINGS.

Dendrobium crassinode Barberianum.

The typical form of this is now well known to Orchid growers by its short, stout and thick-jointed stems as implied by the specific name. The stems are 12 in. to 24 in., but as a rule more near the latter length. There is a specimen of the variety under notice in the nursery of Messrs. J. Laing & Sons, Forest Hill, with stems 3½ ft. long, well set with flower buds in clusters of two and three, and just about ready to expand. It must therefore be an exceptionally fine form. The internodes are longer than usual, placing the joints farther apart. The characteristics of the variety, however, are that the mauve-purple blotches at the tips of the sepals and petals are larger and more richly coloured, and the flowers when obtained true are of greater substance. The latter character would often depend upon good cultural treatment. When Reichenbach first received flowers of it, he said, one could not fail to think of D. Wardianum, because the colours of the two are very similar, particularly when we compare those of the latter with D. crassinode Wardianum. He asked also whether there might not have been some crossing between the two species.

Cypripedium callosum.

Ever since this species was introduced it has continued to spread in different collections until there are few establishments, where Orchids are a speciality, that are without it. The species is one of the most easy to cultivate, and one of the most certain to flower. The upper sepal is the boldest feature of the flower, and is white with conspicuous green lines along the centre portion, giving place to purple ones towards the sides. The declining petals have a row of black spots along the upper margin, and the lip is pale purple. The foliage is beautifully tessellated in a similar manner to that of C. Lawrencianum. A large flowered form may be seen in the collection of Messrs. J. Laing & Sons, Forest Hill.

Cattleya Trianæ Birdhill var.

The above has received its distinctive name by reason of its fine proportions and wonderful texture rather than from its colour. A flower of it was sent us by Captain Robert Twiss, Birdhill House, Birdhill, Co. Tipperary. The pale or blush coloured sepals were of remarkable texture, as well as the petals. The latter were a shade or two darker, being rosy blush, and broadly ovate, measuring 2¼ in. in width. The lip measured fully 3 in. in length and over 2 in. across the tube when the latter is flattened out. The variety therefore belongs to the long and tubular lipped type of C. Trianæ. The lip was rosy-lilac, particularly the tube, the lamina being paler with a dark purple blotch at the apex and a yellow blotch in the throat, the yellow being chiefly in lines. Accompanying the above was a large and richly-coloured flower of C. Percivaliana. All the parts were well developed and the lip fully expanded, thus testifying to a clear atmosphere and an absence of smoke. The sepals and petals were warm rosy lilac with numerous darker veins. The lamina of the lip was rich crimson-purple deepening towards the base where was the customary orange band, and the toothed margin was lilac.

Dendrobium nobile Wallichiana.

The striking feature of the flowers of this variety, is their great size and rich colour, so that when a large plant of it is in bloom it is very effective. The sepals and petals are unusually long when compared with the bulk of the named varieties in cultivation, and of a rich rosy purple, while the dark coloured blotch on the lip is also of large size. The buds attain great length before they expand, and already give indication of their rich colour when they become fully developed. We noted some specimens of it with Messrs. J. Laing & Sons, Forest Hill.

Gardeners' Improvement Associations.

Manchester, *February 2nd.*—At this meeting Mr. Robert Okell, B.A., read a paper on Shrubby Veronicas, and exhibited specimens of about thirty varieties. He said that of the whole number of New Zealand shrubby Veronicas all but one were peculiar to the Islands. That exception was found in South Chili, Fuegia, and the Falkland Islands. This species was also remarkable in that it was the tallest grower, attaining in the Auckland Islands a height of thirty feet. About forty of the known species had now been introduced to cultivation in this country, and whilst the absence of many desirable species was much to be regretted, there was not one of those obtainable that did not merit the gardener's attention. Although the scope of choice might be restricted by the inexorable exigencies of a rigorous climate, still there were many left, and those far from the least attractive, which would withstand even the wet and cold, and within certain limits the killing effects of the smoke and chemical laden atmosphere of the Manchester district. In attempting to realize the adaptation of these forms to the conditions under which they live, although it was obvious that a greater altitude of habitat necessarily implied additional strength to withstand the augmented force of storm and tempest, and to support greater severity of cold, it must not be forgotten that the direct rays of the sun burn with a more scorching intensity on the undefended mountain heights, and must form a potent factor in the account. The culture of all the species was easy—they were in no way capricious or particular, and had no fads. Any well worked garden soil would do. If they evinced a preference it was for a light moderately rich and deep soil. They would not, however, stand continued drought on a dry bank, whether in the open or in pots, and accepted drying up as a notice to quit. It would be difficult to select a genus containing so many useful forms as the New Zealand Veronicas. In shape and size of leaf, in habit of growth, in general aspect they presented an almost infinite variety. They were, for the most part, very floriferous through an extended period. Easy of propagation, rapid in growth, they produced effects, to many eyes, more beautiful, if less gaudy than those of the "bedding-out" system, now passing away.

WHAT TO DO IN THE GARDEN.

Clerodendron fallax.—The plants that flowered last autumn should now be hard cut down to within a bud or two of the base of the young wood. Repot them when they start into fresh growth, and take care to keep the plants well furnished and bushy by pinching back those shoots which are inclined to take the lead. Left to themselves, the plants of this class are liable to throw up only a few strong shoots at the expense of the rest.

Vinca rosea.—The varieties of this should be closely attended to in their earlier stages, to encourage a bushy habit. Growth is not very rapid, but the finest bushes will be obtained by pinching back the young shoots when they have made one or two joints, and the central bud can be got at without injury to the rest.

Aphelandras.—Sow seeds of the dwarf-growing and short-jointed kinds such as A. aurantiaca and its varieties, as well as A. fascinator and others that may be obtained. As soon as the plants have made a pair of rough leaves they may be potted off singly in small pots. Use a compost of loam, leaf soil and peat in equal proportions, adding clean sand in plenty. The stem should be allowed to grow freely without pinching, as the spike of flowers will be all the stronger for it.

Gloxinias.—Keep the seedlings sown in the early part of the year as close to the glass as possible to prevent their getting drawn or spindly. Earlier sown ones may be potted off. The general batch of old tubers may be started by placing the pots containing them into a warm pit and giving one good watering, so that the tubers may imbibe water and become plump. Some cultivators prefer to turn them clean out of the soil and soak them for a time in warm water previous to potting them. If it be considered desirable, a batch of plants may be retarded in a cool house for late work, until the seedlings come into bloom.

Torrenias.—The annual species must be raised from seeds every year, and to give them a long flowering season seeds should be sown at once in heat. As soon as they have made a few leaves, have them pricked off into other pots or pans to be flowered there, or to be potted on as the case may be. Keep them growing rapidly by plenty of heat and moisture.

Lilies.—Attend to Lilium longiflorum, L. l. Harrisi, and L. auratum when they come above the soil. Place the pots as near the glass as possible to prevent their getting drawn. The earliest potted batches are now advancing rapidly, and require looking after in the matter of green-fly, which settles in the growing points and often does much injury before the evil is detected. Fumigation must be resorted to to check the mischief.

Cape Bulbs.—This class of plants is often very much neglected, making it difficult to understand why this should be so considering their beauty. Ixias, Sparaxis, Babianas, Lachenalias, Freesias, and others of that class are extremely showy and useful for conservatory purposes, and above all things at this season of the year like plenty of light and ventilation to keep them healthy and dwarf. As they come into bloom remove them to the show house where they can be kept cool and airy.

Vines.—When the berries in the early house are well set, the borders in which they are growing should be examined as to its conditions, and where at all dry, a good watering should be given, with water at a temperature of 85°. The night temperature may be kept up to 65° or 68° on mild nights, allowing it to drop to 60° on very windy or frosty nights, to avoid getting the atmosphere of the house into an arid condition.

Sowing Onions.—Those to whom this crop is an important one may now seize the first opportunity they find the soil in proper working condition to sow the seed. We may have frost hereafter, but it is of little consequence, as the seed is perfectly hardy. The principal point to be aimed at is to get the soil sufficiently dry to be dug, raked and rolled, or trodden without getting puddled in the operation. The seedlings then have a chance of coming on rapidly when the fine weather sets in, and of ripening their bulbs properly about the end of summer and before wet weather sets in.

Heading down fruit trees.—Trees intended to be grafted in the coming spring should be headed down at once before growth recommences. The grafts intended to be put upon them should also be cut and laid in rather thickly in trenches behind a north aspect wall to prevent their getting dry, and also to prevent their making any growth till the proper time arrives for inserting them upon the trees. Some amount of care should be exercised in selecting the grafts so that really useful sorts that can be depended upon may be used. Of course where new kinds are to be tried, that is a different matter.

QUESTIONS AND ANSWERS.

CATTLEYA ALEXANDRÆ.—*Capt. Twiss*: A flowering specimen of this Cattleya was exhibited at the meeting of the Royal Horticultural Society, held at the Drill Hall, Westminster, on the 13th of December last, by D. B. Knox, Esq. (grower Mr. J. Lawrence), Ardmillan, Caversham. Cut flowers were exhibited at the same time by Messrs. Linden, of Brussels.

FUNGUS IN VINE BORDER.—*Vitis*: We do not see how the growth of fungi in Vine borders or, indeed, in any other ground can be prevented so long as there is any suitable food upon which they can feed. Rich soil and decaying manures of various kinds afford suitable nutriment for various kinds of fungi, the spores of which are always floating in the air and ready to grow upon anything suitable which comes in their way. There is a difference, however, between dead and living objects of plant food, and so long as the roots of your Vines are healthy we should not apprehend any danger to them from the fungi growing upon bones, leaf soil, manure, or other dead matters of that kind.

LADY HUTT AND APPLEY TOWERS GRAPES.—*Vitis*: The variety Lady Hutt is a round white and early sweetwater Grape, and we should therefore grow it in the same house as the Black Hamburgh. It is curiously enough a cross between Gros Colmar and Alicante, the former being the seed parent. Appley Towers was raised from the same parents, and retains their character, being an oval, black, and late ripening vinous Grape. We should therefore grow it in the Muscat house, or along with Gros Colman, if you have the latter.

LABURNUM FLOWERS IN AUTUMN.—*Laburnum*: We have several times seen the Laburnum flower for the second time in autumn, but we believe it is owing to soil and climate rather than variety. If the soil is rather dry in the early part of the season, and a period of wet sets in later, it has the effect of starting the tree into a second growth, and the latter ripening its wood early pushes the flower buds into growth immediately, that is, the growth never rests, but continues till the flowers get fully developed. We do not think there is any autumn flowering variety in cultivation. With the view of trying an experiment, you might plant some trees of the common Laburnum (L. vulgare) and the Scotch Laburnum (L. alpinus), particularly the latter, in various positions, well exposed to sunlight, and some of them may flower a second time in autumn.

BOX CLIPPINGS.—*Omega*: We have never heard of cattle eating the Clippings of box hedges, and do not think they would be much appreciated nor eaten to a great extent by cattle, except perhaps when they are first turned out to grass in spring. If you suspect their eating them then you should take care to prevent them. Why need there be any risk? Sweep them up, burn them, and scatter the ashes over ground on which vegetables or fruit trees are growing. The ashes constitute a valuable plant food.

CUCUMBER FOR COLD PITS.—*Omega*: You cannot use a better Cucumber in cold pits than the Telegraph. Some other closely allied kinds will also do well, but the Telegraph can be relied upon.

LETTUCES FOR MARKET.—*Omega*: White Paris Cos, Green Paris Cos, and Brown Cos, also known as Brown Bath Cos, would suit your purpose admirably. We have placed them in order of merit, the White Paris Cos being the best for summer use and for market. The other two kinds are hardier, and are most grown for late autumn and winter use. We should not advise you to grow Cabbage Lettuces for market purposes in summer, as they do not meet with public favour and would not sell.

TRADE CATALOGUES RECEIVED.

H. CANNELL & SONS, Swanley, Kent.—Floral Guide for 1893.

DICKSON, BROWN & TAIT, 43, 45, Corporation Street, Manchester.—New Farm Seeds.

PITCHER & MANDA, Short Hills, New Jersey, U.S.A.—New and rare Seeds, Plants and Bulbs.

TAYLOR & THOMSON, 23, Duke Street, Bishopsgate Without, London.—Flower and Vegetable Seeds.

PAPE & BERGMANN, Quedlinburg, Germany.—Seeds and Plants.

CHR. LORENZ, Erfurt, Germany.—Vegetable and Flower Seeds.

W. P. LAIRD & SINCLAIR, Dundee.—Vegetable and Flower Seeds, etc.

ANDREW IRVINE, Tighnabruaich, N.B.—Hardy Florists' Flowers, Herbaceous Plants, &c.

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SHROPSHIRE HORTICULTURAL SOCIETY.

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FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Grapes..... per lb.	2 0	3 0	Pine apples.		
Kent Cobs...100lb.	125 0	135.0	—St. Michael's, each	2 6	6 0
Peaches ... per dozen			Apples...per ½ sieve	1 0	3 6
Melons ... . each			Plums...per ½ sieve		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, French, perlb.	1 0		Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	1 0		Radishes... per dozen	1 6	
Cauliflowers, Eng.dz.	3 0	5 0	Seakale .....per bkt	2 0	3 0
Celery.....per bundle	2 6		Smallsalading,punnet	0 4	
Cucumbers .....each	0 9	1 6	Spinach ... per strike	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 9	1 0
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Champions, 70s. per ton.

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	s. d.	s d		s. d.	s. d
Anemones, doz. bnch	4 0	6 0	Mimosa (French)p.bh.	1 0	1 6
Azalea, doz sprays.....	0 6	1 0	Mignonette... 12 bun.	2 0	4 0
Arum Lilies, 12 blms.	2 0	4 0	Narcisse, various, doz. bnchs	3 0	6 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, 12 sps.	0 9	1 0
Carnations, 12 blooms	2 0	4 0	— scarlet.....12 bchs.	6 0	9 0
Chrysanthemum,dz bn6	0 15	0	Primula, double, bun.	0 6	1 0
Camellias doz blooms	1 0	3 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Cyclamen doz blooms	0 6	0 9	Roses, yellow, dozen	3 0	6 0
Eucharis ...per doz.	3 0	6 0	— French, per bnch	1 6	4 0
Euphorbia Jackminafolia, doz. sprays	1 0	4 0	— French, 100 blms	6 0	12 0
Gardenias 12 blooms	12 0	24 0	— Red..... doz. blms.	6 0	12 0
Heliotropes, 12 sprays	0 6	0 9	— Saffrano...per doz.	2 0	3 0
Hyacinths doz. spikes	3 0	6 0	— Tea ..... per dozen	1 0	3 0
Hyacinths Roman doz. sprays	0 6	1 0	Tuberoses, per doz	1 0	1 6
Lilac, White, French, per bunch...	3 0	5 0	Tulips, red, per doz.	0 6	1 0
Lilium Harrisii, doz. blooms	6 0	9 0	— White, per doz. ...	1 6	2 6
Lily of the Valley dz.sps.	0 6	1 6	— Yellow, per doz....	1 6	2 0
Maidenhair Fern, 12bs.	6 0	9 0	Violets, Parma, French per bunch ..	3 0	4 0
Marguerites, 12 bun.	4 0	6 6	—Czar, French, bun.	2 0	4 0
			Small „ doz. bun.	1 6	3 0

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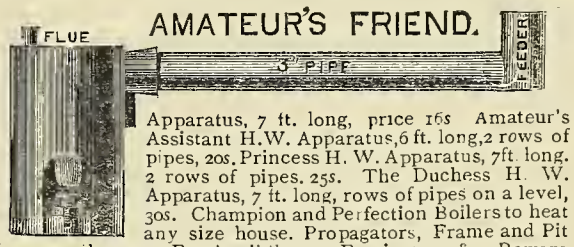

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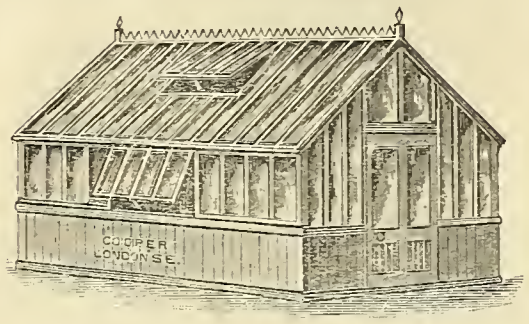

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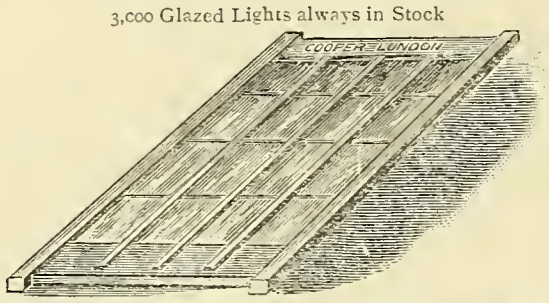


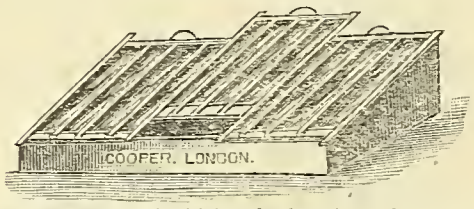
These Lights are well mortised and jointed together, and made in a good workman-like manner, and are well worthy of inspection. Frame work made of 2½ in. styles, and properly rabbeted for the glass, with good 2 in. sashbars. The Glazed Lights are nailed and bedded in good oil putty.

	s.	d.
3ft. by 2ft., painted & glazed	5	0
4ft. by 3ft., " "	6	6
6ft. by 4ft., " " with 21oz.	9	0
6 ft. by 4 ft., unglazed lights	3	6

Special quotations for large quantities.

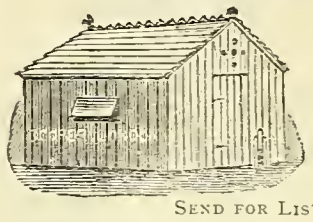
SEE PAGE 6 IN LIST.

CUCUMBER FRAMES.



These frames are 24in. high at back, 13 in. at front and are made of 1 in. tongued and grooved boards. The lights are 2 in. thick, glazed with good 15 oz. glass, nailed and bedded in good oil putty, painted three coats, handles to sashes, and put on rail at the following sizes and prices; One-light Frames, 4 ft., by 3 ft., 18s.; ditto, 6 ft., by 4 ft., £1 10s.; Two-light Frames, 6ft., by 4 ft., £1 12s.: ditto, 8 ft., by 6 ft., £2 14s.; Three-light Frames, 12 ft., by 6 ft., £3 15s. For other sizes and prices see Illustrated Lists, free. SEND FOR LIST, POST FREE.

POULTRY HOUSES.



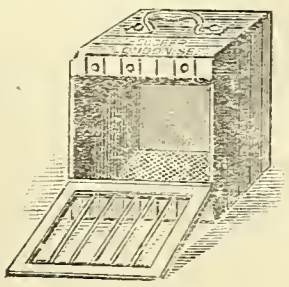
Well and substantially constructed, warranted waterproof, complete with door, ventilator, and slide, from 20s.

5 ft. by 4 ft.	25s.
6 ft. by 4 ft.	30s.
7 ft. by 5 ft.	36s.
9 ft. by 6 ft.	42s.

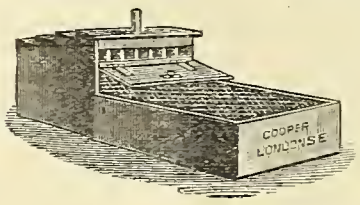
SEND FOR LIST.

SEND FOR LIST.

NEST BOXES.



1 Nest Box	4s.
6 " "	22s.
12 " "	40s.



Safety Chicken Coop.

Coops only, 5s. 6d. each, 50s. per dozen. 3ft. Movable Wire Run, 4s each, 36s. per dozen extra.

SEND FOR LIST.

GLASS.

FREE ON RAIL IN LONDON.

packages included.

	15-oz., 100ft.	21-oz. 100.
4ths ...	8s. 6d.	11s. 6d.
3rds ...	9s 6d.	12s. 6d.

10,000 *Boxes to select from.*

The following is a list of sizes always in stock:—8 by 6, 9 by 7, 10 by 8, 12 by 8, 12 by 9, 13 by 9, 11 by 10, 12 by 10, 13 by 10, 14 by 10, 13 by 11, 18 by 11, 14 by 12, 16 by 12, 18 by 12, 20 by 12, 17 by 13, 20 by 13, 16 by 14, 18 by 14, 20 by 14, 22 by 14, 20 by 15, 20 by 16, 24 by 16, 20 by 18, 24 by 18. Glass cut to any size required: 15-oz., 1½d. per ft.; 21-oz., 2½d. per ft. Large sizes for cutting up, 15-oz., per case 300ft., 25s.: 21-oz., per case, 200ft., 25s. All glass is cut and packed in own warehouses; quality of glass and careful packing guaranteed. Special quotations given for large quantities. Have cash estimate from me before ordering elsewhere. PUTTY prepared especially for greenhouse work, best 7s. cwt.; 2nds., 6s. 6d. per cwt.; packages, 6d. cwt. PAINT, quality guaranteed, 7lbs., 3s; 14lbs., 5s. 6d.; 28lbs., 10s.; 56lbs., 18s.; per cwt., 34s.

Glass, Special Line, 12:0 200ft. boxes, best 21-oz., 9 by 7, 16s. per box, to clear.

GARDEN HAND FRAMES

These frames will be found to be very useful for protecting plants, seeds, slips, and cuttings during the spring, which, if left uncovered would probably fall victims to the extreme cold so prevalent in this country during that season.

Zinc open tops, with glass cut to sizes and zinc clips for glazing same.			Frames only.	
12in by 12in.	6	6 each	4	6 each.
14in. by 14in.	7	6 "	5	0 "
16in. by 16in.	8	0 "	5	6 "
18in. by 18in.	9	0 "	6	0 "
20in. by 20in.	10	0 "	6	6 "
22in. by 22in.	11	0 "	7	0 "
24in. by 24in.	12	0 "	7	6 "

See page 16 in List.

MANURES, PEATS, SAND, FERTILIZERS, &c.

1 lb. tins Fertilizer, 4d.	£0	3	6	per dozen.
1 lb. tins Sunshade, 6d.	0	5	0	" "
Special offer to Nurserymen and the trade. 114 tins Fertilizer and 144 tins Sunshade	3	0	0	" "
Cocoanut Fibre Refuse	0	0	8	per sack.
Silver Sand, coarse or fine (2 cwt.)	0	2	3	" "
Best Orchid Peat	0	3	0	" "
" Rhododendron Peat	0	1	6	" "
" Brown Fibrous Peat	0	1	6	" "
" General Peat	0	1	6	" "
" Loose Peat	0	1	6	" "
" Surrey Loam	0	1	6	" "
General Potting Compost	0	1	3	" "
Fern Compost	0	1	3	" "
Bulb Compast	0	1	3	" "
Leaf Soil, well decayed	0	1	6	" "
Pure Wood Charcoal	0	2	6	" "
Best Peruvian Guano	0	0	6	per tin.
" Lawn Sand	0	0	6	" "
Fertilizer for Farming and Market Gardening, in 2 cwt sacks	0	10	0	per sack.
Worm Destroyer	0	0	6	per tin.
Insecticide	0	0	6	" "
Tobacco Paper, 1s. per lb.	2	5	0	per cwt.
Wonderful New Mushroom Spawn	0	4	0	per bushel.

All sacks and bags free.

SEND FOR LIST, POST FREE.

HORTICULTURAL TIMBER.

WELL-SEASONED RED AND YELLOW DEAL.

SASHBARS 1½ in. 3s.; 2 in. 3s. 9d.; 2½ in. 5s.; 3 in. 6s. 6d. per 100 ft. run.

MATCH BOARDS, ⅝, 5s. 6d. per square; 1 in., 9s. 6d. per square.

FLOOR BOARDS, 1 in., 9s. per square.

FEATHER EDGE BOARDS, ¾ by 6, 6s. 6d. per square.

DEALS, 3 by 11, Yellow, 4d.; 3 by 9, 3½d.; 3 by 7, 2d.; 2½ by 7, 1½d.; 2 by 7, 1¼d.; 2 by 6, 1d.

CUTTING FLATING, 9d. per 100 ft.,; Deeping, 2s. 3d. per dozen 12 ft.

SLATING BATTENS, ¾ by 2, 1s. 3d. per 100 ft; ¾ by 1, 7d. per 100 ft.

HALF GLASS DOORS, 5 ft. 6 by 2 ft. 6, 6s. each; 6 ft. by 2 ft. 6, 7s.; Marginal Light, 6 ft. 6 by 2 ft. 6, 10s.

VENTILATORS, TOP or SIDE, 2 ft. 6 by 2 ft., 2s. each.

FINIALS, MACHINE TURNED, 12 in. high, 6d. each; 4s. 6d. per dozen.

TRELLIS, Planed, Extended.

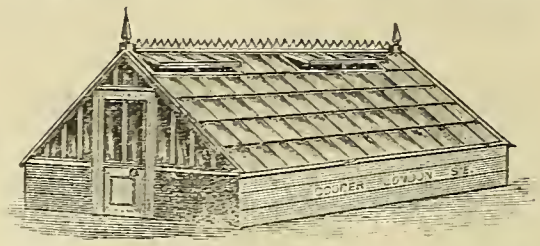
	Open.
12ft. by 1½ft.	2
12ft. by 2 ft.	4 0
12ft. by 2½ft.	4 6
12ft. by 3 ft.	5 6
12ft. by 3½ft.	6 0
12ft. by 4 ft.	7 6
12ft. by 5 ft.	8 9
12ft. by 6 ft.	10 6

MATERIALS for SPAN-ROOF CUCUMBER HOUSE, 100 ft. by 12 ft., £9 10s., best Red Deal, all planed, rabbeted &c, ready for use. Send for Specification.

The above prices are for good sound Yellow and Red Deal. For large quantities special low prices will be quoted. All timber consigned at the cheap timber rate to all parts of the country.

SEND FOR TIMBER LIST.

AMATEUR FORCING HOUSE



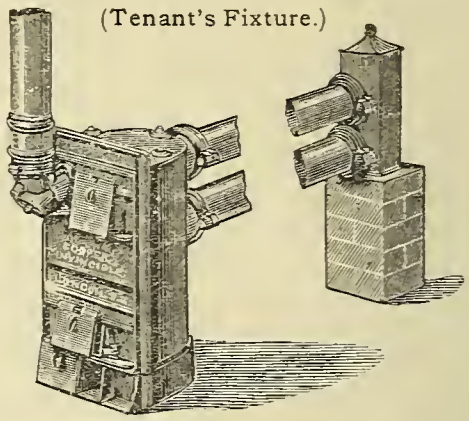
The utility of this house for forcing or cultivating cucumbers tomatos, melons, &c., will be perceived at a glance, it being a structure constantly in request, but almost hitherto unknown. See List, pages 3 and 4. *Send for List, post free.*

"INVINCIBLE" HOT-WATER APPARATUS.

MOST EFFICIENT AND CHEAPEST IN EXISTENCE.

Made in six sizes: No. 1, to drive 75 ft., £1 15s.; No 2, 100 ft., £4; No. 3, 200 ft., £5 10s.; No. 4, 275 ft., £7 10s.; No. 5, 375 ft., £8 10s.; No. 6, 500 ft., £10; of 4 in. pipes.

(Tenant's Fixture.)

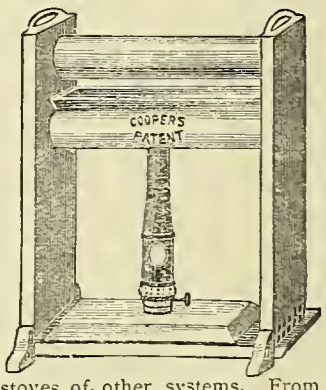


Requires no sunk stokehole and no brick setting. Will last all night without attention. Will burn house cinders, therefore cost next to nothing for fuel. Anyone can fix it. A child can stoke it. Success guaranteed Cost of complete Apparatus for Greenhouses with 4 in. pipes, flow and return along one side cut and fitted; so that if the internal measurement of the Greenhouse is given, the Apparatus will be sent completely ready for fixing, an advantage which will be appreciated by all. Securely and carefully packed, on rail at the following respective prices:—7ft. by 5ft., £2 15s.; 9ft. by 6ft., £3; 10 ft. by 7ft., £3; 12ft. by 8ft, £3 5s.; 15ft. by 10ft., £4 5s; 20ft. by 10ft., £5 5s.; 25ft. by 10ft., £6 5s.

(See pages 30 and 31 in List.)

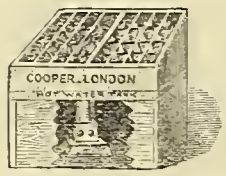
COOPER'S HYGIENIC HEATER.

Burning Paraffin or Gas Without Smoke or Smell.



These Heaters are constructed as a means of Heating by Hot Air without the use of hot water or fires. Its peculiar construction economises the heat generated, so that there is no waste of heat or fuel. There being perfect combustion in this Stove, and nothing whatever injurious to plants, but actually everything conducive to their health, it should be observed that plants may be had in full bloom throughout the severest winter. This cannot be obtained in stoves of other systems. From 16s. complete. For full particulars and prices of other seized Heaters, see Illustrated List, post free on application.

THE RAPID PROPAGATOR.



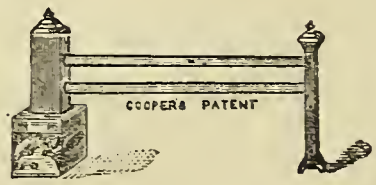
The only perfect Propagator for raising plants from seeds, slips, or cuttings.

1ft. 8in. by 1ft. 6in.	£1	0	0
2ft. 6in. by 1ft. 10in.	1	4	0
4ft. by 2ft.	2	8	0

SEE PAGE 26 IN LIST.

THE AMATEUR'S ASSISTANT HOT-WATER APPARATUS.

An entirely new Hot-water Apparatus. Complete from 17s. Full particulars and prices of other sized Apparatus see Illustrated Lsit, post free on application.



VEITCH'S
CHOICE
LETTUCES
Are most desirable acquisitions,
And should be grown in all Gardens.

VEITCH'S PERFECT GEM.
The best Cabbage variety for summer use. A most distinct, compact growing variety, of a rich deep green colour, forming very early a close, solid heart, beautifully crisp, and tender, and of excellent flavour.
Per Packet, 1s. 6d.

VEITCH'S GOLDEN QUEEN.
A small early Cabbage variety of a beautiful and pleasing golden colour, literally all heart, and of particularly delicate flavour.
Per Packet, 1s. 6d.

VEITCH'S CHELSEA IMPERIAL COS
A splendid self-folding variety, which comes quickly into use; it grows to a large size, stands the heat well, and is of excellent quality.
Per Packet, 1s. 6d.

VEITCH'S SUPERB WHITE.
A magnificent self-folding Cos variety, grows to an immense size, is of superior quality, very crisp, and fine flavoured.
Per Packet, 1s. 6d.

For full descriptions of the above and many OTHER CHOICE NOVELTIES AND SPECIALITIES see SEED CATALOGUE forwarded gratis and post free on application.

JAMES VEITCH & SONS,
Royal Exotic Nursery, CHELSEA, S.W.

Thomson's Seeds.

FLOWER SEEDS.

BEGONIA, Thomson's Superb Single and Double.—Saved from selected plants of a very choice collection. Per Packet, 1s. & 2s. 6d.

CALCEOLARIA, Thomson's Dalkeith Park.—A well-known and popular strain; saved from plants of dwarf and compact habit. Per Packet, 2s. 6d.

CINERARIA, Thomson's Superb Mixed.—A very carefully selected stock. Per Packet, 1s. & 2s. 6d.

CELOSIA Pyramidalis, Thomson's.—Best strain in cultivation; still unrivalled. Per Packet, 1s. & 2s. 6d.

PANSY, Thomson's Choice Mixed.—Saved from the finest named sorts. Per Packet, 1s.

POLYANTHUS, Thomson's Superb Hybrid.—Saved from the choicest varieties. Per Pkt, 1s.

STOCK, East Lothian (Scarlet, Purple, White, Crimson and White, Wall-leaved).—Saved from 2 year old plants, specially selected. Per Packet, 1s., 2s. 6d. and 5s.

VEGETABLE SEEDS.

BEET, Thomson's Superb Red.—Unsurpassed for garden and decorative purposes. Per oz., 1s. 6d.

BROCCOLI, Thomson's Self-protecting.—One of the hardiest Broccolis grown. Per Pkt, 1s. 6d.

BROCCOLI, Snow's Winter White.—An extra select Stock. Per Packet, 1s. 6d.

CARROT, Thomson's New Improved Horn.—Superior to the Horn Carrots now in cultivation. Per oz., 8d.

LEEK, Musselburgh.—True stock; Scotch saved. Per oz., 2s. 6d.

PARSLEY, Thomson's Superb Curled.—Dwarf and compact; beautifully curled. Per oz., 1s.

TOMATO, Thomson's Excelsior.—Undoubtedly one of the best for general use; smooth-skinned, and of fine flavour. Per Packet, 1s. 6d.

THOMSON'S Vines, Thomson's Styptic.
THOMSON'S Vine and Plant Manure.
THOMSON'S Book on the Vine, the Pine, the Flower Garden, & Fruit Culture under Glass.

CATALOGUE of SELECT GARDEN SEEDS, forwarded on application. All goods carriage paid.

DAVID W. THOMSON
(*SEED MERCHANT*),
24, FREDERICK STREET, EDINBURGH.

SUTTON'S

SUPERB CINERARIA.

We believe our Strain of Single Cineraria to be unsurpassed by any other in cultivation.

"Your strain of Cineraria is the best I have ever seen, both as regards colour, size of bloom, and sturdy habit of plant."—Mr. W. Coombs, Gardener to D. H. Harding, Esq.

Price of Seed, Mixed Colours,
5/- & 2/6 per Packet, Post Free.

SUTTON'S SEEDS
GENUINE ONLY FROM SUTTON & SONS, READING.

For Index to Contents see page 394.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—Bacon.

NEXT WEEK'S ENGAGEMENTS.

Monday, Feb. 20th.—National Chrysanthemum Society: Annual Meeting at 7 p.m.
Sale of Fruit Trees, &c., at Protheroe & Morris' Rooms.
Tuesday, Feb. 21st.—Sale of Orchids, Greenhouse Plants, &c., at Protheroe & Morris' Rooms.
Wednesday, Feb. 22nd.—Sale of Greenhouse Plants, &c., at Protheroe & Morris' Rooms.
Thursday, Feb. 23rd.—Sale of Roses, Hardy Plants, &c., at Protheroe & Morris' Rooms.
Friday, Feb. 24th.—Sale of Orchids and Hardy Plants, at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, FEBRUARY 18th, 1893.

Exported Fruits.—It seems hard to believe that home-grown Filberts and Cob Nuts were exported to America in considerable quantities when we had good crops here. Still it seems to be true. It is much harder to believe that such fruits as ripe English Grapes are exported to New York and then sold at remunerative prices, but that seems to be true also; hence it would appear that whatsoever may be the capacities of the United States in the matter of fruit production, there are some things which Great Britain can do better, and which it pays our growers to send to markets across the Atlantic.

We refer to this interesting fact because it will help to show Sir William Hart-Dyke and others anxious to brand all imported fruit as such, that proposals of that kind cut both ways. Now here at home enormous quantities of the finest Grapes in the world are being produced annually, and it is only in very exceptional cases that really remunerative prices can be found at home. With ninety out of every hundred of private gardens competing with the market grower, it is no matter for surprise that Grape growing in this country proves to be no great boom. If, however, our growers can find a market for their crops in America, we cordially wish them every prosperity in their enterprise. It is very well known that some of our leading fruit exhibitors received special invitations to take out exhibits of English grown fruits to the Chicago Exhibition.

That invitation was based, as we learn, on the fine show made by these growers at the Autumn Fruit Show at Earl's Court, when the splendid samples displayed quite surprised some official American exhibitors. Doubtless it was thought that thus showing what high-class fruit is produced here would help to stimulate the American growers to higher aims. If that be so it is not difficult to understand why it is that good British Grapes should be selling in New York at, as we are told, the remunerative price of eight shillings per pound. Even so far off, what possibilities do so excellent a price open up to the British fruit grower?

The Catkins of the Hazel.—The male inflorescence of the Hazel Nut is just now in very attractive form. It is true the tiny female bloom gives us by far the smallest flowers, and they are indeed of the most unobtrusive kind, but they are at least decked in glowing red hues, and when the sun shines brightly in the early morn the buds of the Hazel seem to glisten with lively colour. But just now the catkins that contain in such abundance the pollen so essential for the fertilisation of the small red flowers are both in wonderful profusion and are very pleasing to see. Bushes here and there are very pretty, and whole woods of Hazel bushes are simply beautiful. It is long since we have seen such a wealth of male bloom as now hangs in myriad of clusters on the branches of our small Nuts.

It is not to the common Nut alone that catkins are restricted. Filberts and Cobs in gardens and orchards are just as floriferous. What wonder then, if we hope to see a fine crop of small Nuts this season. Did these pendent clusters of male blooms exhibit themselves when the trees and bushes are well in leaf we should take very little notice of them. But they come to beautify our orchards, gardens, hedge-rows and woods almost in mid-winter, and when every pretty feature in vegetation is so striking and so acceptable. The catkin, whilst of itself almost inconspicuous, is in the aggregate very beautiful, and this feature is found in its most attractive form on tall or naturally grown trees or bushes. It is such as these we see in orchards when allowed to develop naturally as in the woods, only that in the former case they are occasionally thinned, kept free from suckers, and encouraged to produce very abundant crops.

What delicious Nuts are thus obtained! What a matter for surprise is it that both Cobs and Filberts are not far more commonly planted! Even as decorative trees at this time of the year they are, as we have shown, so beautiful that we can but wonder that they are not very largely planted in shrubberies, where they would with Lilac, Syringas, &c., form admirable background.

A combination of Nut bushes and of Hollies is at this time of the year very pleasing and merits general attention.

PEACHES DROPPING THEIR BUDS.—How many very able growers of Peaches are there who have been from time to time greatly puzzled to understand the why and the wherefore of the dropping of flower buds on Peach trees, when early forced. We hear on good authority that the trouble is limited to certain sorts; that may be more or less true; but chiefly less we suspect, because it is the rule to force certain varieties more largely than others. The remarkable feature of this bud dropping is that it does not occur in connection with any sorts out-of-doors on walls, hence the inference naturally is that forcing, and not inherent defect, is the cause of this trouble. We may very well understand that forcing is in no sense natural culture, and cannot be applied to everything with impunity.

The Peach forces very well, but then it has to be forced with some reason. What is needed in the case of those forced early, for then liberal driving seems to be essential to the securing of early blooms, is that the driving shall be rational. The Whip who in handling a team of horses puts them to the gallop at the start very soon winds his cattle, and they readily tire. If, on the other hand they be allowed to do the first mile or so at a steady trot, so as to become gradually warmed to their work, they then complete the journey fresh and sound. It is pretty much the same very often with Peach forcing. The house is shut up close, although it is yet but February, the full force of heat is applied at once, and the utmost pressure is put on the trees to expand bloom.

What wonder if in such a case the roots are unable to meet this sudden forced demand upon them, the sap supply is deficient and the fine plump buds fail and drop. The obvious wise course is to apply warmth very gently and gradually, so as to bring root and branch action into harmony. That is what Nature does out-of-doors, and her course should be followed under glass. Nature is as a rule also very free with moisture during the winter, and that is rarely the case in Peach houses.

Gardeners' Orphan Fund.—We have much pleasure in announcing that Baron Ferdinand de Rothschild, M.P., has kindly consented to preside at the annual dinner, on Wednesday, March 22nd, at St. James' Hall, Regent Street, W.

London Parks.—The Parks and Open Spaces Committee reported to the London County Council, on Tuesday, that the expenditure on maintenance account for the financial year ended March 31st last was £69,002, being £3,974 less than the estimate.

United Horticultural Benefit and Provident Society.—The monthly meeting of this society was held at the Caledonian Hotel, Adelphi Terrace, Strand, on Monday evening last, the chair being taken by Mr. W. P. Thomson. Seven new members were elected and one other nominated, and it was announced that two members only were on the sick fund. The annual meeting will take place at the above Hotel, on Monday evening, March 13th, at 8 o'clock, when Mr. Arthur Veitch will preside.

The Forthcoming Great Orchid and Artistic Plant Group Exhibition at Manchester.—We are asked to state that schedules for this event will be issued in the course of a few days. A number of special valuable prizes will be given in the shape of silver cups, medals, and money. It is expected that the Orchid display will be the finest ever seen in the country.

Mr. Fergusson has been engaged as gardener to John Stirling, Esq., Fairbairn, Muir of Ord, Ross-shire.

Captain Cook's Tree, on Clapham Common, midway between the "Plough" and the church, was blown down on Saturday. The fallen trunk—18 ft. in diameter, and much decayed—has been an object of much interest since. During the last few years, owing to the necessary lopping of dangerous branches, the tree had become little more than a trunk. Its outward appearance was so venerable that it was difficult to believe that Captain Cook was its planter.

Area of European Forests.—According to an official statistic, recorded by *L'Illustration Horticole*, European forests occupy an area of 717,500,000 acres. Turkey, Bulgaria, Bosnia, and Herzegovina are not included in that computation. Russia alone possesses 500,000,000 acres of forest, and France possesses only 24,720,000 acres.

New Plants Certificated in Ghent.—At the meeting of the Ghent Floral Committee held on the 9th inst., Certificates of Merit were awarded to M. Jules Hye for Odontoglossum crispum formosum, Od. President Zaldua, Od. Wilckeanum sulphureum, Od. macrospilium, and Cypripedium Albertianum var.; to M. J. Moens for Cypripedium hybrid (vernixium x Spicerianum); and to M. P. De Schryver for a seedling Azalea, named A. Schryveriana.

The Gardeners' Royal Benevolent Institution.—As an instance of what local societies are able to do in aiding the gardening charieties, we are asked to mention that the Reigate and District Chrysanthemum Society has remitted to the Gardeners' Royal Benevolent Institution, no less a sum than £136 10s. during the four years it has been established, and thus been the means of nominating thirteen of its members as life members of the Institution. Mr. James Brown, the indefatigable honorary secretary of the Reigate Society, expresses a hope that kindred societies, if able, may be induced to do likewise, and thus not only add to the funds of an excellent charity, but also benefit their own members by conferring upon them, as funds permit, the privilege of life membership of the Institution.

The New Park for Aberdeen.—The scheme for the proposed park at Hilton, Woodside—the large and thriving district lately taken into Aberdeen under the City of Aberdeen Extension Act—has been drawn up by Mr. Dyack, Burgh Surveyor of Aberdeen. It will be a little over thirteen acres in extent, situated on a commanding position. It consists of a central area of four acres, laid out in grass with ornamental grounds, the whole being surrounded with trees and shrubs. The Taylor playground will occupy the north side, where also will be flower beds, with numerous little winding walks, all leading to a centre in which a fountain is to stand. The quarry holes on the south side of the park that have hitherto borne a bad character for danger to children are to be filled up to within 18 in. or two feet of the surface, and the rough irregular ground adjoining, with its whins and furzes and wild grasses, is to be laid out in an ornamental manner. The estimated cost is £3,200.

Nottingham Horticultural Society.—The annual dinner of this society took place on the 9th inst., when members and friends to the number of 120 sat down to an excellent repast at the Arboretum Refreshment Rooms, Mr. James Booth presiding in the absence of the Sheriff of Nottingham, unavoidably absent. The chairman, an old friend of the society, was supported by several gentlemen of the town and neighbourhood who take a deep interest in matters horticultural, including Mr. W. H. Haywood and Mr Samuel Thacker, who are always to the front with their counsel and support to the garden holders of Nottingham. One of the features of the evening so far as it concerns gardeners was the presentation of Medals and Certificates to the most successful exhibitors during the past year. Mr. C. J. Mee, nurseryman, who rents the extensive gardens at Wollaton Hall, gained the highest number of points, and was awarded a Gold Medal each for exotic and hardy exhibits. Framed Certificates were awarded Mr. L. Brown, of the Coppice Asylum, for outdoor, and Mr. J. Meadows, of Rockhouse Gardens, Basford, for indoor exhibits, as being second in points; and in the same order Mr. J. Baker, Basford, and Mr. Butler, Asply Hall Gardens, were given Third-class Certificates.

Sheffield Chrysanthemum Society.—The annual dinner of the Sheffield, Hallamshire, and West Riding Chrysanthemum Society took place on the 8th inst. There was a large attendance and the chair was occupied by Mr. J. Haigh (chairman of the society), who, in acknowledging the toast of "Success to the Society," said that as a society they were doing all they could to advance the cultivation of the Chrysanthemum. They desired that their show should be a credit to the city, and they also wished to encourage and instruct those who took an interest in the growth and cultivation of flowers. It seemed to him as if there was no end to the advancement in Chrysanthemums. The kinds were being continually added to, while existing sorts were each year brought nearer to a state of perfection. Season after season they found something new and interesting to occupy their attention. The public appeared to appreciate the efforts of the society, and as long as they did so long would the members of the society be willing to do all they could to cater for those who were lovers of flowers.

Scottish Horticultural Association.—The first meeting for the session of this association was held on the 7th inst., Councillor Mackenzie, the newly-elected president, occupying the chair. Councillor Mackenzie, in the course of his opening address, said he trusted that members would bear with his defects, and he would promise to do what he could to carry on the affairs of the association so far as these pertained to the office which he held. The association was really a technical school, where one member taught his neighbour, each profiting by the other's experience. In some technical schools an attempt was made to teach trades, but this was useless labour, and could be better done in the workshop. The real technical knowledge required was to find out the reasons which underlay their ordinary practice, and from this knowledge to go on to increased knowledge and more scientific practice. Nowhere were there greater opportunities for this than in the study of horticulture. Each member should see it to be his duty to himself and to his country to devote a large portion of his leisure time to the acquiring of technical details in connection with his business, which would not only benefit himself, but would benefit the whole community. Referring to the work of the association, he said they might have papers allied to horticulture, such as building and construction of hothouses, the theory of circulation of water, and so on. He also advised young men to study mensuration, land surveying, and elementary geometry, all of which would be found most useful. On the motion of Mr. Dunn, seconded by Mr. D. P. Laird, a vote of thanks was awarded to the president for his address. A fine vase of Chrysanthemums was exhibited by Mr. M'Millan, Trinity.

National Chrysanthemum Society.—The last meeting of the committee previous to the annual meeting of the society on Monday evening next was held on the 13th inst., Mr. R. Ballantine presiding. The business was merely of a routine character, and had reference mainly to the annual report and statement of accounts, both of which we shall commit no breach of confidence in stating will be of a most satisfactory character. Four Fellows and eleven members were elected, and the following societies admitted into affiliation:—The Dalkey, Killiney and Glenagery Chrysanthemum Society, the East London Amateur Chrysanthemum and Floricultural Society, and the Rugby Chrysanthemum Society. Mr. Ballantine and Mr. Dean were most cordially thanked for the valuable services rendered by them to the society during the past year.

PRESENTATION TO MR. W. YOUNG

ON Wednesday afternoon of last week, as we were going to press, horticulturists from all parts of Scotland were assembling at the Waterloo Hotel, Edinburgh, in honour of Mr. William Young, the indefatigable Assistant Secretary of the Royal Caledonian Horticultural Society. Mr. Young for a period of over fifty years has been a man of mark in Scottish Horticulture. For over thirty years he has ably filled his present office, and previous to his connection with the "Caledonian" he was an active worker in a similar capacity in connection with similar societies. It was in order to recognise, in some measure, the good work done in the cause of Scottish horticulture by Mr. Young, that his friends met together to present him with a testimonial, which took the form of a silver salver and a purse of one hundred sovereigns.

Mr. David W. Thomson presided over the social gathering and gave an interesting sketch of Mr. Young's career from his birth at Haddington to the present time, and which included references to Mr. Young's triumphs, in years long gone by, as an amateur cultivator of Auriculas, Carnations, and Hyacinths. Mr. William Thomson, of Clovenfords, made the presentation, after giving an interesting account of the progress of the society, much of the success of which in later years he attributed to the labours of Mr. Young.

THE ABORIGINAL CHINESE PRIMROSE.

The number and infinite variety of the popular Chinese Primrose, and their general usefulness, is matter of common knowledge. At this time of year they are ubiquitous—everybody grows them. It is not, however, of Primula sinensis (so called) and its multifarious forms that I now wish to treat, but of the beautiful aboriginal ally of this interesting group, blooms of which were recently exhibited at a meeting of the Ealing Gardeners' Society, by Mr. Jones, gardener to E. Hyde, Esq., Ealing, W., and which created no small amount of interest. Since then I have had an opportunity of inspecting the plant, and I must confess that I have a strong partiality for it over its more substantial derivatives.

A sight of this wild plant excited in me the liveliest feelings of curiosity. I had heard of it before, it is true; but, like a first vision of some great natural phenomenon, its presence constrained one to regard it with veneration. Six thousand years, perhaps, it has been cultivated by the Chinese in their peculiar gardens, and thus come down to us; while it has, probably, perpetuated itself in its native wilds for many generations anterior to that far-away epoch.

What reflections do not such conditions call to mind? Yet here, in these latter days, with all our appliances and progress, and with the grand "improvements" that have been effected, this "ancient mariner" comes, as it were, to check our calculations. Neither the flowers nor foliage will, of course, bear comparison, in point of substance, with our modern varieties, but by measurement we found the diameter of a single pip to be $1\frac{7}{8}$ in. [sent herewith for your inspection]. On the other hand, pips of Veitch's Snowflake--a favourite plant here--only measured 2 in. in diameter. The beautifully delicate rosy-mauve flowers, however, do not strike one as being so large as they really are, because, by reason of their flimsy texture, they do not present a perfect disc. They are, nevertheless, intrinsically meritorious, while their shape—five lobed and distinctly notched—drooping character, and freedom of production, render the plant a decided acquisition for greenhouse work. The foliage is not unlike Primula obconica, with which Mr. Jones thinks it might be possible to effect a cross.

What a happy union, could it be so "arranged"! And there is much to be said in favour of this view, as both species are natives of Central China, and bear a strong family likeness. I recommend this problem to Mr. Jones's consideration, because it has been said that gardeners have contributed relatively little to our knowledge in this direction. Messrs. Sutton & Sons, I know, are working systematically towards this end, but that is no reason why the gardener should not vary the monotony of his calling by philosophising occasionally on the more recondite processes of vegetable matter.—*C. B. G., Acton, W.*

WITLOOF.

In winters like the present, when so many of the green vegetables have been destroyed by frost and other unfavourable conditions in the open air, fortunate is that gardener who has a plentiful supply of roots for forcing. Witloof comes under that heading, and is a variety of Cichorium Intybus, or Chicory, a native of the southern counties of England, where it usually grows in waste ground, by the waysides and occasionally finds its way into gardens as a herbaceous plant. As a vegetable or salad it is less known in this country than as an ingredient for mixing with coffee. Witloof is largely grown upon the Continent, particularly in Belgium. The ordinary form of Chicory may be blanched in the open ground in summer, or simply used in the green state. When forced and blanched in winter it forms what is termed *Barbe de Capucin*.

The Witloof is a large variety, forming a fleshy, white tap-root that may be compared to a Parsnip. From its larger size, and the greater amount of reserve matter, we should expect larger leaves or a greater bulk of them than from Chicory when forced. The process of forcing is a very simple one to those who have a command of fire heat. The roots may be lifted at any time from autumn through the winter and onward till spring, according to the time the leaves are wanted. The latter are most acceptable of course when green vegetables become scarce. The roots should be lifted and put in boxes of soil, about 3 in. apart each way, or they may be potted up in pots sufficiently large to cover all but the crown. The pots or boxes may be stood on a hot-bed in a pit used for forcing purposes, and to save the trouble of using blanching pots a double layer of mats may be placed over the lights; should there be plants in the pit requiring light, blanching pots or boxes will be necessary. Those having a Mushroom house kept at a temperature of 55° or 60° will experience even less trouble by simply placing the pots containing the roots there, when the darkness of that structure will be sufficient for blanching purposes.

The cultivation is also simple. The plants are not particular as to soil, but if it is light rather than otherwise and rich, the plants will do well. The seeds may be sown in April or May in the open ground, in lines about 12 in. apart, and when the seedlings are well up they should be thinned to 6 in. or 8 in. apart in the lines so as to enable them to make vigorous growth and ensure good crowns for forcing. The ground should be kept thoroughly clear of weeds all through the summer, and the surface loose by frequent hoeing.

CINERARIAS AND CALCEOLARIAS AT READING.

The collections of the various florists' flowers, grown at the Portland Road nursery of Messrs. Sutton & Sons, Reading, are well worthy of inspection, each in their various season. Of course there is a considerable overlapping of the flowering season of some of them, such as the Chinese Primulas and Cyclamens, which were for the most part at their best by Chistmas, and the later varieties soon after. The Cinerarias had commenced flowering then, but were purposely sown a month later than they could have been, so as to come into bloom when the days should be longer, and the light and atmospheric conditions better. The Calceolarias are later than either, and will not be in their glory for some time to come. The houses are all comparatively new and built on modern principles, specially for the culture of soft-wooded plants, or low growing in general for the matter of that. They are span-roofed structures running east and west, with staging so that the plants may be as near the glass as possible. The sash bars and other parts are of strength as to be effective, while admitting the greatest possible amount of light. The stages consist of corrugated iron covered with ashes, so as to keep them cool and preserve moisture about the plants. Everything is kept clean and neat, as they should be in all private or public establishments.

Cinerarias.

As already stated these were not meant to flower early, consequently the seed was not sown till May, and were kept in cold frames till the advent of frost rendered it necessary to take them into the house, where they are now flowering. The cool treatment to which they were subjected enabled the plants to make fine foliage and to preserve them in the most healthy condition, thus assuring a good display of bloom while adding to their effective appearance. The seedlings were shifted on from the seed-pans to thumb pots, and again in succession as the pots became filled with roots, till they were placed in their flowering pots, 32 being the size. Large plants are not required when the object is to get seed; and the best is obtained from the blooms surmounting the main stem. The first flowers commenced to open about Christmas, and since then they have been gradually increasing in beauty. A dwarf and compact habit, with large flower heads and bright colours are aimed at. The starry appearance of the heads has long since disappeared, and the florets are now so broad and so much overlapped that they form as it were a solid ring.

The colours are varied, but preference is given to the rich ones, whether the flowers are selfs or zoned. Very choice is Sutton's White, which is now as much improved in form as any of the varieties, and pure white with a violet disc, the strong contrast adding additional interest and beauty to the whole. Other varieties are of an intense blue, or blue with a white zone encircling the violet disc. A similar set has self purple heads, and purple with a white zone surrounding a purple disc. There are various other combinations as well as self colours, all of sterling quality.

Calceolarias.

As may be taken for granted the Calceolarias are not in bloom, and will not be so till April and May. The seeds were not sown till June, and the seedlings were brought on with cool treatment as were the Cinerarias; they were shifted onwards as the state of the roots required it, until it was necessary to take them into the span-roofed house they now occupy. At present they are in 24-size pots, and present a bushy, healthy and vigorous appearance, branching freely from the base. The house is ventilated night and day, except in very severe weather, and to this may be attributed their present healthy condition. Another fact is, that they are not neglected at any stage of their growth, as frequently happens in private establishments, where the plants are allowed to get crowded in the seedling pans, or even after they are transferred to small pots. As the plants approach the flowering stage they will be accorded at least double the space they at present occupy.

Gleanings from the World of Science

Hybrids of Dianthus.—It has repeatedly been proved that the species of Dianthus, or many of them, hybridise freely with one another. Yet, notwithstanding this fact, very little evidence of hybrid progeny may be seen in gardens at the present day. About 150 years ago, or thereby, a race of hybrids between D. Caryophyllus and D. barbatus were grown under the name of Sweet Johns, but they gradually reverted to the parents. The most popular, and indeed the only hybrids of any considerable notoriety at the present day, are those derived from D. sinensis and Caryophyllus, distributed under the name of D. Margaritæ. Within the last few years there has been ample evidence of reversion to the parent types, but more particularly to D. Caryophyllus. Mr. F. N. Williams in his monograph of the genus in the *Journal of the Linnean Society, Vol. 29, p. 467*, says that the hybrids revert to D. Caryophyllus after three or four generations if they are repeatedly fertilised by that species. On the other hand, these hybrids revert to D. sinensis only after five or six generations, when they have been fertilised with that species. Now the fine varieties of the Carnation (D. Caryophyllus) in cultivation offer many attractions to florists, and it is but natural to suppose they would make use of them either as pollen or seed parents, and we cannot be surprised to note that the so-called Marguerite Carnations are year after year becoming more nearly identical with the true Carnation.

Huge Museum Specimen.—The Americans continue to fell and destroy the aboriginal giants of their forests, so that in a few years, probably, but little will remain to demonstrate the actual size to which living vegetation may attain. They have resolved, however, to preserve a specimen, or piece of a huge tree, in the Museum of Natural History at New York. This specimen, as recorded by *L'Illustration Horticole* for the 15th of January, consists of an immense ring measuring more than seven yards in diameter. The tree grew in the country of Fresno. In order to make it transportable it was necessary to divide it into twelve pieces, running from the circumference towards the centre. The tree was known under the name of Mark Twain. The trunk near the surface of the soil was more than thirty yards in girth, and at three yards above the ground its girth was still twenty-one yards; its total height exceeded one hundred yards. The *Garden and Forest* gives a figure of the tree from a photograph taken during the fall of the colossus.

New theory concerning Potato disease.—It is easy to formulate a new theory about any given subject, but it is quite another thing to demonstrate the truth of it, and in consequence such theories have often most weight and seem most plausible when left without explanation or attempt to demonstrate them. Dr. J. Bohm has recently been stating that all our botanists and scientists generally have been misleading the public when they stated that the fungus lives in the tuber during winter. He also states that the germinating spores of Phytophthora infestans are unable to penetrate the skin of tubers covered by soil so long as the skin is intact, and that the fungus can only effect an entrance when the tubers have been injured by snails, insects, etc. Diseased tubers, he continues, either do not grow at all, or they give rise to a healthy offspring. He forgets that the so-called offspring, that is the young tuber, is merely an extension of the growth of the mother plant. He might as well say the latter would first contract the disease and then grow out of it, if merely to prove his theory.

EVERGREENS BENEATH TREES.

THE HOLLY.—Probably very few Evergreen trees succeed so well beneath the shade and drip of our larger forest occupants as the common Holly. It may often be seen with its stout stem springing up within a few feet of a big Oak or Elm tree, and where only a very limited number of shrubs could succeed; and there, too, sending out stout branches well supplied with the glossiest foliage, and often rising to fully 30 ft. in height. In such places it never looks shabby, not half so miserable as when growing in the open, and especially if subjected to cold and searching winds, or excessive sunshine when the soil is not rich and dampish.

For woodland ornamentation it is best at first to plant the Holly in clumps of say five or seven good sized specimens in each, as by so doing immediate effect is obtained and should they in future years get too close together it is a matter of no great trouble to remove every alternate plant and place it in some open spot where it will be shown off to advantage. Big specimens removed from one place in the woodland to another rarely, if ever, suffer, the shade afforded being just what is wanted to resuscitate the impaired vitality consequent on removal.

THE EVERGREEN OAK (Quercus Ilex) is another excellent tree for planting in the shade, where it succeeds admirably and enlivens the whole woodland with its wealth of dark evergreen foliage. It may often be seen growing stout and strong when standing within a few yards of some giant of the forest and with a wealth of leafage that one cannot help but admire, but especially so when seen growing beside deciduous trees. To see the beauty of an evergreen shrub do not plant it beside its own kind, but in close proximity to deciduous species, that is for foliage effect in the winter. Of course there are exceptions, as a Holly or Yew will always look well beside a Shepherdia or a Sea Buckthorn, but greyish or silvery-leaved trees and shrubs are far from common. There are a few very distinct forms of the Evergreen Oak that do equally well with the typical plant beneath the shade and drip of big forest trees.

THE COMMON YEW, and indeed almost every other species and variety, are never half so much at home as when shaded and caressed by the branches of large-growing deciduous trees. Like the Holly and Evergreen Oak the common Yew will grow perfectly well and attain to great perfection when planted in the woodland. Another pretty and far too little known Yew is that popularly known as the Crowsfoot, and which makes a fine specimen when planted in the shade. But some of the finest specimens of the Golden Yew that I can remember seeing were growing in a woodland glade, not perhaps beneath trees, but well within reach.

But not only does the common Holly succeed admirably in the shade, but the quite as beautiful Hodgson's form and the curious Hedgehog variety. Such good kinds should not be planted in the woodland away out of sight, but be confined to the margins, and particularly to such as are visible from drives and paths. A woodland path enlivened here and there by clumps or single plants of the Holly in its numerous varieties is a charming sight, and will be frequented in winter where most others are deserted. The silver variegated and golden tinted varieties are well worthy of attention.

THE WEEPING INDIAN JUNIPER (Juniperus recurva) never looks so healthy and happy in this country as when growing along the outskirts of a wood or plantation, and this fact was not long ago pointed out by an accurate observer of trees and their ways. Of course soil must be suitable or this lovely Juniper cannot survive; but given its choice in that respect the only other exacting point is shade.

THE STRAWBERRY TREE (Arbutus Unedo) must not be omitted from the list of shrubs or trees that will succeed when planted in the shade. That too shady and dark a position will kill it I know right well, but when grown say beneath a big, rambling branched Oak, the leafage is good and perfect, and the health of the specimen all that could be desired. Many a time and oft when roaming on the rampions of the famous camp at Holwood, and which by judicious planting, William Pitt, the great statesman, made a place of beauty, I step aside to see a fine old tree of this Arbutus that is growing freely enough beneath big gaunt specimens of the Cluster Pine and ruddy-barked Highland Firs, and which were known to have been planted, and mainly by lamp light, by the great statesmen exactly one hundred years ago when he owned the Holwood property. Of shrubs suitable for growing beneath trees there are not a few, and some of these succeed well and are very beautiful.

In a Welsh woodland the prettiest sight, after widths of the blue Wood Anemone was the Rose of Sharon (Hypericum calycinum) in full flower, but particularly one patch of goodly size where the yellow flowers of the Hypericum and deep cerulean blue of the greater Periwinkle was a sight never to be forgotten. It may not, but should be known that these two plants grow together in loving harmony, the friendly support of the Rose being all-favourable and kindly for the weak-stemmed Periwinkle. For edging paths in the woodland either of these two have few equals, and they can be kept to any required width by pruning, which they take to kindly and are improved thereby.—*A. D. W.*

ORCHID FLOWERS.

I AM exceedingly fortunate in that I have within the last day or two received several packages of Orchid blooms from friends at a distance. And now as I sit down I am simply surrounded with perhaps as choice a collection of varieties as it is possible to get together. I need hardly say that the sight of so many gems gives me considerable pleasure, and in noticing one or two of them I am quite aware there are a number I must pass by. The first I would notice is the choice Vanda teres Aurora. This I have not seen before, and its size, firmness of texture, and withal its purity, stamp it as one of surpassing beauty. Sepals, petals, and labellum are all pure white, the throat being of a pale canary yellow. The bloom is three inches in diameter, while the two sepals that project forward and partly cover the upper portion of the labellum are an inch and a half across in their widest part.

The next I pick up is Cypripedium insignis Sanderæ. As I saw the first bloom of this form when it originally appeared, I am now, on beholding it again, much pleased with it. Dorsal sepal pale green, with its upper portion clear white, which latter colour comes so well down the side of the sepal that it might almost be said to be a white dorsal sepal with the centre pale green. Petals, labellum, and crest, clear shining yellow, the intensity developing in the order in which these three parts are mentioned. Truly a charming flower.

Cattleya exoniensis, a glorious flower, reminding one immediately of the late Mr Dominy. I pick up another Cypripedium, Harrisianum superbum, intensely dark, measuring 5½ in. over, the dorsal sepal being just 2¼ in. across. This hybrid needs little description as it is well known, but this variety is the finest I ever saw. Cypripedium Germinyanum, a hybrid having Villosum and Hirsutissimum as its parents and combining the beauties of each in itself, this bloom is 6 in. over. Here, too, is C. Leucorrhoda, a grand product of C. Roezli x Schlimmi alba. The delicate shading of white and rose in this bloom renders it peculiarly attractive. I have also blooms of C. Vexillarium, Lathamianum, Sallierii, Cardinale, Melanophthalmum, Grande, beside numerous Odontoglossums, Cattleyas, Cymbidiums, and Lycastes.

A package from Mr. W. Holmes, Pickering Lodge, Timperley, contains Phalænopsis Leucorrhoda, a lovely spike of a charming form. To those who know this natural hybrid, having most probably P. amabilis and Schilleriana as its parents, it is needful to say little more than that the variety is superb. Cypripedium Lathamianum: a remarkable flower both as regards size, vigour, and marking. The distinct upper broad sepal with its deep and broad purple stripe along its centre indicating one parent, Spicerianum, and the other portions of the bloom unmistakably reveal Villosum as the other parent. C. cardinale and C. Sallierii are each charming and distinct forms and were remarkably well done.

From Mr. A. Dix, gardener to G. C. Hill, Esq., Arnot Hill, Nottingham, comes Cattleya Percivalliana, a fine spike with three flowers of good size, and the labellum well developed. One feature detracts somewhat from the beauty of this form. I allude to the contracted lip and unsatisfactorily small labellum which is not present in this case, but a well formed flower and perfect lip, with throat of glorious colour, stamp this as an unusually fine variety. The same remark may be made of a large and high coloured C. Trianiæ. Cypripediums are represented by a grand batch of C. villosum, varying in size and colour, one, however, of fine quality having the upper sepal almost all of a deep, shining purplish-brown. C. Lathamianum, a good flower, not, however, as large as that from Pickering Lodge. L. anceps Morada, a spike of three flowers, intensely dark in every part. A glorious spike of Odontoglossum Andersonianum, one of the best types of this ever acceptable hybrid; a fine flower of Dendrobium Wardianum album; good D. crassinode; bright and cheery Sophronites grandiflora; and last to mention, but not of the batch, some specially fine forms of Odontoglossum majus; these were of the finest, the labellum being broad and clear, whilst the sepals were heavily spotted with deep chocolate-brown. Numerous others were enclosed, but these will give a fair idea of the gems the above growers have now brightening their Orchid houses.—*W. Swan, Bystock, Exmouth.*

THE ROSE GARDEN.

CLIMBING NIPHETOS.

To those who have a cool greenhouse and are fond of Roses, I would recommend they should procure a good standard tree of climbing Niphetos and plant it inside with as little delay as possible to ensure a good crop of pure white Roses this year. I prefer a standard for the reason that you can plant it so as to have the head above the stage, and it very soon finds its way to the wire on the roof and gives abundance of bloom the first season. My experience with this Rose has been most satisfactory, and for all-round work I can say without hesitation it is one of the best. We all know if you grow Marechal Niel in a greenhouse you get one crop of bloom lasting over a period of say three weeks or a month, but I can rely upon finding a bloom or two of climbing Niphetos at any time during the year except in the months of January and February. I was induced to grow it in this way. A friend recommended it and sent me some buds. They arrived on the 15th September (rather late in the season), but in one corner of my house I had a standard Gloire de Dijon which had not made much growth, so I put two buds into this, and one began to break away about the end of February. It made rapid growth, and one grand feature of this Rose is that it throws out long growths and carries a bloom at every lateral all along the stem. I cut over two hundred blooms from this tree the first season, and within fifteen months from the time I budded it the growth was over 20 ft. from the stock. Last season I had abundance of blooms, and continued to cut right up to Christmas Day, when I cut the last, and on looking at the tree again to-day I find a number of new buds throwing up, so that early in March I hope to commence cutting again.—*Practical.*

ASTER AMELLUS.

OWING probably to the extreme hardiness of the bulk of the perennial Asters, both from American and European habitats, we seldom hear of them being used as pot plants. When treated as such, however, their beauty cannot be denied, and those who once make the experiment with a number of well selected types, are likely to continue it; for they may be used for decorative purposes in various ways, either under glass or in dwelling houses when in bloom. Large or small plants may be used according to requirements or fancy. Mr. Norman Davis, of the Lilford Road, Camberwell, grew a considerable number of species and varieties in pots last year, and was so satisfied with the results that he intends to continue the experiment this year, under the guidance of the experience gained last year as to the most suitable kinds and their capabilities. His method of procedure is to take cuttings about the end of April, and rooting them, he makes use of these young plants to grow on for a display in pots. Aster Amellus is very amenable to this sort of treatment, as it is dwarf in habit and bears a profusion of large blue-purple flower heads. Virgil applied the name Amellus to an Aster-like plant with blue flowers that used to grow on the banks of the river Mellus in Italy, and we are strongly inclined to suspect the subject under notice to be the identical species, for his description applies pointedly to A. Amellus. It branches from the base and forms a broad, spreading subumbellate top, covered with its handsome flowers. The accompanying illustration was prepared from one of Mr. Davis's specimens in a 48-size pot, and speaks for itself.

ON EXPERIMENTS WITH CHRYSANTHEMUMS.*

By Mr. Alex. M'Millan, Trinity Cottage, Trinity.

Before commencing to give details of my "Up to Date" experiments with the Chrysanthemum, perhaps you will allow me to take a glimpse at the past, as it is only by measuring the past with the present that we can realise how much we have advanced. I can scarcely believe that it is only nine years since I wrote my last paper on the Chrysanthemum that was read at a meeting of this Association. At that time the Chrysanthemum was badly grown in Scotland. We had no flower show to encourage growers to cultivate and bring this most useful flower to perfection. In my paper of that date I strongly advised a Chrysanthemum Show for Edinburgh; but I never dreamt that we could or would advance with such leaps and bounds. Now the Chrysanthemum Show, although the last, is the leading show of the year, and is looked forward to both by gardeners and the general public as the one bright spot in our dark, dreary month of November. It is now nearly forty years since I tried what I may call my first experiment with the Chrysanthemum. I was then a young man knocking about the London nurseries. Of course, I attended all the shows, as I believe teaching through the eye has a far greater power in kindling enthusiasm than through the ear. At least I found it so when I visited a Chrysanthemum show for the first time. When I saw the specimen plants and table of cut blooms I was inclined to ask, like the children of Israel when they saw the manna for the first time, "What is it?" They were so different from what I had seen in Scotland, that I was determined to try and find out the secret of how such plants and blooms were produced. So I took my stand close by the first prize lot, and kept a sharp look out for the owner, or some one that could give me the much coveted information. By-and-bye, I found a young man that seemed to have charge, and was an assistant of the grower's. So I commenced my first experiment by a perfect shower of questions. He was very civil, as most Londoners are, but to most of my questions he generally gave the same answer, "Oh, we gives 'em summat good to drink." But I thought there must be more than the good to drink. However, if "summat good to drink" assisted in opening the hearts of these beautiful flowers, perhaps the same process applied to my new friend would open his heart also, and that he would tell me all about it. So I asked him if he would have "summat," and I was not the least surprised when he said he "didn't moind."

In those days it was more difficult to get horticultural information than it is at present, and a young man that wanted to get on was sometimes obliged to stand treat for information that is now spread broadcast over the land by this Association. A few glasses of beer to some of the old hands in the nursery made a vast difference. I have no doubt but that all is changed now, but this was in the good old days—before the Londoners took to drinking whisky. We had a very interesting paper by Mr. Muir last year, entitled "North *versus* South," but, as far my observations go, I find that the Scotch are fast becoming English, and the English are still faster becoming Scotch. In a late visit to the South, after a long absence, I could not help taking note of this. When a Cockney masher now enters a refreshment bar he calls for a "Scotch," and says, "the best, old chappie," or "the best, my lass," as the case may be. And in Edinburgh the Scotch masher calls for a glass of "Bittah, old man," or if he is waited on by a waitress, "A glass of bittah, my gal." And again, I am told there is more oatmeal now consumed in London than there is in Edinburgh. If you go to the Highlands for a holiday, take care how you address any person in kilts, for if you say, "Good morning, Donald," the chances are that you will get a salute of Cockney lingo strong enough for Billingsgate. In the *Scotsman*, of April 28th, there was a letter from a Scotsman domiciled in England, describing a performance on the bagpipes, on a Sunday, in York Minster. He goes on to say, "Eight kilted Highlanders of the Royal Scots played a Highland Lament as an integral part of the anthem. The effect was infinitely *touching*," etc. Well, I should say, it was enough to touch a man three miles off, and fairly out-Scotching the Scotch.

And again, Christmas is fast becoming a Scotch holiday. And as for the Chrysanthemum, we can hardly deny but that we are following the South. There is an old saying that imitation is the sincerest form of flattery—if this is true, I think both North and South should be well pleased. I will now sum up what we have learned and copied from each other. I find that Scotland has gained bitter beer, Christmas, and Chrysanthemums; England's gains are whisky, oatmeal, kilts, and bagpipes—so that England benefits by one point. But I must hasten to my new friend that I left so dry, and promised that "summat," for he must be almost flagging by this time. Well, I found him both intelligent and willing to explain all the mystery of Chrysanthemum growing as practised in those days, but all was so new to me that I felt half-bewildered. However, between the show and what that young man told me, I felt that I had got a bite, and was in for a dose of that fearful disease called Chrysanthomania that would develope into something serious on the first favourable opportunity; and, had I not been partly muzzled by another paper being read to-night, I would very likely have sent most of you home raving mad with the same affliction.

I may mention here that one of my experiments was to grow the Chrysanthemum without pots—that is, bringing them on in frames, like Calceolarias—and, when danger from frost was over, planting out in the kitchen garden, and lifting them carefully about the 1st of October and planting in a house with prepared borders. I need not point out to gardeners what a saving of labour, in water alone, there was in this mode of cultivation. Of course these were for decorative purposes, and after all is said about show blooms, most of us are obliged to make the show only a secondary consideration. I followed this system for a number of years, and, had I a living to make by growing cut flowers for market, this is the plan I would follow. Good flowers can also be got from plants grown in this way, as some of those present may remember who have seen my exhibits of former years. On the 6th of January, 1880, I was awarded a cultural certificate for a collection—I think the first cultural certificate that had been given by this Association. The cuttings that can be got from plants grown in this way are quite a different thing from those taken from pot-bound plants. At that time I supplied cuttings to my friends far and near.

Aster Amellus as a Pot Plant.

I got a great number of sports from these planted-out Chrysanthemums, particularly from the Pompon varieties. A great many of the blooms came partly coloured—that is, one side of the flower would be white, and, perhaps, the other half red. Our soil was a rather stiff clay. I always thought myself that the planting out had something to do with the number of sports. The plants were grown in a more natural way than pot plants, and Madame Nature had more of her own sweet will—she was happier, more frolicsome, and, of course, more sportive.

Well, so much for the past, but I must come now to the present, as the present only is ours. For the last few years I have been trying how far I could extend the Chrysanthemum season. Some may say it is long enough already, but I for one am not of that opinion—

For a Chrysanthemum to me,
I may let you know,
Is something more
Than a three days' Show.

But I will admit at once that November and December are the months when we want them most, then Queen Chrysanthemum steps in, in the full flush of her beauty, and takes the place of her sickly, dying sisters, and cheers us through the dull winter months. But I can't see why a flower that is beautiful and useful in November should not be also made welcome at any other time of year, provided

*A paper read by Mr. Alex. M'Millan, Trinity Cottage, Edinburgh, at the meeting of the Scottish Horticultural Association on October 4th, 1892.

you get the same quality of flower. We have the Rose now nearly all the year round, why not the Chrysanthemum? It may not have the sweetness of the Rose, but it is more useful as a decorative flower. If we apply artificial heat, Queen Rose can be got to smile at almost any time of the year, in other words, force her to bloom; but Queen Chrysanthemum is more feminine in her nature, and if you try to force her too much you come off only second best. She won't do it, and soon makes that pretty plain by taking the sulks, and ends the struggle by going home to her mother (Mother Earth) with her beautiful face all suffused with moisture—damps off, in fact

When I found that the flowers of plants struck in the usual way would not come to perfection if the buds were taken early, I came to the conclusion that unripe wood was the only cause. I have now tried three different ways of getting late varieties to bloom early. My first experiment was with old plants cut over after they were done flowering. I commenced by selecting some of those that were likely to break freely from the old stem, which I cut over some nine inches above the pot, and when they showed signs of growth I reduced the old ball and potted into fresh soil, using as small pots as possible. These I grew on in the usual way, giving larger pots where required. Plants treated in this way will show bud in the month of May, others not till June or July, I always take the first bud that shows, and never have much difficulty in getting good blooms. My next experiment was to select old plants that were throwing up suckers, cut away all the old wood, leaving the suckers only, and treating them the same as the others—they were hardly so early, but rather better flowers. Altogether I consider this a more natural way. My next experiment was to strike cuttings in June and July, most of these gave me flowers in December and January, some of them much later. As soon as they were done flowering I cut them from 6 to 9 inches above the pot, some will break away from the old wood and others will send up suckers. I may say I get equally good flowers from both the suckers and cut over plants. I commenced cutting blooms in July, and have continued up to the present time with such varieties as Molyneux, Boule d'Or, Sunflower, Etoile de Lyon, Madame Leroy, W. Coles, Puritan, Madame Lecroix, Baronne de Prailly and its sport Carew Underwood. Mrs. F. Jamison is only coming in now, and very fine it is. Altogether I have tried about thirty varieties, most of these were Japanese sorts. I was not very successful with the semi-early varieties, such as William Holmes, Roi de Precoces, and some other semi-early sorts, and these were the kinds I expected to be most successful with. I also tried a few Incurved varieties and some Pompons. I could not say that either was a success, some singles that I tried came semi-double; Figaro, a very beautiful variety, came a perfect master of ugliness; Admiral Symmonds came all right but very late; Mary Anderson was the best of all. I exhibited a vase of this at the International Show in September last year, and they were the largest and finest single blooms ever seen. This was the opinion of all the Chrysanthemum men that saw them. When grown as above described they are very dwarf, varieties that generally run up to six feet will be reduced to three, this itself is a great gain. The flowers last much longer owing to their never having got fire heat. I exhibited a collection of three dozen blooms in London last August, they were cut on a Monday afternoon and packed *dry*, travelled all night by rail, gained a medal at Chiswick on Tuesday. The same blooms were again exhibited at the International Show, at Earl's Court, on the Friday and Saturday, and were still fresh enough to be thought worthy of another medal. Of course they were not kept dry all this time. *Oh, no! we both had summat* My plants that I had at the Caledonia Show are still fresh yet. I don't mean this paper as a guide for exhibitors, but I would ask them not to poison their Chrysanthemums with stimulants when expanding their blooms. How often do we see at at shows half-rotten blooms. They just manage to hold up their heads while the judges are looking at them, but the second day of the show—well, they seem as if their day of judgment had been too much for them, and that they had passed a miserable night amongst fire and brimstone. Before closing my paper I may say that for my general stock of winter bloomers I prefer the cutting down system. I get dwarfer plants and more useful flowers for decorative purposes. I commence cutting down the late sorts about the middle of May, and ends with the early varieties well on in June. In a good season I have cut back some of the early sorts as late as the beginning of July, so as to extend the Chrysanthemum season till after Christmas and the New Year, as there is often a great demand for cut flowers about that time. Those that go in for exhibition blooms I am afraid must stick to the Jack and the Bean Stalk style of growing; but what labour and care those tall plants do take! I have grown Madame C. Audiguir 12 feet in height. Imagine a man not half that height anxiously gazing up into the sky looking out for the appearance of the first bud. At last he is rewarded by the sight of a tiny round globe, and, if his eyesight be good, and it happens to be a clear day, he may find that this little globe has a satellite revolving round it in the shape of a satan of an earwig looking out for a nice tender spot to begin his cruel work of destruction. He must be caught. But how? You may shake the plant if you like, but the law of gravitation don't affect him, for he has a pair of nippers attached to his axis, and, comparatively speaking, he is as difficult to get at as an inhabitant of Mars that our astronomers are so anxious to get a sight of. I had almost forgotten to mention an experiment that I made some twelve years ago. About the latter end of February I had a plant of Grandiflorum, a late yellow Japanese variety, well set with flower buds. At that time I was trying how late in the spring I could get them to bloom. I expected this plant to flower in April, but I thought that if I cut off the tops and struck them I might keep them from blooming till May. I had no difficulty in getting them to root, but I could not get them to flower—when the flower buds began to expand the petals were green, they never formed themselves into a proper flower, although they partly retained the petal shape, but shot up into a shoot or branch. I was surprised at this, as I had often before flowered other varieties in this way, but never so late in the season, nor with so late a variety. May and June are the only months of the year that I have failed to cut Chrysanthemums in. My last year's Chrysanthemums lasted up to April, when I finished by cutting good blooms of L. Canning, which I exhibited at the April meeting. But to go back to my half-flower half-branch, which I considered a failure at the time, but have now come to look at in a different light, for it seems to me that my unnatural treatment for a few months had pushed back nature's improvements for thousands, perhaps tens of thousands of years, and that I had just got a glimpse of one of the first links in that beautiful floral chain that now almost encircles the year.

THE VEGETABLE GARDEN.

Celery destroyed by frost.

"H. W." is not alone in his loss, and it was scarcely expected that crops in general could withstand such rigorous frosts without being part or wholly destroyed. The ground with us was frozen 16 inches deep. This I consider severe and sufficient to destroy any crop of Celery, with ridges no more than 2 ft. 8 in. through, as the frost penetrating sideways meets in the centre and transforms the whole into a frost-bound mass. Our Celery trenches are 6 ft. a part, with double rows of plants. When earthed up, the ridges are 4 ft. thick. Consequently there has been several inches of unfrozen soil around the stems as a protection. Our chief loss is a few inches of the tops, the frost striking downwards through the litter and boarded tiles, has notwithstanding left a mass of gangrene to complete the deadly work.

Preserving Celery in Sand.

This method is strongly recommended, provided cool, frost-proof sheds or outhouses are at hand. There is a slight deterioration in quality, but this is as nothing by comparison with the total loss of the crop. The divesting of roots and tops, as recommended in a contemporary, is unnatural. Celery should be stored as carefully as Beet, moderately trimming both roots and tops. In this way we have kept Celery good and sound until late in the spring.—*B. L.*

Celery: a light Foliaged Variety.

As the season for sowing is upon us there has been several enquiries from cottagers for the name of a light-leaved kind which has been grown by them and which they assure me is remarkable for its crispness and quality. I do recollect seeing a row of Yellow Celery in a garden by the wayside last summer, but took no further notice of it at the time, thinking that the sickly appearance was due to the administration of some over-strong stimulant. Amongst the numerous seed lists to hand, I notice that only the Chester firm has a sort named White Plume. Has any reader grown this, and if so will he give us his experience of it?—*B. L.*

FERTILISATION OF FLOWERS.

A most interesting and instructive course of lectures, delivered under the Thomson bequest, has just been concluded in the Free Church College Hall, Aberdeen. The lecturer for this year—the appointment lies with the Senatus of the College—was Mr. J. A. Thomson, F.R.S.E., Lecturer on Zoology and on Biology in the School of Medicine, Edinburgh, and his course was entitled "The Web of Life." We give below a synopsis of his lecture on "The Fertilisation of Flowers," and, should space permit, we may some day soon give his lecture on "Interactions between Plants and Animals." Considerable interest was manifested in the lectures, the attendances being large and representative. The limelight was brought into requisition to illustrate the lectures.

Mr. Thomson, in opening his lecture on "The Fertilisation of Flowers," said that perhaps the most important contribution which the poet Goethe made to science was contained in an essay published in 1791, entitled "An Attempt to Explain the Metamorphoses of Plants." In that essay he discerned that any ordinary flowering plant might be reduced to an axis and appendages; and the flower which crowned the axis and limited its growth was, after all, nothing but four tiers of modified leaves adapted to secure the continuance of its species. That was his interpretation, and, although it was now a botanical commonplace, it was then a great discovery. The first circle consisted of green sepals, which bound the flower together and protected it when it was in the bud; the second whorl included the petals, the attractive leaves to which insects were drawn; the third whorl was much more essential, it consisted of stamens, the pollen-producing leaves; and the last innermost whorl consisted of those leaves which produced the possible seeds—in other words, the carpels.

The process of fertilisation was generally expressed as the bringing of the nucleus or kernal of the pollen grains into contact with the nucleus of the egg-cells, which enclosed the possible seed. At first sight this seemed difficult. The pollen grains were produced inside the anther, and as they grew the skin became thinner, and when the stamen burst the pollen grains were set free. After that there was no difficulty. Some trees, however, were only pistilate and not staminate; and in this connection the lecturer alluded to the custom in ancient times of cutting off the branches of staminate Date Palms and dusting the pollen on the flowers of the pistilate trees, and so ensuring the crop. The Fig tree was even more complex, some of them bearing edible fruit and the others only stamens. A wasp or gall-fly made its way into the narrow aperture in the good Figs until it reached the little pistilate flowers at the bottom of the Fig; it then laid its eggs and died. When the little gall-flies were hatched they flew out of the aperture of the Fig, not, however, without brushing against the stamens, and carrying pollen with them on their wings and hairs, which they took to the edible Figs, and so secured a good crop.

As far back as 1694, Camerarius found out that no seeds were formed in isolated plants when the stamens were cut off; and in 1793 Sprengel noticed that the pistils were a kind of umbrella to shelter the pollen stamens. Some botanists, notably Professor Geddes, had attempted to divide flowers into two great sets, which they called grassy and floral; and this corresponded with the two great modes by which pollen was carried from flower to flower—by wind and insects. These differed most markedly. The wind flowers, such as grasses, and trees, such as the Oak, Lime, Beech, Pine, Poplar, and Hazel, had an absence of any bright colour, and absence of

fragrant perfume and nectar. The dust from them, however, was very light, and was often carried scores of miles.

On the other hand, the insect-fertilised plants were floral, rich pigmented, very fragrant, and nectar producing. As to the important part which animals had in fertilisation, the lecturer mentioned that in the island of Galapagos there were few bright flowers because there were hardly any insects. There were few insects even in Juan Fernandez, where there were very conspicuous flowers, but this want was made up by the humming birds, which carried pollen from flower to flower. The Red Clover in this country was fertilised by the bumble-bee, and the more bumble-bees there were one year the greater would be the crop of clover next year. There were often not nearly enough of these bees, and this accounted for the succeeding poor Clover crop. He might even go further in illustration of this. The enemies of the bees were the field mice, and the more field mice the less bees and the worse crop. The cats, again, were the enemies of mice; and the more cats the less field mice, the more bumble bees, and the better a clover crop. (Laughter and applause.)

Darwin had referred to the Clover crop in New Zealand, where there were no bumble-bees, and Professor Iverach (an Aberdeen professor) had handed him (the lecturer) a book on the "Modification of Organisms" in which it was stated that the Red Clover in New Zealand produced perfectly good seed although never visited by a bee. His explanation of this was that among Red Clover self-fertilisation occurred. In our own meadows, after the first crop was cut, another crop grew up with slightly smaller flowers; and although the bee was quite unable to reach down to the first crop, it could, strange enough, get to the nectar of the second crop on account of the flowers being a little shorter. Therefore, in New Zealand it was possible that the Clover was a little shorter to enable, not the bumble-bee, because it was not there, but a native insect to enter the flower and fertilise it.

Mr. Thomson then proceeded to show that in some flowers, such as Chickweed, Woodsorrel, and the Pea, self-fertilisation was effective in bearing seeds. There was, therefore, every reason for modifying the Knight-Darwin law: that cross-fertilisation was the only legitimate and healthful process among plants. Dealing next with the colouring of flowers, he referred to the opinions of Mr. Grant Allen and Sir John Lubbock; but he thought that their statements could hardly be taken seriously. Bees got the credit of evolving the violet Pansy out of the yellow one, but that was putting the cart before the horse. Instead of asking how and in what way flowers were coloured, he should ask what they were coloured with, and what were the pigments? They knew they were allied chemically to the aromatic group of substances, and that they were waste products. Having discovered that, they could return to the truth so deeply hidden in the answers of Mr. Grant Allen and others: that the pigments had the secondary advantage of of attracting insects.

GARDENING MISCELLANY.

BEGONIA ARTHUR MALET.

When so many of the Begonias are found serviceable for winter decorative purposes, it is to be hoped that some one will undertake its culture with the view of demonstrating what can really be done with it when a portion of a house is set apart for growing it in quantity to bring out the peculiar and characteristic beauty of its foliage. The leaves are so oblique as to be half heart-shaped, and slightly lobed on the broad half; the upper surface is of rosy purple hue with somewhat of a bronzy or metallic lustre, while the under surface is red. Now when a number of species of Begonia are mixed together and associated together with other plants, as they usually are, the individual beauty of the plant is lost as well as crippled by the injurious effect of shade that might well be avoided. Of course in private establishments an attempt should be made to grow a batch of each kind separately so as to give it a chance of making good growth. It may be seen in the collection of Messrs. J. Laing & Sons, at Forest Hill, where a large number of varieties is grown.

LARGE COCOS WEDELIANA.

Whether in a large or a small state, this Palm never gets coarse, in fact, never loses to any great extent the graceful character of the small plants, with which we are familar. There are eight to nine trees, each 6 ft. to 8 ft. high, in the nursery of Messrs. J. Laing & Sons, Forest Hill. They have a clean, moderately stout stem, surmounted with a fine head of gracefully arching leaves. The latter never apparently attain any great length, so that they are similar in size to those on stems only just commenced to run up. One would think from the rich dark green leaves of Geonoma gracilis and their slender character, that this species would be more popular for decorative purposes than Cocos Wedeliana. Such is not the case however; the under surface of the latter is covered with a hoary or grey scurf that seems to act as a protection against the injurious influences of burning gas. Then again, the pinnæ of the latter are shorter, making the leaves, on the whole, much more graceful. The short leaves offer a striking contrast when compared those of C. plumosa in the same establishment, measuring 12 ft. long, and reaching up to the top of the house, although the stem supporting them scarcely rises above the surface of the pots.

XYLOPHYLLA LATIFOLIA.

The correct name of this plant, according to the botanists, is Phyllanthus speciosus, or for garden purposes it might be called Xylophylla speciosa, the genus Xylophylla being now included under Phyllanthus. The species under notice is the prettiest and most serviceable for garden purposes, because the lateral branches are disposed horizontally, and resemble pinnate leaves. The ultimate branchlets in their turn are arranged horizontally in two rows, one on each side of the branches, so that they resemble leaflets. They are lanceolate-elliptic, serrate at the edges with numerous parallel lateral veins, deep green and shining. The plants grow slowly, and are therefore serviceable for decorative purposes for a number of years without necessitating the frequent propagation that several other table decorative plants require. It is a native of Jamaica, and requires stove treatment. The small flowers are produced in clusters from the notches of the small branchlets at various times in the year in the nursery of Messrs. J. Laing & Sons, Forest Hill. Although interesting they are of no horticultural value compared with the leaf-like branches.

LACHENALIA TRICOLOR.

Half a dozen well-grown fleshy specimens of this useful bulbous plant, recently exhibited before the Ealing Gardeners' Society, by Mr. Long, gardener to E. P. Oakshott, Esq, has induced this note. After some discussion relative to the cultivation of Lachenalias, in which artificial stimulants played a part, Mr. Long was asked to express himself as to the *modus operandi* by which he had attained to such successful results. He caused general surprise by stating that those on view had had nothing of an exciting character except good loam and a sprinkling of silver sand. After flowering they would be transferred to frames, and thence to the open air to ripen and mature. During the summer season they took care of themselves, but in the autumn when they had been selected and repotted, and ultimately brought into heat, they required copious supplies of water. That was all they received in the way of liquid, as he found that manure water disfigured the foliage, lodged in the axils of the same, and otherwise tended to the detriment of the flowers. The gardener of the present day would seem to be a totally different individual to his prototype of, say, fifty years ago; for, unlike the latter, he seems ever ready to impart that knowledge which, perhaps, he has only acquired at great expense of thought and labour. Such discussion as these then, before such bodies as these, cannot fail to have a useful purpose—cannot fail to find their full fruition in the progress of the times.—*C. B. G., Acton, W.*

HUGHES' ROLL FUMIGATOR.

In your issue of last week your correspondent "B. L." suggests that these should be sold separately, meaning the roll and the case. May I be allowed to state that such is the case, as I am now using rolls put into the old cases or tins that have been used previously several times. This is the second year of these fumigators, and Mr. Hughes will no doubt be improving upon their efficiency. Last year I was very much puzzled with black fly in a Peach house, and was recommended to try these rolls. I did so, it sickened the fly, but I was afraid to apply it too strong in case of injuring the foliage which I saw I was likely to do. So I was disturbed with this black fly till the leaves were off. I then thought I could fumigate pretty strongly, which I resolved to do. I smoked the house morning and evening for several days till I had quite destroyed the fly, and I believe I have got quite rid of it now. This black fly is not an ordinary one, and I never had anything to do with it before; it came on a young tree from the nursery, and I took little notice at the time and it was soon all over the house. This winter I have seen another case of this fly. In a neighbouring garden a Peach house, though the leaves were off, the wood was all covered with it, and only determined measures will do, as it is much worse to kill than green fly; many a time I wished I had never seen the tree. But I have banished the fly from the nursery I think by Hughes' Rolls, excepting eggs are laid that may yet be hatched, which I do not anticipate.—*R. M.*

PTERIS REGINA CRISTATA.

In this we have one of the more recently obtained variegated Ferns that are now getting more numerous than could have been anticipated a few years ago. In habit it strongly resembles Pteris serrulata, but in addition the long slender pinnæ are crested at the apex, and assume a drooping or pendulous habit as if weighted down by the crests. The fertile fronds are the most graceful, because their stalks are the longest, thus carrying the crested pinnæ well up and leaving ample scope for displaying their natural characteristics. The variegation takes the form of a silvery hue, pervading the pinnæ with exception of the veins which are bright green. The veins lie parallel, and being forked some distance before reaching the margin, they add much to the beauty of the whole. The plant is easily grown, can be freely raised from spores, and must eventually become widely disseminated and popular as the public get acquainted with it. We noted a large batch of it in the nursery of Messrs. H. Low & Co., Clapton.

GEONOMA SCHOTTIANA.

The leaves of this palm acquire their characteristics at an early stage of the development of the seedling. They are pinnate with moderately wide pinnæ tapering to a point, and the terminal one is deeply forked or bifid. The young leaves are red on both surfaces and retain that colour till long after they are expanded; the pinnæ also present a plicate appearance due to their structure and folding in the bud. For decorative purposes it has been more or less extensively used for some time past, but has not acquired the popularity of Howea Forsteriana or Cocus Weddeliana, whatever it may do in the future. It is a native of Brazil, from whence it was introduced in 1820, and therefore requires stove temperature though not particularly high. We noted some plants of a useful size in the nursery of Messrs. J. Laing & Sons, Forest Hill.

DRACÆNA ARGENTEO-STRIATA.

This is doubtless a garden variety, as the name would lead one to expect. It does not possess the brilliancy nor showiness possessed by many of those already widely distributed in gardens; but it has something about it which is graceful and pleasant, while the colours are characterised by their subdued tones. The leaves are of a light glaucous green, variously striped with grey, and these stripes change to a silvery white as the plant gets old; they are also distinctly of a grey hue underneath. In shape they are linear-lanceolate and long pointed. Small plants are therefore very suitable for table decoration in 60 and 48-size pots. The narrow leaved kinds are most popular at present for this kind of work, a fact to be attributed to their light and graceful character.

BEGONIA ARGENTEO-GUTTATA.

The general aspect of this Begonia would suggest its being one of the numerous Continental hybrids. The leaves are half cordate, slightly lobed on the

broader side, and doubly toothed at the edges. The upper surface is of a dark green, marked all over with silvery-grey blotches, never very large, but of various shapes and very numerous. It has much of the habit of B. metallica, but the leaves are altogether different. Flowers are not produced at this season, but well-grown plants have an enlivening effect amongst a collection of fine-foliaged plants. We noted it in the collection of Messrs. J. Laing & Sons, Forest Hill.

ORCHID NOTES AND GLEANINGS.

Orchid Growers' Calendar.

East India House.—During the past few days the sun has been very powerful, reminding us that the time is again at hand when the roller blinds will be called into use, so as to keep down the temperature without having to put on top air at a time when the air outside is very keen. It is not desirable to excite the plants into growth too early, for as I write there are indications of a change in the weather, and it is quite possible that by the time these notes are in print, fires will have to be kept going all day as well as at night. Therefore the temperature must be regulated according to the weather. Maintain the plants plump and in good condition by keeping plenty of water about the floors and stages rather than by applying it direct to the plants in any quantity as yet. This applies to all departments.

Cattleya House.—Our plants of Vanda suavis and tricolor are just beginning to push out new roots and to throw up spikes, so that no time will be lost in getting them top-dessed with some fresh sphagnum Moss. We allow the plants to become moderately dry before commencing operations. When this state is reached all the old Moss and as many of the crocks as possible are removed. The roots and the crocks that it is not convenient to remove on account of the roots adhering to them are thoroughly washed by syringing with tepid water, using as much force as possible in so doing. The plants are then allowed to stand over to the next day to let them drain and get dry before being again filled up with new crocks and surfaced with the fresh Moss that has been previously prepared by having all the rubbish picked out, and spread out in the same house a day or two before wanted. Very little water will be required just yet other than what is supplied with the syringe, but should the weather continue bright, it may be necessary to shade them to prevent the loss of their bottom leaves. This can generally be managed without shading the whole of the occupants by stretching some tiffany under the roof where the plants stand.

Cœlogynes.—The varieties of C. cristata are very fine this year and most useful. We grow them in small pans from 9 in. to 12 in. across. Grown in this way they come in very handy for indoor decoration, and where a lot of this work is required they are indispensable. Peat and Moss suits them well, but they do not like being disturbed at the roots too often, not but what they grow freely enough, but flowers are scarce the first season. We grow them in two batches, potting one batch this year, the other next, and so on.

Lycaste lanipes.—In a previous calendar I referred to our plants being unusually strong. One of them is now in full flower with sixteen blooms from one bulb, and in this state is no doubt attractive, but I must say I think there are plenty of other Orchids that are preferable to it.

Ada aurantiaca now in flower is justly prized on account of its colour. It is easily grown and flowered. Given a place in the cool house during summer and placed in the Cattleya house in winter it succeeds well. As regards potting material, what suits Odontoglossum crispum suits this.—*C.*

Goodyera discolor.

Several species of Goodyera are cultivated for the sake of their beautiful foliage. Some hardy species are occasionally undertaken by the growers of hardy herbaceous plants, but they seem to occasion as much difficulty as the species of Anæctochilus do under glass. The species under notice differs from the above kinds in being easy to grow in stove and intermediate house temperatures, and some say that it can be grown in a greenhouse. It is a native of South America and makes the finest foliage when kept in a rather moist condition during the growing stage. The leaves are oblong-elliptical and deep olive-green above, with a grey midrib and purple beneath. Unlike many others of the species of Orchids with ornamental foliage, Goodyera discolor flowers regularly, and is then very pretty. A flowering shoot is sent up from the centre of each rosette to the height of a foot and terminates in a spike of flowers that are pure white with exception of a yellow blotch on the lip which is curiously twisted and inverted. The rosettes of leaves are of course destroyed, but new ones are produced from lateral buds towards the ends of the creeping, fleshy stems or rhizomes. It has been flowering for some time past in the nursery of Messrs. J. Laing & Sons, Forest Hill.

Lycaste plana Measuresiana.

The lip and petals, but particularly the latter, in L. plana, vary considerably in different individuals, and L. p. Measuresiana has been considered worthy of a distinctive name on account of the beauty of the petals, which are so heavily spotted with purple that they appear to be merely spotted and edged with yellow. The sepals are never very attractive except by contrast for they are merely suffused with brown on a pale green ground. The side lobes of the lip are of a paler purple than the petals, while the terminal lobe is heavily mottled with purple, except the centre which is pale yellow. The species is of easy cultivation and flowers regularly at this season of the year. We noted the variety L. p. Measuresiana in the nursery of Messrs. Hugh Low & Co., Clapton.

Restrepia antennifera.

This very singular and withal very interesting Orchid has been in flower here for some weeks past. We have several large pans of it, and as a large number of blooms have been open at one time it has added a quaintness that can scarcely be secured by any other. These are now grown in an intermediate house, where Lælia anceps, C. Percivalliana, and other Cattleyas are grown, and one side of the house filled with Cypripediums, species, and hybrids. Here the Restrepia grows very freely, the little more heat it receives than is usually given evidently agreeing with it and bringing it on more quickly than when grown very cool. Of Dendrobium nobile we have a nice lot and in a short time shall have some plants 4ft. through literally covered with flowers.—*W. Swan, Bystock, Exmouth.*

Cattleya Alexandræ tenebrosa.

The habit of C. Alexandræ is very similar to that of C. Leopoldi, having cylindrical pseudo-bulbs covered with grey sheathing scales, and surmounted by two to four leaves that are short, oblong, and leathery in texture. The peduncle or flower stalk is terminal, 12 in. to 21 in. long, and bears from three to a dozen flowers according to the strength of the plant and its condition. The sepals and petals are oblong, crisped, undulated, and nearly of a uniform pale brown, while the lip is purple. The variety C. A. tenebrosa, as its name would indicate, is much darker in colour. The sepals and petals are of a dark, dusky brown, and the lip of a rich rose purple. The importations have been flowering for some months past, and show a considerable amount of variation, as was reported by the collector who sent the plants home. One of Messrs. Linden's collectors discovered the species in Northern Brazil during the early part of last year. It has been dedicated to H.R.H. the Princess of Wales, and there is a well executed and coloured illustration of it in the *Lindeni, Pl.* 357, English edition.

Odontoglossum Insleayi Imschootianum.

The importations of O. Insleayi which have been made from time to time, show a considerable amount of variation in the colour of the flowers, and several of the variations have received distinctive names. That under notice is characterised by an entire absence of spots on the sepals and petals, which are yellow, and more or less shaded or tinted with light brown. The clearer yellow lip has a broad margin of pale brown spots. It is closely similar to O. I. aureum, and is named in compliment to M. A. Van Imschoot, of Ghent, who exhibited it at a meeting of the *Orchidéenne* in October last, and received a First-class Diploma of Honour for it. A coloured illustration of it is given in the *Lindenia, Pl.* 359, English edition.

Saccolabium bellinum.

February and March are considered the months when this beautiful little species is in season, but those who have a number of plants will be able to prolong the season for many months at a time without any special treatment, in fact the plants may all be kept in the same house and under the same conditions. An importation of it, which has now been established for some time in the nursery of Messrs. Hugh Low & Co., Clapton, is very interesting from the peculiar form of the flowers, their beautiful markings and variability. The ground colour of the sepals and petals varies from a pale greenish yellow to clear, and golden yellow, marked with crimson spots that vary in size till they almost cover the sepals and petals. The lamina is white with a central gold blotch spotted with crimson, and occasionally there are spots towards the sides. The face of the lip and the interior of the large open pouch is often crimson-purple likewise. All these markings, taken with the heavy fringe or cushion of coarse white hairs on the lip, serve to give the species no common interest. Some growers expect a long raceme of flowers as in another type of the genus, but although few, every bloom is a gem. A group of the species is now bristling all over with flowers.

SOCIETIES.

Royal Horticultural, *Feb. 14th.*—Orchids were one of the most striking features of the meeting on Tuesday last, as they constituted the principal groups on the staging. Hard-wooded plants, generally known as New Holland plants, were in force, including Heaths. Fruit, represented chiefly by Apples, was also notable for their extent. A Silver Flora Medal was awarded to Messrs. B. S. Williams & Son, Upper Holloway, for an extensive group of Orchids, consisting chiefly of Cypripediums intermixed with a few other seasonable subjects. Amongst them Cypripedium Morganiæ, C. Leeanum, C. selligerum rubrum and their other varieties were noteworthy and conspicuous. A Silver Flora Medal was likewise awarded to Messrs. Hugh Low & Co., Clapton, for a beautiful and interesting group of Phalænopsis, including P. Schilleriana, P. amabilis, P. Stuartiana, and the beautiful white P. Schilleriana vestalis. A Silver Banksian Medal was awarded to Messrs. Pitcher & Manda, Hextable, Swanley, Kent, for an interesting and mixed group of Cattleyas, Lælias, Cypripediums, Dendrobiums, Odontoglossums, and others, backed up with Palms. A Silver Flora Medal was awarded to Messrs. F. Sauder & Co., St. Albans, for a varied and interesting group of Orchids, including Arpophyllum spicatum, Dendrobium Sanderæ, Lælia hybrida Maynardii and others. Masdevallia Schroderiana, Cypripedium conco-Lawre, and an unnamed Orchid was shown by Sir Trevor Lawrence, Bart., (grower, Mr. W. White), Burford Lodge, Dorking. Cattleya Trianæ alba was exhibited by E. S. Wrigley, Esq. (gardener, Mr. Harris), Dukinfield, Cheshire.

Some very interesting Orchids including Angræcum polystachys, A. hyaloides, Epidendrum elongatum, and Cattleya Trianæ Bella were shown by C. J. Lucas, Esq. (gardener, Mr. G. Duncan, Warnham Court), Horsham. Diurus maculata, Eria barbata, Dendrobium teretifolium, and Epidendrum Xanthinum were sent over from the Royal Botanic Gardens, Glasnevin. A fine piece of Cymbidium grandiflorum was exhibited by Messrs. F. Ross & Co., Merstham, Surrey. The spike bore six large and waxy looking flowers. Habenaria, cinnabarina and Cynorchis grandiflora were shown by Messrs. Lewis & Co., Southgate. Cattleya amethystoglossa was shown by R. B. White, Esq. (gardener, Mr. Jas. Brown), Arddarroch, Gaerlochead. Mr. A. Tracy, Twickenham, and H. Little, Esq., The Barrows, Twickenham, exhibited some Cypripediums. Odontoglossum Sanderianum was shown by the Rev. E. Handley, Bath. An interesting group of Orchids was shown by Messrs. J. Veitch & Sons, Chelsea, including Phaius amabilis, Epidendrum, Endresii, Wallisii, Cypripedium Winnianum, and others, all hybrids. A Bronze Banksian Medal was awarded to Mr. J. Crispin, Fishponds, Bristol, for a box of cut flowers of Cypripedium. Dendrobium crassinode Barberianum in fine condition was shown by Messrs. J. Laing & Sons, Forest Hill. Cypripedium The Duke, was shown by Chas. Winn, Esq., Selly Hill, Birmingham. A small group of Orchids, including Mesospinidium vulcanicum grandiflorum, Odontoglossum cirrhosum, Cattleyas and others, was shown by S. le Doux, Esq., East Moulsey.

A Silver Gilt Flora Medal was awarded to Lord Foley (gardener, Mr. J. Miller), Ruxley Lodge, Esher, for a group of plants consisting largely of Orchids, of which there were fine pieces of Cœlogyne cristata and Cypripedium insigne.

A Silver Banksian Medal was awarded to Messrs. Hugh Low & Co., for an interesting and showy group of New Holland plants, such as Acacias, Pimeleas, Eriostemon, Heaths, etc. White and coloured forced Lilacs were shown by Messrs. Paul & Son. Chinese Primulas were shown by Messrs. Garaway & Co., Bristol. Beauty of Castle Hill and New Year's Gift Chrysanthemums were shown by Mr. R. Owen, Castle Hill, Maidenhead. Arum palestinum was shown by Messrs. R. Veitch & Son, Exeter. A Bronze Banksian Medal was awarded to Mr. C. Turner, Slough, for a well-flowered group of Cyclamens. A Bronze Flora Medal was awarded to Messrs. E. D. Shuttleworth & Co., Ltd., Peckham Rye, for a tasteful group of Azalea mollis, Dracæna Lindeni, Lily of the Valley, and some forced Daffodils. Branches of Acacia dealbata and flowers of several varieties of Camellias were shown by the Hon. P. C. Glyn (gardener, Mr. J. Friend), Rooksnest, Godstone. A fine group of Erica Wilmoreana was shown by Messrs. Wm. Cutbush & Sons, Highgate, as well as some highly-coloured Dracænas. Two stands of a yellow Chrysanthemum were shown by Mr. S. Mortimer, Rowledge, Farnham. A basket of Carnation Miss Joliffe was shown by Mr. H. B. May, Upper Edmonton. A group of Amaryllis was exhibited by Viscountess Hambledon (gardener, Mr. H. Perkins), Greenlands, Henley-on-Thames.

At a meeting of the Fruit Committee a Silver Gilt Knightian Medal was awarded to Mr. G. W. Cummins, gardener to A. H. Smee, Esq., The Grange, Wallington, for a large collection of Apples in good condition. A similar award was made to Messrs. J. Cheal & Sons, Crawley, Sussex, for a similarly fine collection of Apples. A Bronze Knightian Medal was awarded to Lord Foley (gardener, Mr. J. Miller), Esher, for a collection of Apples, Grapes, etc. A Silver Gilt Knightian Medal was awarded to Messrs. T. Rivers & Son, Sawbridgeworth, for a collection of Oranges and Apples. A small lot of Apples was shown by W. Roupel, Esq., Harvey Lodge, Roupel Park.

Annual Meeting.—The annual general meeting of this society was held on Tuesday afternoon, at 117, Victoria Street, S.W., Sir Trevor Lawrence, Bart., presiding. There was a good attendance of Fellows, and after the minutes of the previous meeting had been confirmed, forty-seven Fellows were elected. Mr. A. W. Sutton and Mr. John A. Laing were appointed scrutineers of the ballot for the election of officers; and on the motion of Sir John Llewelyn, Bart., seconded by Mr. Harry Turner, a vote of thanks was accorded to the retiring members of the council, Baron Schroder, Mr. N. N. Sherwood and the Rev. W. Wilks, for their past services. The president then moved the adoption of the report and statement of accounts for the past year (which we gave in our issue for January 21st), which was seconded and carried without discussion. On the motion of Prof. Michael Foster, seconded by Mr. James Hudson, the meeting approved the action of the council in appointing the Rev. W. Wilks as a paid officer of the Society.

Gardeners' Improvement Associations.

Sevenoaks.—Presentation to a Gardener.—At the annual dinner of this society, which took place at the "Rose and Crown Hotel," Mr. C. Denning, Ashgrove Gardens, presiding, Mr. W. A. Searing was presented with a handsome marble clock, and an illuminated address, in recognition of the valuable services he has rendered to the society during the past eight years, and as an earnest of the best wishes of the members for his success in his new undertaking as superintendent of Parkwood Convalescent Home, Swanley. The Chairman, in making the presentation, referred to Mr. Searing as being a thorough gardener and a good friend, and without more ado asked him to accept on behalf of the society the address and clock, expressing at the same time the hope that both he and Mrs. Searing would live long to hear it strike. Mr. Searing, in acknowledging the compliment, spoke of the great kindness he had received at the hands of the members at all times, and specially thanked them for the token of friendship and good-will they had given him that evening. It was eight years ago since he first joined the society, and he still had in his possession the first paper read by him at the meeting, and the last one, and when he compared the two, it became patent to him that these societies were doing a great deal of good, for the last was better than the first, and he could not help acknowledging that the society had done much to make a man of him. He strongly advised all young gardeners, and old ones too, to join and support some such association.

Mr. Searing is best know as a "mum" grower, and it is only fair to say that he has done more to make the Autumn Queen popular in the district than any other gardener, and the local society will miss his exhibits very much at their next show. Mr. Mayes (H. Cannell & Sons) proposed "Prosperity to the Sevenoaks Gardeners' Society," which was responded to by Mr. S. Cook, the hon. secretary, who attributed the success of the society to the fact that they had a good working committee. Mr. J. Buckland, a prominent member, and whose name was coupled with the toast, said that the attendance at the meetings showed that there was unity in their society. The remainder of the evening was spent in carrying out a good musical programme which was much enjoyed.

Scottish Horticultural Association.—We have been favoured with a copy of the report of the proceedings of this flourishing and most ably managed association of Scottish gardeners for the past year, and take pleasure in congratulating all concerned on the good work done. It is indeed an admirable record of the association's proceedings, and bears abundant testimony to the value of such associations as a means of communicating useful knowledge and promoting the general welfare of horticulture. The papers read during the past year appear to have been of a well varied and instructive character, and we have ventured to transfer one of them to our own columns. The present year's session commenced on the 8th, inst. with an inaugural address by the president, Mr. A. D. Mackenzie, and the remainder of the syllabus is as follows:—March 7, Progress of Horticulture in the United States of America. Mr. Alf. Outram, of Messrs. B. S. Williams & Son, London.—April 4, Forcing Strawberries. Mr. Norman, The Gardens, Hatfield House, Herts.—May 2, North America and its Flora. Mr. A. Hutton, Dundee.—June 6, Select Stove Flowering Plants. Mr. J. Wilson, Leith Walk Nurseries, Edinburgh.—July 4, The Bouvardia. Mr Gallacher, Redbraes, Edinburgh.—Aug. 1, Trees for Villa Planting. Mr. Carmichael, Edinburgh.—Sept 5, The Heating of Hothouses. Mr. A. Mackenzie, Jun., of Messrs. Mackenzie & Moncur, Edinburgh.—Oct. 3, Geographical Influence on Vegetation. Mr. J. Riddell, Castle Howard, York.—Nov. 7, The Training of Fruit Trees and a Few Relative Remarks. Mr. Porter, Edinburgh.—Dec. 5, Concert and Social Meeting.

WHAT TO DO IN THE GARDEN.

Anthuriums. — The fine-foliaged Anthuriums should now be repotted before they start into fresh growth. Their roots delight in an open and porous material, so that a compost of fibrous peat, chopped sphagnum, some small pieces of charcoal, and finely broken crocks would meet their requirements. The charcoal may be spared to some extent by using a greater quantity of crocks, or *vice versa*. Remove all the old soil that is in a bad condition.

Alocasias.—Such species as A. metallica, A. Veitchi, A. Thibautiana and allied kinds should be potted in a compost similar to that given for fine-foliaged Anthuriums, but Alocasia macrorhiza variegata gives most satisfaction when grown principally in fibrous loam, rather poor than otherwise, with a small quantity of peat and plenty of silver sand. The variegation is apt to run out when it is grown in rich soil.

Pancratium and Hymenocallis.—The present is a suitable time to repot such of these subjects as have flowered. At one time it was a custom to grow a number of bulbs in a pot, but greater satisfaction is obtained by growing the flowering bulbs singly in moderate sized pots, so that the flowering specimens may be treated separately without detriment to the others. Remove offsets at the time of potting, and both young and old bulbs will derive advantage thereby. Good substantial and turfy loam should be principally used after it has lain for twelve months so as to get mellow. Let the drainage be of a substantial kind, so as to afford a free passage for water and not require renewal till the plants require fresh potting.

Gloriosa superba.—A long season for growth should be accorded this class of bulbs, so that they may produce vigorous stems before they arrive at the flowering stage. Use a compost of loam and peat in about equal proportions, and be careful to avoid breaking the brittle roots as much as possible. Start them in a temperature of about 70° and when well started into growth give plenty of heat and moisture. After the stems have been ripened off at the end of the flowering season, the bulbs must be kept warm and dry, so as to maintain them in a quiescent condition for the winter.

Indian Azaleas.—The varieties that are forced for early work should not be kept in the forcing pit till the flowers are fully expanded, otherwise the latter will be of short duration. As the first blooms open the plants should be taken to a cool greenhouse or conservatory, where the flowers will gradually expand and be much more durable than in heat. Large specimens intended for flowering in June should be kept as cool as possible to avoid exciting them. They should not, however, be neglected in the matter of watering.

Show and fancy Pelargoniums.—Plants for early flowering will now be in an advanced state and should be well looked after in the matter of watering. As soon as the shoots are well set with flower buds manure water should be applied at intervals to give vigour. The night temperature may be kept at 50° to 55°, the latter being suitable provided the weather is mild.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay, to address all communications to "The Editor" or "The Publisher," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa, London."*

Paper Mulberry Fruiting.—*G. West*: It does sometimes fruit in this country, but never seems to ripen its fruits inland at least. We do not seem to get sufficient sunshine to bring the so-called berries to perfection. In some parts of France, even as far north as Paris, the fruit ripens in great quantity, assisted not so much by a longer summer apparently as by the greater heat of the summer months. There is, however, another necessity perhaps which must not be overlooked. The male and female flowers are borne upon different trees, so that both must be grown within a reasonable distance of one another, so that the pollen in being distributed by the wind may be carried to the fruit-bearing tree. As the Paper Mulberry is rather tender in this country it would succeed better near the sea coast, where it would be within the influence of the sea breezes.

Green-fleshed Melon.—*Omega*: When you speak of the hardiest green-fleshed Melon, we understand that you mean to use fermenting manure wherewith to give them a good start in the early part of summer. At all events you cannot expect to succeed without a bed of fermenting manure when planting them out in the frames. You cannot do better than use either Hero of Lockinge, white-fleshed, or Victory of Bath, flesh green, or Golden Gem, flesh pale green.

Space for Vines.—*Omega*: About 4 ft. should be allowed between every two vines, so that in your house of 17 ft., by commencing 2 ft. from each end you would get in five Vines at a little over 4 ft. apart. Should you think this too much space to be occupied by a rod, you could commence at 1 ft. from each end, putting 3 ft. between the rods, and you could then get seven Vines into the house, and this we should consider sufficient.

Vines for Early House.—*Omega*: The best early White Grape to associate with Black Hamburgh is Forster's Seedling. You may also use Buckland's Sweetwater, white, and Black Prince, black.

Communications Received.—W. K. (Please do.)—G. H. S.—G. J. I.—W. C.—N. N. S.—H. T. L.—D. N.—R. D.—F. K.

TRADE CATALOGUES RECEIVED.

M. Campbell, Blantyre, N.B.—New and Select Florists' Flowers.

Robert Owen, Castle Hill, Maidenhead.—New and Select Chrysanthemums and other Florists' Flowers.

Louis Vieweg, Quadlinburg, Prussia.—Seeds and Plants.

Van Meerbeek & Co, Hillegom, near Haarlem, Holland.—Bulbs, Plants, and Seeds.

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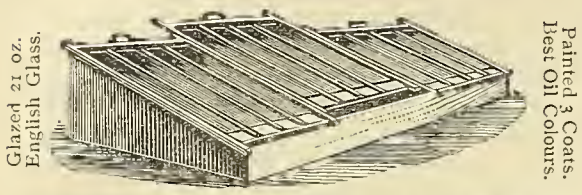

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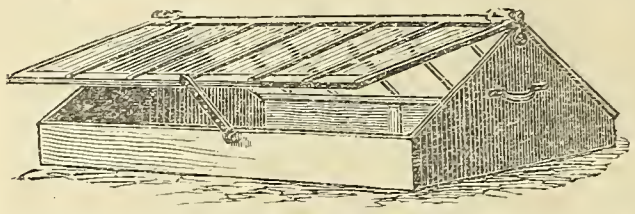

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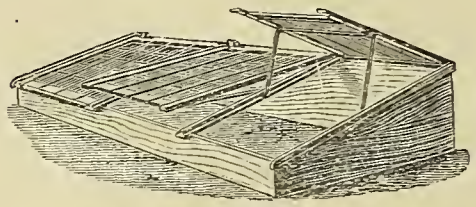

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2 Light Frame...	6 ft.	4 ft.	2 7 6
3 " " ...	9 ft.	4 ft.	3 7 6
5 " " ...	15 ft.	4 ft.	4 7 6
6 " " ...	18 ft.	4 ft.	5 7 6
7 " " ...	21 ft.	4 ft.	6 10 0

Packing cases extra allowed if returned.

LONDON SEED TRADE.

February 13th.

Messrs. Hurst & Son, of 152, Houndsditch, and 39, Seed Market, Mark Lane, report a brisk demand for all grades of Red Clover at full prices. Supplies of good English Red and Cowgrass have fallen off. White Clover, Alsike and Trefoil unchanged. Italian Ryegrass dearer. Perennial Ryegrasses steady.

COVENT GARDEN MARKET.

February 15th, 1893.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Grapes..... per lb.	2 0	3 0	Pine apples.		
Kent Cobs...100lb.			—St. Michael's, each	2 6	6 0
Peaches ... per dozen			Apples...per ½ sieve	1 0	3 6
Melons ... . each			Plums...per ½ sieve		

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, French, perlb.	1 6		Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	1 0		Radishes... per dozen	1 6	
Cauliflowers, Eng.dz.	3 0	5 0	Seakale .....per bkt	2 0	3 0
Celery.....per bundle	2 6		Smallsalading,punnet	0 4	
Cucumbers .....each	0 9	1 6	Spinach ... per strike	1 6	
Endive. French, doz.	2 6	3 0	Tomatos..... per lb.	1 6	2 0
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys, 80s. to 100s. per ton; Champions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Azaleas... per doz.	24 0	42 0	Hyacinths, doz. pots	8 0	12 0
Cyclamen per doz....	9 0	18 0	Lily of the Valley doz. pots	9 0	18 0
Cyperus .....per doz.	4 0	12 0	Marguerites, per doz.	6 0	12 0
Cineraria ...per doz.	8 0	12 0	Palms in variety,each	2 6	10 0
Dracæna term., doz.	24 0	36 0	Palms, Specimen ...	15 0	63 0
Dracæna viridis,doz.	9 0	18 0	Primula Sinensis per doz.	4 0	6 0
Erica Hyemalis, doz.	12 0	18 0	Solanums.....per doz.	9 0	12 0
Evergreens,invar.doz	6 0	24 0	Tulips—various— per doz. pots	8 0	12 0
Ferns, invar.,per doz.	4 0	18 0			
Ferns, small, per 100	6 0	10 0			
Foliage Plants, doz.	12 0	60 0			

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Anemones, doz. bnch	2 0	4 0	Mimosa (French)p.bh.	1 0	1 6
Azalea, doz sprays.....	0 6	1 0	Mignonette... 12 bun.	2 0	4 0
Arum Lilies, 12 blms.	2 0	4 0	Narcisse, various, doz. bnchs	3 0	6 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, 12 sps.	0 9	1 0
Carnations, 12 blooms	2 0	4 0	—scarlet.....12 bcbs.	6 0	9 0
Chrysanthemum,dz bn	3 0	9 0	Primula, double, bun.	0 6	1 0
Camellias doz blooms	1 0	3 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Cyclamen doz blooms	0 6	0 9	Roses, yellow, dozen	3 0	6 0
Eucharis ...per doz.	3 0	6 0	— French, per bncb	1 6	4 0
Euphorbia Jackminafolia, doz. sprays	1 0	4 0	— French, 100 blms	6 0	12 0
Gardenias 12 blooms	9 0	15 0	— Red..... doz. blms.	6 0	12 0
Heliotropes, 12 sprays	0 6	0 9	— Saffrano...per doz.	2 0	3 0
Hyacintbs. doz. spikes	3 0	6 0	— Tea ..... per dozen	1 0	3 0
Hyacinths Roman doz. sprays	0 6	1 0	Tuberoses, per doz	1 0	1 6
Lilac, Wbite, Frencb, per bunch...	3 0	5 0	Tulips, red, per doz.	0 6	1 0
Lilium Harrisii, doz. blooms	6 0	9 0	— White, per doz. ...	1 6	2 6
Lilyo theValleydz.sps.	0 6	1 6	— Yellow, per doz....	1 6	2 0
MaidenhairFern,12bs.	6 0	9 0	Violets,Parma,French per bunch ..	3 0	4 0
Marguerites, 12 bun.	4 0	6 6	—Czar, French, bun.	2 0	4 0
			Small " doz. bun.	1 6	2 6

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For Index to Contents see page 410.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, Feb. 27th.—Sale of Lily Bulbs at Protheroe & Morris' Rooms.
TUESDAY, Feb. 28th.—Sale of imported and established Orchids, at Protheroe & Morris' Rooms.
WEDNESDAY, March 1st.—Sale of Lily Bulbs, &c., at Protheroe & Morris' Rooms.
THURSDAY, March 2nd.—Sale of Hardy Plants and Bulbs, at Protheroe & Morris' Rooms.
FRIDAY, March 3rd.—Sale of Orchids, at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, FEBRUARY 25th, 1893.

DAFFODILS.—It is but needful to note the windows of flower dealers, or the baskets of the street corner, or peripatetic flower seller, to find what a very important marketable flower the Daffodil has become. Really we seem to have them with us all the winter, but certainly no sooner are Chrysanthemums out than Daffodils come in, and by February are to be found everywhere in enormous quantities. Because so abundant, the Daffodil has become everybody's flower. Anyone who can spare two or three pence may have a goodly handful of flowers, and make charming utton-

holes, or sprays, or dress a vase for a mere song.

Whilst some of our friends have been engaged with a pertinacity that is at once amusing and interesting in trying to split hairs or to elucidate diversities of the most minute character in Narcissi, market growers have been converting the bulbs and flowers into hard cash. They found in the Daffodil if not a mine of wealth, at least a very profitable market commodity. The Narcissi forces most admirably, and at home flowers are so produced, even in the winter, in immense quantities. In the Scilly Islands and other warm localities far greater quantities are grown naturally, so that our markets literally overflow with the flowers in great variety.

The Polyanthus section, pure white and orange-yellow, the beautiful pheasant-eye ornatus, the equally beautiful trumpet forms of which Horsefieldi is one of the very best, the good old double Daffodil, all these and many others may be purchased in the street at prices and in quantity that but a few years since would have been regarded as impossible. It is thus we advance—the popular demand for flowers grows as it is fed, and the Daffodil has helped immensely to excite as well as to gratify the popular appetite. We may be pleased to see the fine shows of flowers made at the Drill Hall, and elsewhere, but none have such charm as may be seen in any flower seller's basket in the street full of Daffodils for the people.

Cape Peaches.—If we are to regard the Peaches placed before the Fruit Committee of the Royal Horticultural Society on the 14th as being representative of the best quality found in Cape grown fruit, then home growers have nothing to fear from competition in that quarter, even did these Cape Peaches come to us at a later period of the year. It is true that many wealthy people, who give dinner parties at this time of the year, like to see Peaches on their tables; they wear a sumptuous aspect and remind the guests of riches. Still, it would be a kind act did the host but label his Peaches as "nice to look at and nasty to taste."

No doubt the sample sent to the Drill Hall last week was of the best. They were small even then, tight clingstone, flesh soft, pulpy, somewhat acid, and entirely devoid of true Peach flavour. There is hardly a dessert Apple grown at home that would not give more acceptable fruit food. That these Peaches have to be gathered and packed whilst yet unripe, but merely coloured, there could be no doubt. So far flavour is out of the question. Even our finest fruits at home, when thus gathered and left to ripen in any place, never give that rich, luscious quality found in fruits gathered when fully ripe from the tree. Then these imported fruits have to be kept during the three weeks occupied in the voyage home in a very cool chamber, and such exposure alone, were the fruits ever so good at the first, is enough to take all flavour out of them. Thus by the time they are placed on the consumers' tables, after being later exposed to a much warmer temperature, it is not at all difficult to understand what must be their condition.

We venture to think that in spite of all that can be done through the aid of cool chambers on ships, that the transit of soft stone fruits over long distances, yet preserving their natural flavour and quality of flesh, still presents insurmountable difficulties. In the meantime, our home growers may be assured that both in Peach and Nectarine culture we have no superiors.

Single Chinese Primroses.—It was recently remarked that no particular display had been seen in public anywhere in the south this winter, of Chinese Primroses. It would be indeed an excellent feature if some London society could during mid-winter, for that is the true season for Primulas, be induced to offer sufficiently tempting money prizes to bring out trade collections not exceeding fifty plants, and for the best examples from private gardens not exceeding a dozen in number. It may be perhaps that because the single Chinese Primrose carries badly and will drop its flowers, that growers are shy of taking them to exhibitions; and it may be also for that reason that the press is invited to send representatives to see trade collections, or pulled flowers are sent for approval.

That course, excellent as it may be, hardly satisfies those who would like to be enabled to compare strains and culture, and see for themselves what features now constitute a first-class strain. It is obvious from what has been seen here and there, both in public and in private during the past few years, that a high class strain now must be of exceptional merit. Primulas seed freely, they are easily cross-fertilised, and thus made to produce new forms or colours and improved shape and habit, and for these reasons it is evident that the pace is rapid and progressive. Thus we do want to see in public, at least once in every few years, all the best strains; and were these brought together, a marvellously beautiful show would be made.

It is not easy to understand why trade growers should not be as it were forced into exhibition competition with their stocks, as private gardeners are in other directions. We have in Chinese Primulas the lead of the world without doubt, and we shall keep it. Our cool winters suit the plant admirably, whilst it is one of the most effective and useful for winter decoration. A great Chinese Primula tournament may be a possibility next winter.

Gardeners' Orphan Fund.—The supporters of this excellent charity will be pleased to hear that Her Majesty the Queen has been pleased to command that this fund be in future called the "Gardeners' Royal Orphan Fund."

Mr. John Cameron, for the last ten years gardener at Cargilfield, Edinburgh, has been engaged as gardener to James Cowan, Esq., Ross Hall, Paisley.

The Earl's Court Exhibition of Gardening and Forestry, a prospectus of which will be found in our advertising columns, will open on the 13th of May.

Croydon Chrysanthemum Society.—The dates of this society's annual exhibition have been altered to Tuesday and Wednesday, November 14th and 15th.

Reading Horticultural Society.—We are glad to announce that Mr. Richard Benyon, of Englefield House, has given the handsome sum of £75 to the society, in order to clear off last year's balance, and that Messrs. Sutton & Sons have given a large donation to the prize list.

Mr. Thomas Wilson, gardener to the Duke of Grafton, Wakefield Lodge, Stoney Stratford, has been engaged to succeed Mr. Whitton as gardener to the Earl of Strathmore, at Glamis Castle Mr. Wilson was with Mr. Whitton for four years at Coltness, and subsequently for three and a half years at Glamis as foreman.

M. Alphonse Alegatiere.—One of the most distinguished of horticulturists of the south of France, M. Alphonse Alégatière, has just died at Lyons, at the age of seventy-two. By his seedlings of Roses and tree Carnations, he has acquired a real renown everywhere in the horticultural world.—*L'Illustration Horticole.*

Johnson's Dictionary of Gardening.—We hear that Messrs. George Bell & Sons will publish immediately an entirely new edition of *Johnson's Gardeners' Dictionary.* This useful book of reference has been thoroughly revised by Mr. C. H. Wright and Mr. D. Dewar. It is to be issued in eight parts, at the price of 1/- each. The first part will be ready on March 1st.

International Fruit Show.—A meeting of the provisional committee took place at Anderton's Hotel, Fleet Street, on the 20th inst. Present: Sir James Whitehead, Bt., M.P., Messrs. H. R. Williams, T. B. Haywood, P. Crowley, J. Wright, G. Gordon, and J. Laing. The matter of proceeding with the proposed Fruit Show was considered. Eventually a resolution was proposed by Mr. J. Wright, seconded by Mr. T. B. Haywood, and carried unanimously, to the effect that having regard to the difficulties experienced in obtaining the site on the Thames Embankment, and the number of exhibitions announced for the present season, it is inadvisable to proceed with the proposed International Fruit Show this year.

The National Pink Society (Midland Section).—The schedule of prizes offered for competition at the next exhibition of this society on July 11, 12, and 13, in connection with the great show of the Wolverhampton Horticultural Society, will shortly be issued. We understand that ten classes will be devoted to Pinks, the first class being for twelve laced varieties, with increased prizes over last year; there is a class also for six bunches of border varieties. Mr. A. R. Brown, of Handsworth, also offers special prizes for his fine new Pink "Amy," sent out in the autumn. Mr. Thurstan, of Cardiff, is the president, and his son, Mr. J. F. Thurstan, Pennfields, Wolverhampton, is the hon. sec. Pink growers in various parts of the country will be welcomed as exhibitors.

Nicotiana colossea variegata.—The story of this giant species of Tobacco will still be fresh in the memory of our readers. Since its introduction it has been referred to N. tomentosa. A variegated form of it has now appeared, and which came up in a batch of seedlings raised by M. J. Sallier, at Neiully-sur-Seine, France, and was brought up to the May Exhibition of the National Horticultural Society of France, where it caused a sensation. As recorded by *L'Illustration Horticole*, the variegation consists of a large marginal band, showing admirably against the delicate or light green colour of the rest of the lamina or blade of the leaf.

The Midland Counties Carnation Society.—The exhibition for this year has been fixed for August 5th, and to be held in Birmingham Botanical Society's Gardens at Edgbaston. The schedule is a most liberal one and all classes of the Carnation and Picotee are provided for. Prizes are also offered for bouquets, sprays, and other means of showing what can be done with these lovely flowers, as well as for plants in pots. The Botanical Society has placed at the disposal of the Committee two handsome Silver and two Bronze Medals, to be awarded to exhibitors showing the greatest amount of excellence in their exhibits. Special prizes given by friends will also be awarded to bouquets and sprays of Sweet Peas, in order to show what charming decorative work can be accomplished with those flowers. Mr. Robert Sydenham, Tenby Street, is the chairman of committee, from whom schedules can be obtained.

The Wolverhampton Horticultural Society's Schedule has just been issued, and the next exhibition is fixed for July 11, 12, and 13, in the public park at Wolverhampton. £20, £15, and £10 are offered for sixteen stove and greenhouse plants; £15, £10, £5, and £3 for a group of plants; £12 15s., with excellent second, third, and fourth prizes, for seventy-two Roses, with large prizes for other classes, Roses being an important feature of the schedule. A first prize of £7 10s., with good prizes to follow, are offered for a collection of fruit, with good prizes for Grapes, &c., and liberal rewards for other things. Some of the leading seed firms are also offering good prizes for vegetables. Classes 16 and 17 in Roses will be interesting, being for twenty-four and twelve distinct varieties of garden decorative Roses in bunches, an experiment tried last year with success, many old-fashioned Roses being exhibited.

The Legend of Hellebore Powder.—The insecticide to which we give the name of Hellebore powder is chiefly obtained from Pyrethrum roseum and some other allied plants. The above-mentioned species is also recorded under the name of Chrysanthemum

coccineum. According to *L'Illustration Horticole*, M. MacOwan relates that, during the war of the Russians on the south of the Caucasus, the encampments were invaded by fleas to such an extent that the Cossacks preferred to lie down in the open air so as to escape the attacks of the insects. Some Circassian prisoners made known to them the virtues of a plant generally distributed in the Caucasus. That was Pyrethrum coccineum of Sims, or as we should say P. roseum. The volatile oil, which characterises several species of that genus, is of the nature, if not to kill, at least to cause the insects to sleep for hours at a time, and thus to assure the repose of the men.

FRUIT GROWING IN CALIFORNIA.

Mr. William Laing Malcolmson, of Aberdeen, whose interesting experiences as a fruit grower in California we published in our issue for February 4th has kindly supplied the following supplementary details:—The instances I noted of "many men landing in California without any other capital than their own labour, and working themselves (with the aid of a wife) up to such a position as to be able, through their savings and economy, to own an orchard or a vineyard within a few years of their arrival" (which I could enumerate in detail) are cases of men who had been brought up to field work, and who within a few hours of their arrival in California could command immediate work at from £5 to £6 per month and their board; whilst if they had a wife, she could command from £4 to £5 per month as a domestic servant. To the ordinary clerk, artisan, or mechanic, there is practically no work in California, as there is more labour of this class in that State than there is actually work for. So to these people I can give no encouragement to go out to California, unless they have the necessary capital to purchase a small tract of land, and commence orchard or vine growing on their own account. From the correspondence I have received from those with a little money, and who, I think, would form splendid colonists, let me select a letter received a day or two ago; and in answering it I will pretty well cover the ground of the inquiries which have and may be made of me. The writer says:—

"I have read your account of California in "The Gardening World" with considerable interest. I will be obliged for a reply to the following:

"1. In what condition is the unbroken land?

"2. What can the waste land be bought for?

"3. What could land stocked with fruit trees, and bearing to be a fair return, be bought at?

"4. Could you advise a person (who has money) to buy a going orchard, that has had no experience in fruit growing?

"5. Would a person who has a young family and a few hundred pounds be likely settlers in California?"

I shall now answer, for the benefit of your readers, these questions as follows:—

1. "In what condition is the unbroken land?"—The answer to this is that generally the land in California suitable for fruit growing is level and of the richest description; no stones, shrubs, or trees; soil usually aluvial deposits easily worked, and splendidly adapted for irrigation purposes.

2. "What can waste land be bought for?"—Land suitable for fruit growing cannot be got for much less than £20 per acre, and runs up to as high as £50 per acre, according to situation and other facilities, although there might not be probably much difference in the quality of the land itself.

3. "What could land stocked with fruit trees, and bearing to be a fair return, be bought at?"—This depends on the position of the property, and its improvements, and its age; also the class of orchard. Orange groves bearing a net annual return of £200 per acre would, in proportion, be more than a young orchard or vineyard only a few years old; so this question is rather hard to answer.

4. "Could you advise a person (who has money) to buy a going orchard, that has had no experience of fruit-growing?" Hundreds come out to California who have money, and rather than wait until an orchard comes into bearing. purchase a growing orchard or vineyard right out, and derive a handsome return from their investment. It is not necessary to have any experience in fruit-growing, as experienced help or assistance can be easily procured.

5. "Would a person who has a young family and a few hundred pounds be likely settlers in California?"—There is only one answer to this, most decidedly, yes.

I should like you to mention also that I know of a property in California, situated in perhaps the best position of the State, known as Chino. The owner of this property, Mr. Richard Gird, has had lately erected on his property—which extends to some 55,000 acres—one of the largest sugar beet factories in the world. On this property the settler has perhaps a better advantage of doing well than in most parts of California The settler on this property can, after he has planted his orchard, utilise the space between his trees for Beet-growing, so that he can commence earning a return from his orchard, say, £6 to £8 per acre within six months from his taking up the land; and this advantage cannot be attained in any other portion of California.

Mr. Malcolmson's address is 102, Union Grove, Aberdeen, and he authorises us to say that he will be happy to give, to those desiring it, all the information in his power regarding California.

MOTH ORCHIDS AT CLAPTON.

The collection of Phalænopsis in the nursery of Messrs. Hugh Low & Co, Clapton, has always been noted for its extensiveness, and the beauty of the flowers and their quantity are probably unsurpassed in Europe. The house near the office is always a gay sight at this period of the year, provided the intense and mischievous metropolitan fogs keep off. On the whole they have been moderate in their duration this winter, and although a good many buds have turned yellow and dropped here and there, sufficient is left to make a grand display.

The different species and varieties are mixed and distributed through the house, but P. Schilleriana is by far the most plentiful, and shows considerable variation in the markings of the foliage and the colour of the flowers, the rosy-purple being brighter or more intensified on some than on others. The rarest and most interesting of its varieties is P. S. vestalis, also known as P. S. alba, because it is an albino of great purity—a fact evidenced not only by the flowers but also by the leaves and growing tips of the roots. The latter are purple in the type, but in the present case green. The broadly oblong leaves are of an intense green on both surfaces with the marbling of the upper face reduced to a few small grey spots. On the edges of the lateral sepals are a few faint yellow spots instead of purple, as well as at the base of the lateral lobes of the lip; the crest is of a pale yellow with a few minute purple spots. All the rest is pure white. A few days ago this plant, on the occasion of a foggy night, was put into a close box and protected with two or three layers of tissue paper. A new plant described about three years ago is P. Schilleriano-gloriosa, the combination of names indicating the parentage of the supposed natural hybrid. The leaves are grey, mottled with star-like green spots. The flowers are of the same type as P. leucorhoda but deeper in colour and the lip and contiguous edges of the lateral sepals are heavily spotted with purple. There is only one plant of it in existence as far as is known.

In P. leucorhoda we have a supposed hybrid between P. Aphrodite, better known amongst gardeners as P. Amabilis and P. Schilleriana. The sepals are rosy purple and the petals paler except at the base. The lip is of large size, and the lateral lobes have some bold blotches at the base; the terminal lobe strongly resembles that of P. Aphrodite, but is more or less suffused with rose throughout its length. The tails of the lip are intermediate as to length between those of the parents. The foliage is marbled like that of P. Schilleriana but is sometimes entirely green above in different plants. This fact would support the supposed hybridism. Closely allied to the above is P. casta another supposed hybrid; but in this case the seed parent must have been P. Aphrodite (amabilis) as the leaves are of a rich dark green above and purple beneath. The sepals and petals are white, with a rosy-purple blotch radiating from the base of each. The lip is like that of the supposed seed parent except the tails which are broader and shorter. The foliage of P. Cynthia on the other hand resembles that of P. Schilleriana. The sepals and petals are white with a blush of purple running half way down them. The terminal portion of the lip is white with a yellow basal portion spotted with purple and tails similar to those of P. Schilleriana. The above three kinds form a group interesting in their way and withal very beautiful.

The plants of P. Aphrodite (amabilis) are much less numerous than those of P. Schilleriana, but their white flowers offer a beautiful contrast to those of the latter when seen in mixture. We noted a particularly fine form of it with large flowers and broad imbricating petals; even the lateral sepals slightly overlap one another. P. Stuartiana is also flowering freely and in some variety. The spotting on the lip and lateral sepals varies considerably. We noted some plants having the whole of the lip, with the exception of the tails, of a bright yellow, spotted with crimson-purple. The foliage of this species is beautifully marbled but very variable. Another quaint little species that must not be overlooked is P. rosea, with rosy white flowers smaller than any of the above. Larger flowers, but scarcely so pretty, are produced by P. denticulata, the sepals and petals of which are pale yellow spotted with tawny brown. The ridged lip is slightly bearded. P. grandiflora will flower a little later.

Gleanings from the World of Science

Experiments on Apple Scab.—A rather extensive series of experiments for the purpose of checking the fungus known as Apple Scab was carried on in Wisconsin, in 1891, by Professor E. S. Goff, as recorded in *Bulletin* 3 of the United States Department of Agriculture. The experiments cannot be considered as conclusive from the fact that the early part of the season was very dry and likewise again in August and September, so that the scab made but little progress. The crop was gathered on the 10th, 11th, and 12th of September. A single treatment with the Bordeaux Mixture in winter gave no beneficial results, but in spring and summer some advantages were discernible. Copper carbonate in suspension applied in spring and summer showed some beneficial effects, but not so important as in the case of the Bordeaux Mixture. Paris green, being a compound of copper, suggested the idea that it might be of some service in checking the fungus, and it was accordingly used by itself without admixture of anything else. Very marked results were obtained from its use. The method of computing the relative advantages of the different fungicides employed was as follows:—the whole of the fruits from a given number of trees were counted, and then divided into three qualities, namely, those entirely free from spots, those slightly spotted, and thirdly, those consisting of badly affected and more or less contorted fruits. The best results were obtained from spraying with the Bordeaux Mixture, once in spring and three times in summer. Eight trees bore 4,873 fruits, giving 37 59 per cent. of fruits entirely free from the scab, 60.31 per cent. slightly spotted and only 2.10 per cent badly spotted. The results with suspended copper carbonate gave the following figures, namely, 34.14, 62.77, and 3.09 respectively, while the sprayings with ammoniacal copper carbonate gave 27.08, 68.83, and 4.09 respectively, representing the quantities in the three different qualities.

Monograph of Dianthus.—A monograph of the genus Dianthus has been prepared by Mr. F. N. Williams, F.L.S., and given in the *Journal of the Linnean Society, vol. xxix., p.* 346. He records and describes 238 species and a number of hybrids that have been produced at various times. He says also that the species of Dianthus hybridise freely with one another, but of the two commonest garden species, namely, D. Caryophyllus and D. plumarius, he does not record a single hybrid. Nothwithstanding the fact of D. Caryophyllus being the most popular at the present day in its multifarious forms, it has a very limited geographical distribution in a wild state. In Europe it is confined to North and West Normandy, and in Asia to the South and East of the Punjaub.

The Carnation: its History, Properties, and Management with a descriptive list of the best varieties in cultivation. By E. S. Dodwell. Third edition, with supplementary chapter on the Yellow Ground. London: Gardening World Office, 1, Clement's Inn, Strand, W.C. 1s. 6d; post free, 1s. 7d.—[Advt.

FLORICULTURE.

The Auricula in February.

The mild weather of February, with occasional warm, sunny days, is telling upon the Auricula, which is now moving forward joyously to meet the blooming time. What growers have to fear is a rapid and severe change of temperature, which may come at any time, for the end of February often brings surprises in the way of weather, and I have known the opening days of March to be accompanied by hard frost and snow. I generally find that when a burst of warm, sunny weather comes in February, we generally have to pay for it by experiencing almost Arctic cold some time in March and April, which has a paralysing effect upon plants close to their blooming time. It is this consideration, perhaps, which prompted one of our leading Southern growers of the Auricula, when writing to a contemporary recently on the Auricula, to say that he had housed his plants in a greenhouse, and that it would be unwise to allow the temperature to fall below 40° between now and up to blooming time. This is all very well in the case of those who have an Auricula house or frame heated with hot water or a flue, but what of those who have not? They find it very difficult indeed to keep the temperature from falling below 40°; all the covering up of a cold house or frame will fail to secure this when there are from 5° to 10° of frost outside, and it is not unusual in the experience of such to have frosted blossoms in consequence of the plants being submitted to such a trial How can flowers so grown compete with those having the advantage of an equable temperature regulated by heat? It is impossible they can, though they have to do so at the exhibition held in London in April; and though some have asked for classes for plants grown without artificial heat, they are not forthcoming, which is perhaps not to be wondered at.

Young stock may now be re-potted with great advantage. If they are given fresh, sweet, sandy soil the roots soon begin to work in it, and the small plants rapidly increase in size. It is not wise to allow quite small plants to bloom, as it imposes a check upon them; it is best to pinch out the flower-stems, so that the plants can grow into size and increase in strength for blooming another season. Young stock may be re-potted at any time up to May, and it is pretty much a matter of convenience; but if the soil about the roots has become sour and soddened, then the sooner a change is given the better. The starting of young stock into growth after potting is greatly helped by placing an ordinary handlight in the house, and placing the young plants in it for a time. A suitable compost can be made up of fine fresh yellow loam, some finely-sifted leaf-soil, and enough silver sand to keep it well open. Not a single young plant should be over-potted. They want just a shift, and it is a great deal better to shift two or three times, if need be, than to place a small plant in the middle of a pot of soil much too large for it; the roots seem to lose themselves in a wilderness of soil, and are a long time finding their way to the outskirts of it.

Seedlings want close attention just now. Seed sown last spring produced a crop of plants in the autumn, the largest of which were pricked off round the sides of pots of fresh soil, and they are growing nicely into size. Soon another batch can be pricked off—that is, the plants left in the seed boxes last autumn as not being large enough to be handled without danger. Those who have had experience of raising seedling Auriculas know that the earliest and strongest seedlings are generally the coarsest and least valuable, while the late seedlings are almost invariably the best. I have a box of seedlings, the seed of which was sown in August, 1891, from which I have taken five lots of small plants, and still others are coming through the soil, and may be expected to do so for some months to come. We therefore see that one should not be in a hurry to throw away seed boxes at the end of a year or eighteen months, as some seeds lie in the soil for a considerable time before they germinate. I have heard the Rev. F. D. Horner say that he keeps his seed boxes three years before he throws away the soil.

Cleanliness about the pots is a matter of prime importance. During the winter the pots will be sure to gather a certain amount of green slime on the outsides, some more so than others, according to the character of the clay from which they are made, and they should be made quite clean. Top-dressing is not so much followed as it deserves to be, but any soil that has become green on the surface is best removed and replaced by something fresh. In removing the old soil care should be taken not to disturb the roots; the soil can be taken away down to them, and replaced by something fresh and rich, and this will be found of great advantage.

With mild, close weather comes green fly. This troublesome pest can be kept down by occasional fumigations with tobacco smoke. The plants should be well cleansed of this pest before they come into bloom, as the smoke may injure the expanding pips. Ample ventilation is also essential, giving air in cold weather on the side of the house or frame opposite to that from which the wind blows, so that cold currents may not play upon the plants.—*R. D.*

CROCUSES IN FEBRUARY.

The exact date at which the winter and spring-flowering species of Crocus will make their appearance in any given year, depends upon the state of the weather as to mildness or otherwise. If our winters were as genial generally as it is in their native homes, we should have a succession of Crocuses more or less continuously from September to April, finishing up curiously enough with C. vernus, the spring-flowering species. As it is the various species make their appearance by fits and starts, according as the weather is mild or frosty, and should severe or stormy weather set in while some of them are in bloom, the flowers get destroyed accordingly. Rarely do the flowers of any one species, however, come above ground all at one time, so that upon the return of mild weather a second batch of bloom makes its appearance. All this is an argument why cultivators should plant the various species of Crocus more frequently than they do even if it is only on the grassy turf where the leaves can be allowed to ripen before being cut and swept away. Modern cultivators do not appear half so enterprising as they used to be in olden times when amateurs and even cottagers planted bold clumps of them upon the grass, where they reappeared every spring in all their inimitable beauty—we say inimitable because many of them are so in themselves, and no other class of flowers compete with them at the period of the year when they appear. A large proportion of the sixty-seven known species of Crocus are perfectly hardy in this country, the flowers only getting destroyed at unfavourable times, just as those of Jasminum nudiflorum and Petasites fragrans do, and yet get planted extensively. Even in the far north the severity of the winter has the effect of retarding the flowering period till more favourable times.

In the South of England C. Imperati appears in mid-winter should the weather be sufficiently mild. The severe frost that set in about Christmas last, and continued through great part of January, had the effect of retarding the growth of the flowers, so that they still continue to bloom. The flowers are lilac feathered with purple, and the three outer segments are grey externally with three heavy purple veins. Curiously enough an autumn-flowering species, namely, C. Salzmanni, must be mentioned here, as it is still flowering. The flowers vary from vinous purple to lilac with deeper veins, and the three outer segments are grey externally feathered with purple veins at the base. Another pretty species in the same natural group is C. suaveolens, similar in colour to a pale form of the last, but variable in the veins of the outer segments, being confined to the base or running to the top or almost absent in different individuals.

Another group is represented by the early-flowering C. Sieberi, frequently appearing in January, but regularly so in February. The flowers are blue and veiny, with orange anthers. Alongside of it C. gargaricus, with its uniformly orange-yellow flowers, makes a beautiful contrast. Still more handsome and meritorious in every respect is C. susianus, the Cloth of Gold Crocus, a native of the Crimea and the Caucasus, and perfectly hardy in all parts of this country. It used to be freely planted by cottagers even in the far north. Although one of the earliest to flower in spring, its date of appearance is regulated by the nature of the weather and by latitude, so that when it does bloom, it seldom fails to make a fine display even in the north of Scotland. The flowers are of a deep orange, with a broad bronzy-brown or almost mahogany coloured band as if varnished, and more or less feathered. This band is undoubtably most effective in bud, while the latter is ready to expand, and should the weather be cloudy, the full beauty of the plant continues for some time. When the flowers have been fully expanded by sunshine the three outer segments become reflexed and never close up again as other species do on the approach of night or at sunset.

The Cloth of Silver Crocus, another well-known Crocus in Scotland, is a variety of C. biflorus. The latter is a highly variable species in a wild state, many of the forms having received distinctive names. Though pretty and interesting, none of the small ones are so generally useful for horticultural purposes, as the larger and striped ones. The reason for its variability is no doubt owing to its extensive distribution, as it covers a wider area than any other species. The flowers of C. biflorus vary from the palest lavender or blush to white, and creamy-yellow within. The three outer segments are ornamented externally with three heavy, purple feathered veins. The flowers of C. aërius are suffused with blue on a white ground, and bronzy at the base.

C. aureus represents another natural group, and the type is of a bright golden-yellow without any markings whatever, but it is now made to include the Dutch Yellow of gardens, the old C. luteus, which has large flowers with bronzy or dusky markings at the base. In the same group comes C. Olivieri, a pretty golden-yellow species, but notably small. On the other hand C. Korolkowi is larger and yellow feathered with brownish-purple externally.

A number of species are centred around C. vernus, which may be looked upon as the most popular species since the improved garden forms of it are universally cultivated either in the open border or in pots for forcing in conjunction with the Dutch Yellow. The improved forms are usually planted in November and flower comparatively late in spring, as do the permanently planted corms, whether improved or otherwise. Some of the wild types, however, are already flowering at Kew, where all of the species here mentioned were flowering in the third week of February. Allied to C. vernus is C. Thommasinianus, having the three inner segments of a blue purple, the outer ones paler, and externally almost lavender. The flowers of C. corsicus are lilac and grey externally, feathered with purple veins. Somewhat similar to the last is C. etruscus, and lined with purple on the back of the outer segments. It is very probable that some of the so-called improved varieties of C. vernus owe their parentage to hybridisation with allied species, such as C. banaticus, having blue purple flowers and a large violet blotch externally near the tip of the outer segments. Something very similar is met with amongst Crocuses now being forced into bloom for indoor decorative purposes.

ASTER NOVI-BELGII LÆVIGATUS.

In our last issue we gave an illustration of Aster Amellus, showing its suitability for decorative purposes in pots. As we are now in a position to illustrate another of the most suitable forms for the purpose, we therefore take this opportunity of continuing the subject. The figure in question was likewise prepared from a specimen in the collection of Mr. Norman Davis, at Camberwell. The above is the name accepted by botanists, but for some years past it has been grown and distributed by nurserymen and others under the name of A. longifolius formosus, but for what reason it is difficult to say. The plant is naturally dwarf, usually attaining a height only of 18 in. to 2½ ft. By striking cuttings late in spring and potting them on singly, bushy little plants 8 in. to 10 in. high can be obtained in 48-size pots, and furnished with a mass of bloom as shown in the accompanying illustration. The blooms measure about 1 in. to 1½ in. individually, and are of a deep rose, contrasting beautifully with the bright blue of A. N.-B. densus, or the lilac-purple of A. Amellus.

NATIONAL CHRYSANTHEMUM SOCIETY.

THE annual meeting of this society took place at Anderton's Hotel, on Monday evening. There was a larger attendance of members than usual, and Mr. R. Ballantine was unanimously elected chairman. The usual preliminary business having been got through, the chairman moved, and Mr. H. J. Jones seconded, the adoption of the report and statement of accounts for the past year. The report was as follows:—

"At the close of one of the most prosperous years the society has experienced, your committee congratulate the members upon the large measure of success achieved during the past twelve months. The society has steadily increased in numbers, in importance, and especially in the universal appreciation of its work:—shown by a large accession of members and affiliated societies; in the singularly attractive character of its three exhibitions; in the approval of the gardening press; as well as in the testimony furnished by members and correspondents from various centres at home and abroad. At the present time the list of members numbers 620, seventy-three joined during the year, and there are 100 affiliated societies, an increase of fourteen during the year.

"Even in a season generally admitted to be hostile to the perfect development of the Chrysanthemum, the display of plants and blooms, especially at the great November Show, was of a high order of merit. The competition for the Challenge Trophy by affiliated societies was not so extensive as could be wished; that for the two handsome Holmes Memorial Challenge Cups, which were provided by private subscription on the initiative of Mr. Norman Davis, keen and exciting.

"The interesting incident of the receipt of the frozen Chrysanthemum blooms from New Zealand, sent by Mr. John Earland, of Wellington, attracted considerable public attention to the society; the experiment proved highly successful, and the Silver Gilt Medal of the society was awarded to Mr. Earland as commemorative of the event. The idea is also valuable in illustrating a new method of transmitting flowers to this country from foreign parts. By way of returning the compliment advantage was taken of the November Show for obtaining a dozen blooms of fine incurved, and the same number of leading Japanese varieties, which have been duly frozen and dispatched to Mr. John Earland, at New Zealand, in the name and on behalf of the committee.

"The supplemental Catalogue of Chrysanthemums, prepared with great care by the Catalogue Revision Committee, and bringing the record up to date, has proved a great boon to lovers of the flower, and a large number of copies have been applied for. It is a valuable appendix to the Centenary edition of the catalogue published in 1890.

"The Floral Committee held seven meetings during the year, and inspected a very large number of new varieties. Its work is highly appreciated all over the country, as is shown by the flowers sent for inspection from all parts. Your committee have adopted recommendations from the Floral Committee in favour of an increase in the number of elected members from fifteen to eighteen; and also the appointment each year of a chairman of that body.

"Your committee have entered into an arrangement with the Royal Aquarium, etc., Society to hold during the present year three exhibitions:—one in October, one in November, and they have revived the mid-winter show by providing for a third exhibition in December. The September Exhibition will be held by the Royal Aquarium, etc., Society, the committee providing prizes for several classes of Chrysanthemums. The members will thus have the privilege of attending four exhibitions in the year instead of only three as heretofore.

"The conference on the subject of the enlarged boards for Japanese blooms, which was held at the Royal Aquarium in October last, brought together a number of those interested in the exhibition of the Chrysanthemum: the result of the deliberations was a resolution carried in favour of enlargement. When the result came before your committee they were of opinion the time was not ripe for compulsory enlargement, and by a considerable majority they resolved to adhere to the regulation affecting the size of boards in operation for a few years past, which leaves it optional with exhibitors.

"Your committee express the great obligation they owe the President, Sir Edwin Saunders, for his many valued and important services to the society during the year, and for the liberal support given to various special movements; and especially to Lady Saunders for her great kindness in attending the exhibitions, and for performing the opening ceremony on the occasion of the Great November Show."

The statement of accounts showed receipts amounting to £911 19s. 3d., made up as follows:—Subscriptions, £209 15s. 7d.; Donations and Special Prizes, £163 13s.; Royal Aquarium Company, £291 16s. 1d.; Affiliated Societies, £146 18s. 6d.; Advertisements, £29 12s.; Catalogues and Postage, £13 0s. 2d.; Sale of Tickets, £29 8s.; and Entrance Fees, Space at Shows, etc., £19 16s. The disbursements amounted to £911 19s. 3d., the principal items of which were:—Prizes, £429 16s.; Medals, Engraving, etc., £103 9s. 2d.; Judges' Fees, £16 16s.; Bill posting and advertising, £27 10s. 6d.; Printing including supplementary Catalogue, £57 6s.; Postage, telegrams, etc., £37 4s. 3d.; Clerical Assistance, £50 15s.; Holmes Memorial Cups, £69 13s., etc., the balance being 5s. 4d. After a few remarks from the chairman, Mr. Jukes, and Mr. Dean, the adoption of the report and accounts was unanimously agreed to, and a vote of thanks accorded to Mr. F. A. Cobbold and Mr. G. J. Ingram for their services as auditors.

The following officers were then unanimously re-elected:—Sir Edwin Saunders, President; the Dowager Duchess of Sutherland, and Lady Saunders, as Patronesses; Lord de Lisle, Sir H. W. Peek, Bart., Sir Trevor Lawrence, Bart., Leopold de Rothschild, Esq., W. H. Fowler, Esq., and C. C. Paine, Esq., as Vice-Presidents; Mr. J. R. Starling as Treasurer; Mr. R. Ballantine as Chairman, and Mr. E. C. Jukes as Vice-Chairman of Committees; Mr. R. Dean as Secretary; Mr. C. Harman Payne as foreign corresponding Secretary; and Mr. G. J. Ingram and Mr. H. Williams, Holloway, as Auditors.

The election of 12 members of the committee brought on a brief discussion as to the advisability of electing a certain proportion of country members, and a telegram was read from Mr. J. H. Goodacre, Elvaston Castle Gardens, regretting his inability to be present, and nominating Mr. Mease, Mr. J. Lambert, Mr. P. Blair, and Mr. G. Woodgate. Mr. Mease not being a member of the society, his nomination could not be accepted. The retiring members, with the exception of Mr. E. Sanderson, were all re-nominated, and the names of Mr. C. E. Pearson, Mr. F. A. Cobbold, Mr. E. Beckett, Mr. F. Moore, Mr. T. Caryer, Mr. G. Carpenter, and Mr. Hicks were also submitted. The result of the voting was as follows: Mr. E. Beckett, 47; Mr. P. Blair, 6; Mr. W. E. Boyce, 48; Mr. T. Caryer, 17; Mr. G. Carpenter, 14; Mr. F. A. Cobbold, 8; Mr. D. B. Crane, 38; Mr. W. Davey, 32; Mr. C. Gibson, 57; Mr. G. Gordon, 45; Mr. Hicks, 5; Mr. H. J. Jones, 50; Mr. E. F. Kemp, 8; Mr. J. Lambert, 3; Mr. J. H. Laing, 23; Mr. J.

ASTER NOVI-BELGII LÆVIGATUS.

Mardlin, 43; Mr. F. Moore, 8; Mr. C. E. Pearson, 14; Mr. G. Stevens, 39; Mr G. Woodgate, 11; Mr. J. Wright (Temple), 40, and Mr. B. Wynne, 46. Thus the outgoing members were re-elected, and Mr. E. Beckett takes the place vacated by Mr. Sanderson.

Certain of the rules of the society were next amended, the effect of the alterations being to increase the Floral Committee from fifteen to eighteen members and to provide for the election of a chairman of that body each year; to provide that in the case of a proposition to amend the rules at an annual meeting due notice shall be given to the secretary so that the nature of the proposed alterations can be put upon the summons calling the meeting; and to give the society power to strike off the names of members in arrear with their subscription beyond a certain period.

Mr. G. S. Addison moved the adoption of the following new rule:—"That any member who shall refuse to conform to the rules and regulations of the society, or shall be guilty of irregularity, or of dishonourable or disorderly conduct, or of conduct likely to bring discredit upon the society, shall be subject to expulsion by a vote of two-thirds of the members present at any general meeting." Mr. W. Wells seconded the motion, which was opposed by Mr. Jukes, Mr. T. Bevan, Mr. Hicks, Mr. R. Dean, Mr. W. Piercy, Mr. Newell, Mr. G. Gordon, and Mr. J. W. Moorman, and it was eventually withdrawn by the mover. Three new members were elected. including Mr. John Earland, of Wellington, New Zealand, and a vote of thanks to the chairman brought the proceedings to a close.

PLANTS RECENTLY CERTIFICATED.

The plants and the fruit described below were exhibited at the meeting of the Royal Horticultural Society on the 14th inst., and each received an Award of Merit. Some of the Orchids exhibited at the same time, and certificated, are recorded under Orchid Notes and Gleanings.

Amaryllis The Hon. W. F. D. Smith.—The plant exhibited under this name was really a Hippeastrum, though popularly known under the name of Amaryllis. It is likewise one of the finest improvements in the genus that has appeared anywhere and that means a great deal. There were two scapes from the bulb, each about 2½ ft. high; one of them bore two expanded flowers of immense size and nearly flat, owing to the absence of a tube, while the flowers on the other were still in bud. The three outer segments are the widest, broadly elliptic, intense crimson heavily shaded with maroon towards the centre. The inner ones are smaller, especially the lowermost one, and all of them have a small green blotch confined to the base. The stamens and style are also crimson in conformity with the rest of the flower. The well-developed leaves nearly equalled the scape in length when shown. The exhibitor was the Viscountess Hambledon (gardener, Mr. H. Perkins) Greenlands, Henley-on-Thames.

Chrysanthemum Beauty of Castle Hill.—Visitors to the meeting in January were surprised to see and know that Chrysanthemums of exhibition size could be had at that early period of the year, but they were more so when Beauty of Castle Hill made its appearance on the 14th inst. The bloom measured 7 in. to 8 in. across in its natural position. It is a true Japanese variety, with spreading florets quilled nearly to the tips, and more or less regularly incurved there, and curved against the direction of the sun. The outer and older portion of the flower is of a clear yellow, but the central florets are heavily stained with a bronzy hue. The variety also flowers in November. It was exhibited by Mr. Robert Owen, Castle Hill, Maidenhead.

Apple Standard Bearer.—The fruit of this new variety is of large size sub-conical, and slightly five angled towards the top. The skin is greenish yellow, with a bronzy-red flush on the exposed side, and dotted with russet all over. The eye is moderately deeply sunk in a slightly plaited basin. On the whole it bears some general resemblance in form and colour to Ribston Pippin. The exhibitor was Mr. Wm. H. Banister, The Gardens, Cote House, Westbury-on-Trym.

THE VEGETABLE GARDEN.

Celery and the frost.

As the result of ten years' experience in a district where both winter and spring frosts are usually very severe, I have to report that this season our Celery crops have been more injured than during any previous winter. I am, however, gratified at being able to state our supplies promise to suffice for all requirements that may have to be met. Some time ago we lifted the whole of the stock and had it laid in sand in a shed, where it remains in a good state of preservation. We have had three varieties under cultivation, viz., White Plume, which I find a most useful sort for the earliest supplies; Incomparable, and Major Clarke's Solid Red for winter work, and the latter with me at least has proved to be by far the hardiest and most solid. A light protection was afforded the crops at the beginning of the frost in the form of some cut straw shaken among the plants, but I think this work might as well have been left undone so far as defensive measures were concerned. Regarding the White Plume Celery some affirm that no earthing up is necessary, but during high winds I have found the sticks get so much damaged that moulding had to be resorted to with future crops, and I think better quality is ensured by the little extra work.—*D. MacKie, Ayrshire.*

The White Plume Celery.

In answer to your correspondent, "B. L.'s" enquiry respecting the White Plume Celery, I beg to say that having grown that variety I am able to say that it is a high-class Celery of medium size, and of the finest quality. It is especially useful for early work, but as it is not so hardy as the green sorts it cannot therefore be recommended for a late crop. The variety is most attractive, as nearly all the leaves and stalks are pure white with the exception of the older or outer leaves, which are deep green. If a few plants are dotted in the flower border they give a striking effect. It is also a free-growing variety. Thanking yourself and "B. L." for kind suggestions as to the protection of Celery.—*H. W.*

I have grown this variety for the past three years, and according to my experience with Celery it is one of the best for early work and for cottagers, who as a rule have not much room in which to grow larger varieties. It is dwarf, very solid, and crisp when well grown, and possesses a rich nutty flavour. It is advertised as a self-blanching variety, but I find it is all the better for earthing up three or four weeks previous to taking it up for use. I have not the slightest doubt but what it is the variety which your correspondent, "B. L.," inquires about on p. 390.—*T. Parrott.*

A correspondent asks for the experience of someone who has grown the White Plume Celery. It is a variety which is said to require no earthing up, to make it fit for use. When the plants are young the colour is of a pale green, as it grows older it becomes nearly white, and that is why it is said that it needs no earthing up, but it should be earthed for a short time to make the best of it. I grew it two or three years ago, but it will not do with good treatment as it soon runs to seed. It is a slow growing kind, of short, sturdy habit, from 12 to 15 in. in length, of *very* sweet, nutty flavour. It is not the sort that many market gardeners will grow, as others will pay much better.—*S. S.*

Conqueror Tomato.

I note in one of your recent issues, re Tomatos, the names of two varieties mentioned as being about the best. I should like to recommend to any of my gardening friends, if they have not already grown it, "Conqueror." I may say that having to get Tomatos early, I have tried most of the advertised kinds, but Conqueror has proved more free than any of them with me. It is fairly large, of good colour, red, and of good shape, the majority of the fruit coming very smooth and even. I am quite in accord re the Perfection strain for later work.—*James Richardson, Woodhouse Gardens, Stanstead, Essex.*

Potato The Freeman.

Have you any knowledge of a Potato named The Freeman? A small set about the size of a knur was brought to me not long ago by my young master, to whom it was given on board ship when recently returning from America. The American gentleman was not very free with his samples, but gave the variety a high character, and I suppose at present it must be considered valuable.—*B. L.* [We have no information concerning it.—Ed.]

THE OLD ARAUCARIA AT KEW.

The current number of the *Kew Bulletin* records the death of a somewhat remarkable tree in the Royal Gardens. This is the first "monkey puzzle," or Araucaria imbricata, ever seen in Europe. It was introduced under rather curious circumstances by Archibald Menzies, the surgeon of Vancover's expedition to the Pacific and the north-west coast of America in 1791-95, a voyage during which the insularity of the island now bearing Vancouver's name was discovered. In the course of this cruise Valparaiso was called at, and the officers entertained at dinner by the Viceroy of Chili. The banquet was a sumptuous one, and long before dessert was reached most of the company were little fitted for noticing that among the fruits placed on the table by the Captain-General's slaves were some peculiar nuts, which, in reply to the doctor's query, the host informed him were the seeds of a peculiar Chilian tree, of which they had already made the acquaintance under the name of "pino." This was enough for Menzies, a man who lived to so good an old age that the late Mr. Bennett, of the British Museum, was well acquainted with him, and had the tale we are telling from his own mouth. For at a fitting moment he pocketed the nuts, and from them the first Araucarias in the Old World were raised.

This tree is now so common that one finds a difficulty in realising the time when it was so rare that, as late as 1836, King William IV. considered that he was presenting a choice gift when he sent one of the Kew specimens to Lady Granville for her grounds at Dropmore. At that time the seedling was about 5 ft. high; it must be now rather more than 63 ft. in height, its stature twelve years ago being fully 60 ft. Yet there is another tree at Dropmore even better grown, though we regret to record that a persistent legend affirms that this robust Araucaria is the produce of a cutting stolen by "a lady" from the original plant at Kew nearly sixty-two years ago. At first the tree, now dead, was protected during winter under the belief that it was not quite hardy, as indeed the Araucaria is not during unusual frosts in the northern part of the kingdom. Hence it was never quite naturalised at Kew.

In the early part of this century, also, it was irretrievably damaged by some careless servants having imprudently hung lanterns on its branches during a *fête* at Carleton House, to glorify which it was temporarily removed from Kew. Scheer, writing in 1840, describes the historical tree, now gone, as "the lion of the gardens"; and so great a favourite with William IV. that he never visited "kingly Kew" without pointing out to any strangers who might be with him the tree which old Archibald Menzies, who had been his shipmate, brought to England under such interesting circumstances.—*Daily Chronicle.*

INTERACTIONS BETWEEN PLANTS AND ANIMALS.

The above was the title of the fourth of the series of lectures recently delivered in the Free Church College, Abeerdeen, by Mr. J. Arthur Thomson, F.R.S.E., the Thomson lecturer for the present session. At the outset, Mr. Thomson drew his hearers' attention to a well-known experiment. They took a globe with a narrow aperture, filled it half full with pond water, and, after putting into it a certain number of small plants and a proportionate number of small animals, they hermetically sealed the globe. In the small enclosed world one or two casualties were not unlikely to happen. For example, the animals might devour all the small plants, until they themselves immediately perished in suffocation. But casualties need not happen. It was possible that that small enclosed world in the glass globe might go on prosperously for years. Yet in that little world the plants and the animals—because they were both alive—were continually taking oxygen out of the air and giving back to the air as a waste product carbonic acid gas. How was it, then, that the air in the globe did not become carbonic acid gas and not ozygen? They knew the answer, that during the day the little green plants, like all green plants, were able to compensate for their own breathing and for that of the animals also, because they had the peculiar power of absorbing

carbonic acid gas and liberating oxygen. In this way they kept the air in the glass globe continually pure.

It was important, he said, to emphasize that plants and animals were, in regard to breathing, precisely the same. Supposing they had in a room at night a dog, a plant, and a lighted candle—all of them were oxidising complex organic substances, and all of them were taking oxygen out of the air and returning carbonic acid gas to it; there was no essential difference in the respiration of the plant and the animal—the result was the same and for a similar reason. This was one of the most fundamental inter-relations between animal and plant life: that plants and animals breathe, though green plants during the day have an extra power which was the reverse of respiration, and which, during the day, masks the respiratory process. Many animals fed upon plants, and all animal life in the long run depended upon the life of plants; but, while plants were able to live on inorganic matter, animals—except a few known ones—were unable to feed at such a low chemical level, and so had to depend upon the plants. Now, he said, plants being passive organisms, were unable to retaliate, the only approach to it on the part of animals being those parasitic plants which destroyed animals, and the insectivorous or carnivorous plants.

These latter were a large physiological assemblage, there being no less than 500 species, all of which were to be found in most parts of the world. The pitcher-plants (Nepenthes) had their headquarters in Borneo and other Indian Archipelago Islands. Venus's Fly-trap was limited to Carolina in the United States. Yet they were represented in most parts of the world. He would, however, take the British form of these plants, which was less familar than others. Growing in thick woods, often by Ivy at the foot of a tree, there was a weird bell-plant called the Toothwort (Lathræa); and those who found it were not at all likely to forget it. It was a strange plant, rare in this country, and it was one of those plants which had no green colouring matter, but was dependent for its food upon the organic matter manufactured by other plants. It preyed upon the roots of the tree near which it grew; and it was perhaps the simplest example of the carnivorous plant. Then there was the Butterwort, which they saw everywhere in boggy ground. The leaves were glistening, and were covered with numerous glands—25,000 to a square centimetre. There was a viscid secretion, like insect lime, on the leaf. The leaf turned inwards, and digested its food. That was a step in advance, because the Toothwort simply decomposed.

Then there was the common Bladderwort (Utricularia) which grew in our lochs and was exceedingly beautiful in the month of July or August. This was an insectivorous plant, widely distributed over the earth. It was a plant without roots, having got a floating stem; and some of its numerous leaves were modified into little bladders, which were effective traps for small animals—not for insects, because few of these were acquatic, but for small crustaceans, such as water fleas and copepods. One could hardly tell why such creatures would trouble these little traps; but, as there was a sweet mucillage at the mouth of the trap, he thought it was likely these small crustaceans ventured too far, or were pressed by their enemies. Once they were in no amount of pressing from the inside would enable them to get out; and as many as twenty-four of these small animals had been got in one bladder. They soon died, because there was no fresh air; and then they decomposed and were absorbed. The Nepenthes, or Pitcher Plant, had a peculiar leaf which was a very effective trap for insects. The lower half of it was full of water with organic juice in it and from its bath insects rarely escaped. In other pitchers, such as Sarracenia—from which they could often get fifty insects—there was no water; but the lower part of the pitcher was lined with hard, stiff, long hairs, down which it was easy for an insect to creep, but up which it was as impossible for an insect to go as it would be for a man to make way against a hedge of steel spears.

Then, again, there was the Venus's Fly-trap, which Linnæus, 150 years ago, called "the miracle of nature." The peculiarity of this sensitive plant was that on either side of the leaf there were three very fine hairs, and if an insect knocked against one of these, the leaf immediately closed, and escape was hopeless. In these insectivorous plants there was nothing, however, that was not in any other plant, there was only a more perfect digestion. The Sundew was an instance where the leaves closed, like a fist, upon any insect that got entangled in one of its hairs or tentacles; yet in spite of this delicacy the plant gave no response to a raindrop or friction with a piece of grass growing near. They would thus see there was in this plant something like the power of discrimination, though not so appreciable as in animals or mankind. The reason of this peculiarity in some plants was that they must have nitrogenous salts; and, if the plants which he had enumerated had not their proper share, they made up for it by catching insects. It was, therefore, of some real advantage to them to catch these insects, because it was from them that the plants got the nutritive salts which was part of their living material. The lecturer then asked their attention to the question of honey-dew.

It was well known, he said, that on many trees there was a sweet viscid secretion, so abundant in some cases that in an avenue of limes the pavement was often wet with the drops of honey-dew which fell from above. This honey-dew had been known through all ages. Pliny discussed it in detail, and wondered whether it was distillation or an exudation from the air; but he came to the conclusion that it fell like dew from above. Darwin also considered it an exudation, but from the plant itself. Dr. Büsgen's conclusion was that the honey-dew was produced slowly by the little plant lice; that it was an exudation not of the plant but of plant life. This was based upon (1) that the drops seen on the leaf had no connection whatever with the structure of the leaf, because they appeared on the dry withered parts; (2) that the drops were seen at first singly, and never grew bigger except by coalesence with their neighbours; (3) that honey-dew was never seen upon a plant unless visited by Aphides; an Aphis could discharge fifteen drops of honey-dew in a day and when it was considered there were several thousand Aphides on a Lime tree they could understand the juice being large enough to drop on the pavement beneath. This honey-dew brought a benefit to the plant. It was much liked by ants; and as ants on the whole, were favourable to plant life, though some of them were mischievous, they helped to ward off more injurious insects from the plant.

It was interesting to notice how plants were, in manifold ways, preserved from being eaten up by animals. There was one cause which he should like to discuss; that concerning the relations between snails and plants. There were two kinds of snails—omnivorous and specialists (laughter). The latter were very dainty in their diet, and did not like to eat anything but Mushrooms. The majority, however, were omnivorous, and they were not fastidious (laughter). They heard much about the relations of insects and plants, but the relations between snails and plants were of an entirely different character. Snails, although they were not fastidious, drew the line somewhere. There were certain plants which they always eschewed, and it was interesting to inquire into the reason why they did avoid certain plants. The impulse of hunger might occasionally force them to make experiments on the plants they usually avoided, but they either died as the result of the research and left their shells as warnings, or they detected the taste in time and left the plant in disgust. This was such a problem that a true German would attempt—to find out what was the favourite menu of the snails, and make a theory of it.

Professor Stahl had found out 15 different ways in which plants were abhorrent to snails, and were thereby protected. Some plants were too sour, others were poisonous, some were full of ferments, and on others there were hairs that pricked the soles of the snails' feet (laughter). This research of Professor Stahl was very valuable, but he (the lecturer) joined issue with him when he said the snails were responsible for the sourness of certain plants. He maintained that the acids and the ferments which were found in the plants were constitutionally part and parcel of the plants. Dealing next with bacteria, he said that this completed the circle between animal and plant life—the plant fed on the inorganic, the animal fed on the plant, the animal died, and bacteria reduced that animal's corpse to pure elements. That was one of the most fundamental and important parts played by bacteria in the drama of Nature.

GARDENING MISCELLANY.

FREESIAS AND WHITE ITALIAN HYACINTHS.

FREESIAS are so often shown in an emaciated, sickly condition on the conservatory stage, that they are not so much grown as they might and ought to be. When they are well done they repay the grower twice over. About the best I have ever seen were a batch I came across the other day at Bystock, near Exmouth, the seat of J. P. Bryce, Esq, where Mr. W. Swan now finds a field for his capabilities in some respects. Grown in 5-in. pots, with 8 to 10 bulbs in a pot, they were perfect pictures of successful cultivation. The foliage was vigorous, stiff, and of a good colour, and the trusses of bloom were numerous, full of pips from the middle to the end of the stalk, each pip large and well developed. I believe half the battle in growing Freesias to perfection is to plant them early. Keep them well drained that the bulbs may never rest in a saturated soil, and have the compost underneath richer in substance than the bed in which the bulbs sit. I was so struck with the evidence of skill in the cultivation that I forgot to ask Mr. Swan as to his treatment of them. Another thing he had in absolute perfection was a batch of white Italian Hyacinths. These are most valuable to succeed the Romans, as they come in a fortnight later at least. The trusses are stronger, the pips more plentiful, and altogether superior to the early white Roman. Many of the spikes had 16 and 18 pips on them, and bore themselves proudly. They were, indeed, the best I ever saw, and although this variety of the Hyacinth has merits that have for long been overlooked, the plants bore abundant evidence of skill in cultivation.—*A. H.*

THE CURRANT-BUD MITE.

THE following advice is given by the Board of Agriculture:—When Black Currant bushes are planted theyshould be carefullyexamined for Phytoptus Ribis. If there are any signs of unnaturally swollen buds the young bush should not be planted. In taking cuttings in the late autumn, those from infested bushes must be rejected absolutely. Infestation is easily seen then by the abnormal buds. Infested bushes should be cut very hard, and every particle of the cuttings carried away and burnt. In the spring the bushes should be syringed well all over with a solution composed of 1 ounce of paris green to from 11 to 12 gallons of water, with 2 ounces of fine wheat flour added, or 2 ounces of soft soap, to make the solution adhere better. The Eclair "Knapsack" pump may be employed for this, and it must be impressed upon the labourers to direct the spray over every part of the Currant bushes. Another solution for spraying, to be used in a similar manner, may be composed of 5 to 6 lbs. of soft soap, mixed with the extract of 8 or 9 lbs. of quassia chips, to 100 gallons of water; 3 quarts of carbolic acid might be substituted for the quassia. Spraying with these solutions should be repeated in the autumn before the weather becomes cold, and just after the leaves have fallen, if possible. This will economise liquid and labour, and will affect the mites before they get into the buds. Directly the leaves have fallen, it would be desirable to put hot lime round the stocks and dig it in at once, so as to bury the leaves with any mites that may be upon them, and thus prevent any chance of their getting up the stems. In very bad cases it would pay to cut the bushes close to the ground, and in the autumn and early spring to syringe the stocks with the paris green solution, or the carbolic acid solution. This would entail the less of one year's crop only.

DAVIDSONIA PRURIENS IN FRUIT.

THE value of this Australian plant is as an ornamental-leaved stove subject. The long, hairy pinnate leaves are imposing at all times of the year, but in particular in spring and the early part of summer, when the hairs covering the young and half-developed leaves are of a bright, velvety, crimson-red, reminding us of the fruit of Rhustyphina in September and October. Just when the leaves are half developed the red hairs are closely crowded together, and give that magnificent effect for which the leaves are notable when making their growth. Flowers have frequently been produced in the stove and Palm house at Kew, but fruits are seldom produced. At present, however, a fruit may be seen in

the Palm house, about the size of a Plum and as hairy as a Peach. In other words the hirsute character of the plant, and which suggested the specific name of the plant meaning stinging, is also extended to the fruit. The hairs on the latter even now have a purplish tinge, and in the earlier stages may be more pronounced.

THE SMALLEST EUCHARIS KNOWN.

ORIGINALLY sent out under the name of Calliphruria Hartwegiana, the species is still often grown under that name, but the technical distinctions are so slight that the genus might well have been named Eucharis Hartwegiana. Possibly, however, if this had been done it would have been necessary to include Plagiolirion, which includes only a single species, differing more from Eucharis proper than does Calliphruria. The filaments of C. Hartwegiana are three-toothed at the top, the middle tooth bearing the anther, but they are not sufficiently dilated at the base to unite in a cup. There is an intermediate in Eucharis subedentata which practically unites the two, so-called, genera. At all events if the plant under consideration is not a Eucharis, the distinctions are mainly artificial, especially when we consider the variability of the distinguishing feature of Eucharis. The flowers of the plant under notice are small and pure white with the exception of creamy anthers and a greenish base to the tube.

POINTS AND PRIZES.

THERE was much discussion some time ago in different gardening periodicals, as to the best mode of judging correctly, and whether by points or otherwise. If I may be allowed to give an opinion from thirty years experience, I am decidedly in favour of judging by points, and have invariably adopted that system whenever the exhibits have been pretty nearly equal. Beginning with vegetables, each article separately must be carefully considered, and the number of points noted down on the point card according to the merits of whatever it might be, say the maximum number to be twenty-five. For instance, suppose there are twelve collections competing, and there are five prizes given in schedule for a collection of eight kinds, 1st, 2nd, 3rd, 4th, and 5th, any practiced eye can see at a glance which are five of the best collections, and discard the seven of the worst, put them on one side, and consider the five best. In order to simplify this mode of procedure, I enclose a correct copy of the vegetable point paper used by the judges of the Huddersfield Horticultural Society, so long since as the year 1865, when on that occasion I was an exhibitor, and have a very lively recollection of each of the different exhibits. You will see that judging by points is no new idea, but perhaps at the present time there may be a better system than I have endeavoured to explain. If so, I have not been so fortunate as to become acquainted with it. Some judges prefer the number of collections competing to form the maximum number of points, viz.: twelve points for the best of each article, if there are twelve competitors, but I don't see that it can make much difference, if they come down in gradual proportion as the varieties become less meritorious.—*George D. Smith, Ashton-on-Mersey.*—[Most careful judges more or less adopt the system of judging by points, but the value of the prizes, after the first has been awarded, does not always accord with the number of points gained, and the "point" we raised on p. 369, was the more equal distribution of prize money according to actual merit.—ED.]

ORCHID NOTES AND GLEANINGS.

Orchids from Forgandenny.

AN interesting lot of Orchids has been sent us by Mr. D Nicoll, gardener to J. W. Bell, Esq., Rossie House, Forgandenny. A fine truss of Cattleya guttata amethystoglossa bore five flowers of great size, fine colour and great substance. The yellowish-white hue which suffuses the typical form had disappeared, and the sepals and petals were of a uniform soft rose-purple, with exception of the usual amethyst-purple spots. The apex of the side lobes of the lip, and the lamina were of a rich amethyst-purple, the latter being strongly corrugated. A plant which Mr. Nicoll obtained for C. Trianæ alba turns out to be C. T. delicata, with delicate blush pink sepals and petals, with a darker or delicate rosy lip. Lælia anceps was in good form, the lip being very rich in colour, particularly the terminal lobe. What was obtained for Lælia anceps alba turns out to be something very closely identified with L. a. Williamsii, inasmuch as the sepals and petals, as well as the terminal lobe of the lip are pure white. The interior of the side lobes is beautifully striped with purple, and the usual yellow disc remains. Now in the true L. a. alba the only colour to be noted is the yellow disc, all the rest being white. As it is, however, the variety is a very choice one, for the petals are almost; if not quite as broad as those of L. a. Dawsoni. The colour of the terminal lobe of the latter is absent in this case, so that we must fall back upon L. a. Williamsii and L. a. Sanderiana as the nearest allies, but particularly the former. Dendrobium Crassinode in good form, with all the segments tipped with rich mauve-purple accompanied the above.

A double Odontoglossum Pescatorei.

THERE are two ways by which Orchids may become double, namely, by the union of two flowers or by the separation of some of the numerous portions that are supposed to be united in that composite organ the column. The flower we are about to describe owes its doubling partly to both methods, but chiefly to the perfect union of two flowers. The double bloom, if we may so term it, was sent us by Mr. Henry Clarke, gardener to J. Donald, Esq., Anerley Park, Anerley. Two flowers had been completely united together, and such being the case we should have expected to find twelve segments; and such was the case, all being perfect; but in addition there was an imperfect or malformed segment from the back of the two columns which were rather bulky and prominent in the centre of the flower. Of the twelve perfect segments, four were in the form of sepals, but the transition to petals was very slight. There were six of the latter, and one of them partook of the character of a lip, and had the characteristic crests of the latter along one side. There were two perfect lips with the crests of the ordinary O. Pescatorei. Altogether the bloom was one of the best double forms we have seen.

Cattleya Trianæ alba.

A PLANT with forty-nine bulbs and nine leads has just flowered for the first time in Messrs. Pitcher & Manda's nursery at Short Hills. Its flowers were 8 in. in diameter, and of the purest white with the exception of a slight orange marking in the throat of the labellum. It is a decided acquisition.—*Am. Cor.*

THE undermentioned Orchids received awards according to their merit at the meeting of the Royal Horticultural Society on the 14th inst.:—

Cypripedium Winnianum.

HERE again we have a hybrid, raised in this case from Cypripedium villosum crossed with the pollen of C. Druryi, the progeny being intermediate between the parents. The upper sepal shows the influence of C. Druryi in its dark brown midrib, a paler brown shading on each side of this, merging into yellow and margined with white. The upper, longitudinal half of each petal is of a deep shining brown as if varnished, and the corresponding, lower half is of a much paler brown, with a dark midrib dividing the two shades of colour. The waxy looking lip is yellow slightly suffused with pale brown. The shield or staminode in the centre is pale yellow with a deep yellow tubercle in the centre. The leaves are strap-shaped, green and vigorous, as the whole plant appears to be. An Award of Merit was accorded it when exhibited by Messrs. J. Veitch & Sons, Chelsea.

Phalænopsis Schilleriana vestalis.

ONLY two specimens of this albino are known to exist. The first appeared in 1882, and was described by Professor Reichenbach. That one went to America, and since then only the present one has turned up in this country. The colour has so nearly disappeared from the flower that the variety might have been named P. S. alba. With exception of a few faint yellow spots on the contiguous sides of the lateral sepals and base of the lateral lobes of the lip and a pale yellow crest with a few pale purple specks upon it, the flower is otherwise pure white. The leaves are green on both surfaces, with exception of a few small grey spots above. Even the young tips of the roots are green instead of purple. Both plants were introduced by Messrs. Hugh Low & Co. Clapton, who were the exhibitors in this case, and received a First-class Certificate for the variety.

Cattleya Trianæ Hillingdon var.

THE more striking and characteristic features of this Cattleya, are the breadth and substance of the petals as well as the rich colour of the widely expanded lamina of the lip. The sepals are of a pale lilac as are the petals, but the latter are roundly ovate, much undulate or wavy at the margins and telling in effect. The lip is large even for C. Trianæ, with an orbicular, bifid, lamina much undulate, crisped and even incised at the margin and of a rich purple with a lilac margin and a large orange blotch in the throat. An Award of Merit was accorded it when shown by Wm. Whiteley, Esq., Hillingdon Uxbridge.

Cattleya Trianæ Florence le Doux.

THE sepals and ovate, crisped petals of this variety are of the palest blush. The lip has a long, narrow tube, and intensely rich purple lamina and a large golden yellow blotch in the throat. Award of Merit.

Odontoglossum cirrhosum le Doux var.

AN important feature of this plant is the vigour of the plant and the great number of flowers borne by the branching panicle. The sepals and petals are richly spotted with crimson on a white ground. The lip has a large yellow disc, and the side lobes are prominently striated with crimson. An Award of Merit was accorded the variety.

Mesospinidium vulcanicum grandiflorum.

THE species of Mesospinidium are now included under Cochlioda by the leading botanists, but horticulturists still cling to Mesospinidium. The affinities of the plants are with Odontoglossum, of which they have the habit, but are altogether neat and pretty. The variety under notice is the largest and boldest of any belonging to the genus. It is a native of the Andes of Eastern Peru, and has large flowers of a deep rosy red with the base of the lip and the column of a beautiful rosy lilac. It is easily cultivated in a comparatively cool house. An Award of Merit was accorded it when exhibited by S. le Doux, Esq., East Molesey, who was also the exhibitor of the previous two Orchids bearing the name of Le Doux.

Cypripedium conco-Lawre.

THE name given to this hybrid may be somewhat puzzling to the uninitiated at first sight; but it may here be stated that it was derived from C. concolor and C. Lawrenceanum, the former being the seed parent. The name is therefore compounded from the first half of each of the specific names of the parents. The oblong leaves are greyish-green, marbled and tesselated with a darker green, and therefore partake of the fine appearance of those of C. Lawrenceanum. The upper sepal is roundish and suffused with rose, and having darker veins on a white ground. The oblong petals are similarly coloured, but the veins are not so dark, and there is a pale band along the centre; the veins are, however, more or less speckled with crimson. The lip is cream-coloured and heavily suffused with rosy purple in front and along the sides of the claw. The scape of the plant exhibited was about 6 in. long and bore two flowers. An Award of Merit was accorded it when exhibited by Sir Trevor Lawrence, Bart., M.P. (grower, Mr. W. White), Burford Lodge, Dorking.

Eria barbata.

THE specific name of this curious species applies to the pedicels of the flowers, which are bearded along the upper side with deep brown or black hairs. The lateral sepals are reflexed and falcate, the upper one incurved, all lined with dull purple and black on the back and netted with yellow lines and spots on the face. The reflexed petals are linear and dull brownish purple with white tips. The hinged lip is revolute, and dull purple with a golden edge and yellow markings.

Gardeners' Improvement Associations.

BIRMINGHAM.—Stove and greenhouse climbers formed the subject of an excellent paper by Mr. W. B. Latham, Curator of the Birmingham Botanical Gardens, at the last meeting of this Association. The leading kinds most suitable were described, and amongst them for stove culture, the Dipladenias, especially boliviensis, splendens, amena, and Brierleyana. Combretum purpureum, Hexacentris mysorensis, Gloriosa superba, Stigmatophyllum ciliatum, Ipomæa Learii and others. Thunbergia

grandiflora, Solanum Wendlandii, a beautiful climber with large, lilac-blue flowers, Mucuna imbricata, Aristolochia elegans aud other kinds. For greenhouse work, tbe Lapagerias, Tacsonia Van Volxemii and others; Chorizemas, Clianthus puniceus and p. Magnificus, C. Dampierii; some of the Cantuas, Cobeas, Plumbago capensis, Solanum jasminoides, Mandevilla suaveolens, Sollya pinnata, and S. heterophylla, Clematis indivisa lobata, and many others were named, and brief cultural instructions given as to each. Many of our less known but beautiful trailing plants are not seen so much as they should be for indoor work. Such as the Chorozemas, Hardenbergias, Sollyas, Kennedyas, Cantuas, are seldom seen now-a-days. One of the members present spoke of his having grown the gorgeous Cliantbus Dampieri very successfully when grafted on to Cliantbus puniceus.—*W. D.*

Kingston and Surbiton.—Our gardener friends at Kingston have further promoted the organisation of their new association by passing an excellent code of rules and electing a treasurer, secretary, and committee. They have deferred the election of a president and vice-presidents until the next meeting at St. Jame's Hall, Kingston, on March 2nd. Mr. A. Dean, of the Richmond Road, is treasurer; and Mr. Yeabsley, gardener to Mrs. Bryant, Surbiton Hall, secretary. The committee are Messrs. Cusbon, Norbiton Hall Gardens; Watson, Southborough Park; Henbest, Anglesea House Gardens; Martin, Maple Lodge Gardens; Tible, Benson, Christmas, Marlowe, Hughes, Hawkes, Woods, and Peel, all local gardeners. The subscription for ordinary members, all of whom must be professionally associated with gardening, will be 2s. 6d. per annum; and for honorary members, 5s. and upwards.

Ealing.—At a recent meeting of this Association the senior members discussed the question "Have gardeners progressed during the past fifty years?" which was introduced by Mr. C. B. Green. Tbe speakers were Messrs. Fountain, Weedon, Simpson, Jones, and Cooper, and in reply Mr. Green said be did not presume to know very much about the matter; hence he had adopted the "socratic" method to elicit the truth. His own mind would not carry him back beyond twenty years—prior to that time he could not distinguish between Geranium and Pelargonium. But in the course of his enquiries he had ascertained that there was a good deal of difference of opinion. It would not, however, do to dogmatise; there were undoubtedly giants in those days, but were there not many more giants in these? Gardening of the past was more in the nature of a guild, or secret society, and the professors who had acquired the art of particular cultivation took good care to keep it to themselves. All this was changed througb the agency of the Press, and such institutions as these, wbicb gave a stimulous to enquiry and research, that the modern gardener was necessarily an abler and better man. Referring to the various points which bad been raised Mr. Green sbowed that nothing detrimental to the progress of gardening and gardeners had been made out; but, on the contrary, the cast-iron rules of fifty years ago had been superseded by the more intelligent processes of the present day.

The Chairman gave a *résumé* of the discussion and insisted that the position of gardeners, as a class at tbe present time, was infinitely superior, in point of knowledge and ability, to those who had gone before, inasmucb as many of the old gardeners could neither read nor write. Tbeory and practice had gone hand in hand; the science of gardening had wonderfully developed; appliances had increased; and the mere fact that gardeners could meet together and discuss these questions with such ability, was evidence in itself of progress, for he felt quite sure that tbis would have been impossible fifty years ago.

Edinburgh.—On the 15th inst. Mr. Barron, of Chiswick, lectured to tbe members of the Scottish Horticultural Association on hardy fruits. Mr. Dunn, Dalkeith, occupied the chair, and there was a large attendance. During the last ten years, said Mr. Barron, a great amount of interest had been aroused in tbis country in fruit growing. Various societies had been formed with that object, and if any dearth of literature on tbe subject existed prior to the date mentioned, it had been made up for since. Among this literature he mentioned "British Apples," now in its second edition, as well as some works by Mr. Dunn and others. He was in favour of horticulture being taught in schools; it would be of far more use to many in their later years than the Greek or Latin they were at present being taught. Mr. Barron then proceeded to speak of various fruits; their pruning and training, planting and selection of soil, etc. Speaking first of Apples, he said there was a certain influence of scion over stock. The objects in pruning and training were two-fold—the obtaining of form and symmetry, and the production of fruit, and he admitted he longed to see trees well trained. In gardens they should always be a feature; for any fruit tree might be made very ornamental as well as useful. One of the leading principles in this training should be to keep the branches and shoots well apart, so that every part of the tree might be well kept open to light and air. They heard a good deal now-a-days about the neglected state of their orchards, which used to be the glory of the country. What, be asked, was the cure for that? Prune, said Mr. Barron. He next referred to planting and selection of soil for Apple trees, and afterwards spoke on Pears, their growing, gathering, and ripening; and Strawberries, Raspberries, and Gooseberries. Mr. Barron was awarded a vote of thanks for his paper.

WHAT TO DO IN THE GARDEN.

Gardenias.—The main batch of cuttings of Gardenias may now be taken off and rooted, to succeed those that were put in to root some time ago. Now that the days are longer and the ligbt better the cuttings will root with more certainty than in December last or even in January.

Cyanophyllum magnificum.—Those who have an old plant of this, and which has been cut down, will be throwing out side shoots of moderate size. They make the best cuttings to use, and if employed now they get rooted before the sun gets too strong for them. The young plants are better able to withstand a high temperature if tbey have previously been rooted and established in pots.

Variegated Pineapple.—Cuttings, or rather the suckers, should be taken off from the old plants and rooted forthwith to supply the requirements of decorative purposes during tbe summer and autumn. Offsets from the crown of the fruit give the slowest growing, neatest and most useful plants, but they may not be available at this time of tbe year. Suckers, however, root freely, and when well established should be kept near the glass, a very good plan being to suspend them in pots from the roof of the house. The leaves assume their best colour wben so treated, and become more or less tinted with pink at the margins.

Selaginellas.—The softer stemmed and quick-growing kinds can only be kept in good condition and suitable for decorative purposes by frequent propagation. The present is therefore a suitable time for putting in a quantity sufficient to meet the requirements till the end of summer at least. This, of course, would include S. Kraussiana and its variegated and golden forms as well as S. reptans, S. suberosa, S. apus, S. Mertensii, and its numerous forms, green and variegated.

Crotons.—If specimen plants of these are desired, branches or shoots with several breaks or leaders may be selected. They are easily rooted and will be equal to cuttings of single shoots that have been established for some time. Single shoots witb good crowns of leaves will, however, be most suitable for dinner table decorations; and the best variegated shoots should be selected in preference to those that have partly reverted to green. Keep them close and moist till rooted.

Heaths.—Plants of Erica gracilis, E. Caffra, E. melantbera, and E. hyemalis, that have finished flowering should be cut back before they commence to grow again. They may be kept moderately warm till they begin to shoot out again, when they sbould be repotted if necessary. Use good, fibrous peat, and pot very firmly. Keep rather close and moist by syringing till they have well started into growth.

Dahlias.—Cuttings may be taken of those varieties the roots of which were put into heat early in order to get up a supply of rare kinds, as well as those there was a danger of losing. Place each cutting singly into a thumb pot and plunge the latter in the coconut fibre of a propagating frame, where they will soon root. Seeds may also be sown now by those who desire to raise plants in this way. As soon as the seedlings have made a rough leaf or two they should be potted off singly.

Peaches.—The principal work in the earliest house at present will be disbudding where necessary and tying in of the shoots intended for next year's fruiting. Thin out the weakest and most useless fruits to ease the trees somewhat of their load, but reserve the final and proper thinning till after the stoning period. Keep the trees well syringed to check the spread of red spider, particularly where the trees are near the hot-water pipes. A considerable amount of water will now be required at the roots, and care should be taken that the borders do not get dry.

Vegetable Seed Sowing.—Take the first favourable opportunity of sowing the Onions and Leeks if that has not already been accomplished. Parsnips must also be sown at once, particularly if they are intended for exhibition. A sowing of the Brassica tribe such as Broccoli, Brussels Sprouts, Cabbages and Cauliflowers, sbould be sown the first week in March. Early Milan, or some other of the strap-leaved kinds of Turnip sbould also be sown for an early supply.

Planting Vegetables, &c.—The plantations of Cabbages that were made in the autumn have been sorely thinned out in many districts, particularly in the neighbourhood of towns. The blanks must now be made good from the beds of reserve plants. Lettuces have fared even worse. In many places it may be necessary to depend upon plants raised in heated frames for the first supply. Autumn sown Onions where they have been lifted out on the soil, should be pressed in again with the fingers. Prepare the ground for Cauliflower.

Melons.—Preparations should be made at an early date for planting out the earliest batcb of Melons. If they have progressed favourably the plants will now be gaining strength and ready for planting out. The bed should be made up and the soil placed over the manure filling the bed, and all should occupy their places sufficiently long to get heated up to the proper temperature of the house, so that no check may be given to the tender roots and foliage when the transplantation is made.

Cucumbers.—Be careful to avoid overcropping at all times, and the plants that have been battling with bad light and weakening atmospberic influences will soon begin to pick up now with the increased temperature and more intensified light. A fresh layer of fermenting dung and leaves laid on the surface of the bed will greatly increase root action, and give good results in due time. The first batch of seedlings will come in to take their place later on; but in the meantime the supply must be obtained from the old plants.

QUESTIONS AND ANSWERS.

*** *Correspondents are requested, in order to avoid delay, to address all communications to* "THE EDITOR" *or* "THE PUBLISHER," *and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa, London."*

BOOKS ON HORTICULTURE.—*American*: We are afraid that you cannot get a book dealing with the particular subject or branch of the subject which you require. The following treat of the improvement of plants and their fertilisation in a general way:—Cultivated Plants; Tbeir Propagation and Improvement, by F. W. Burbidge. Published by W. Blackwood & Sons, London and Edinburgh, price 12s. 6d. Epitome of Gardening, by M. T. Masters and T. Moore. Black & Son, Glasgow, price 6s. 6d. The Various Contrivances by which Orchids are Fertilised by Insects, by Charles Darwin. Published by John Murray, Albermarle Street, price 9s. The Effects of Cross and Self-fertilisation in the Vegetable Kingdom, by the same author and publisher as the last, price 12s. The first named would be the most generally useful to you.

ODONTOGLOSSUMS TO NAME.—*Thos. Campbell*: Tbe forms of Odontoglossum crispum are so numerous, and so many of them have been named, that it is difficult to identify the intermediate forms. The raceme of bloom you sent does not agree witb O. c. guttatum, as may be seen by reference to tbe *Orchid Album, II., t.* 94. There is only one spot on the centre of each petal, according to the plate in question, but we have seen forms of O. c. guttatum vastly different from that. We do not deny that your variety has a considerable affinity with it. You might also compare O. c. Reginæ, in the *Orchid Album VI., t.* 264. The size of the spots in this case more nearly approaches that in your variety, but the markings round tbe margin of the lip do not coincide. See also O. c. Cooksonii, *Orchid Album III., t.* 118, and O. c. Stevensii, *Orchid Album, III., t.* 127.

The last two varieties it must be admitted are still farther removed from your form, which comes nearest the two previously mentioned, and yet does not agree with them. Seeing that this is the case we would suggest that you call it O. c. New-miln's var., or O. c. Campbell's var. As far as we can see, you would be justified in doing so. The other species you sent is Odontoglossum odoratum var. Horticulturists would put it in the O. gloriosum group, on account of the pale ground colour of the sepals and petals.

BORDER PINKS.—*M. M., Aberdeen*: Clove Pink, deep rose; Derby Day, deep pink; Early Blush, pink; Emerald, bright rose; and Lord Lyon, purplish crimson, would probably suit you. Some 20 years ago, in the cottage gardens of your own county, a full double pink coloured variety was largely grown without a name so far as our memory serves. That is the sort that would suit you if you can find it. Try the Buchan district.

TRADE CATALOGUES RECEIVED.

PITCHER & MANDA, Hextable, Swanley, Kent.—Selected Novelties of Chrysanthemums.

LITTLE & BALLANTYNE, Carlisle—Farm Seeds for 1893.

J. C. SCHMIDT, Hoflieferand, Erfurt, Germany.—Farm Seeds.

GEORGE STEEL, Heatherslaw, Cornhill-on-Tweed.—List of Miniature Violas.

LONDON SEED TRADE.

February 20th.

MESSRS. HURST & SON, of 152, Houndsditch, and 39, Seed Market, Mark Lane, report a steady demand for agricultural seeds. American Red Clover realises higher prices. German Red steady. Alsike, White Clover, and Trefoil unchanged. Italian Rye-grass scarce and much dearer.

COVENT GARDEN MARKET.

February 22nd, 1893.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Grapes..... per lb.	2 0	3 6	Pine apples,		
Kent Cobs ...100 lb.			—St. Michael's, each	2 6	6 0
Peaches ... per dozen			Apples...per ½ sieve	1 0	3 6
Melons ... . each			Plums...per ½ sieve		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, French, perlb.	1 6		Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	1 0		Radishes... per dozen	1 6	
Cauliflowers, Eng.dz.	3 0	5 0	Seakale .....per bkt	2 0	3 0
Celery.....per bundle	2 6		Smallsalading,punnet	0 4	
Cucumbers .....each	0 9	1 3	Spinach ... per strike	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	1 6	2 0
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d
Azaleas... per doz.	24 0	42 0	Genesta .....per doz.	9 0	15 3
Cyclamen per doz ...	9 0	18 0	Hyacinths, doz. pots	8 0	12 0
Cyperus .....per doz.	4 0	12 0	Lily of theValley doz. pots	9 0	18 0
Cineraria ...per doz.	8 0	12 0	Marguerites, per doz.	6 0	12 0
Dracæna term., doz.	24 0	36 0	Palms in variety,each	2 6	10 0
Dracæna viridis,doz.	9 0	18 0	Palms, Specimen ...	15 0	63 0
Deutzia .....per doz.	9 0	12 0	Primula Sinensis per doz.	4 0	6 0
Erica Hyemalis, doz.	12 0	18 0	Solanums.....per doz.	9 0	12 0
Evergreens,invar.doz	6 0	24 0	Tulips—various— per doz. pots	8 0	12 0
Ferns, invar..per doz.	4 0	18 0			
Ferns, small, per 100	6 0	10 0			
Foliage Plants, doz.	12 0	60 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s d		s. d.	s. d
Anemones, doz. bnch	2 0	4 0	Mignonette... 12 bun.	2 0	4 0
Azalea, doz sprays.....	0 6	1 0	Narcisse, various, doz. bnchs	2 0	4 0
Arum Lilies, 12 blms.	2 0	4 0	Pelargoniums, 12 sps.	0 9	1 0
Bouvardias, per bun.	0 6	1 0	—scarlet.....12 bchs.	6 0	9 0
Carnations, 12 blooms	2 0	4 0	Primula, double, bun.	0 6	1 0
Chrysanthemum,dz bn	3 0	9 0	Primroses doz. bchs	1 0	3 0
Camellias doz blooms	1 0	3 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Cyclamen doz bloomso	4 0	6 0	Roses, yellow, dozen	3 0	6 0
Daffodils, var. dz. bch.	2 0	9 0	— French, per bnch	1 6	4 0
Eucharis ...per doz.	3 0	6 0	— French, 100 blms	6 0	12 0
Euphorbia Jackminafolia, doz. sprays	1 0	4 0	— Red..... doz. blms.	3 0	9 0
Gardenias 12 blooms	6 0	12 0	— Saffrano...per doz.	2 0	3 0
Heliotropes, 12 sprays	0 6	0 9	Snowdrops doz. bchs	1 0	2 0
Hyacinths doz. spikes	3 0	6 0	— Tea ..... per dozen	1 0	3 0
Hyacinths Roman doz. sprays	0 6	1 0	Tuberoses, per doz	1 0	1 6
Lilac, White, French, per bunch...	2 6	4 0	Tulips, red, per doz.	0 6	0 9
Lilium Harrisii, doz. blooms	6 0	9 0	— White, per doz. ...	1 6	2 6
Lilyo theValleydz.sps.	0 6	1 6	— Yellow, per doz....	1 0	2 0
MaidenhairFern,12bs.	6 0	9 0	Violets,Parma,French per bunch ..	2 0	2 6
Marguerites, 12 bun.	4 0	6 6	—Czar, French, bun.	1 6	3 0
Mimosa (French)p.bh.	1 0	1 6	Small „ doz. bun.	1 6	2 0

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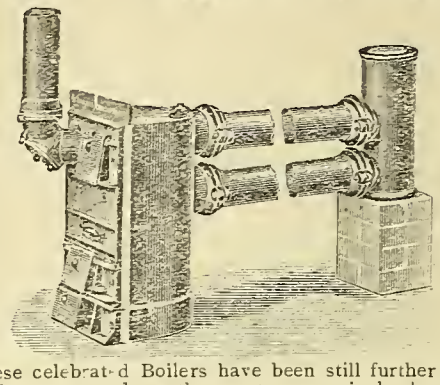

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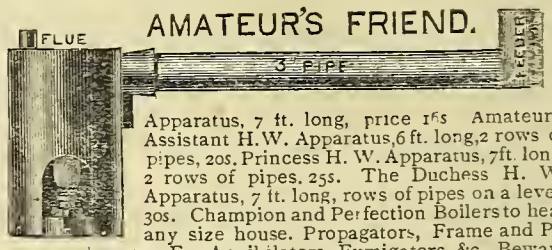

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, March 6th.—National Chrysanthemum Society: Meeting of General Committee at 7.30 p.m.
Sale of Hardy Plants at Protheroe & Morris' Rooms.
TUESDAY, March 7th.—Sale of Orchids and Japanese Lilies, at Protheroe & Morris' Rooms.
WEDNESDAY, March 8th.—Sale of Lily Bulbs, at Protheroe & Morris' Rooms.
THURSDAY, March 9th.—Sale of Hardy Plants, at Protheroe & Morris' Rooms.
FRIDAY, March 10th.—Sale of Orchids, at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, MARCH 4th, 1893.

THE ENGLISH SHOW PANSY.—In days long gone by, when the fine English Show Pansies were grown in pots for exhibition purposes, they were extremely interesting, and flowers of the finest quality were obtained from the plants grown in this way. It is now almost a lost art, and the Show Pansy is seen in smaller numbers at our exhibitions every year. In the days we refer to, there was a Pansy Show at Hammersmith, generally held early in June, or, if the season proved favourable, late in May, and the Pansies then were not made-up plants as we see them now, but honestly grown and very finely too. It was the practice in September to select strong and bushy plants from among the cuttings struck in the early part of the summer, and pot them in small 60 pots, giving them

a good compost to encourage them to make an abundance of roots and side shoots. The plants were wintered in these pots, and carefully looked after in the matter of watering and ventilation, and at the end of January or early in February they were transferred into their flowering pots, the 48 or 32 sized pots of those days.

The compost used at this final potting was good yellow loam, with plenty of well-decayed manure, leaf soil and sand. Into this the plants rooted freely; they were kept in cold frames, near to the glass, and well attended to in the matter of ventilation, watering and cleanliness. The plants were grown as hard as possible, and they were frequently turned round so as to keep them symmetrical in habit, and at all stages the closest attention was given them. In April, if extra fine blooms were wanted, some of the side shoots were taken out, which gave early cuttings, though this practice was not resorted to unless a few specially fine blooms were wanted for exhibition purposes. When the pots were filled with roots, some liquid manure was given twice a week, which brought large blooms, stout, and well and evenly belted all round the margin. It was not unusual in those days to have six and seven very fine blooms to a plant, and they made as much show—to say nothing about their superior quality—as a plant in the open ground bearing a dozen smaller blooms.

We should like to see this practice of growing Show Pansies in pots revived. They might be grown to a high state of perfection about the time of the exhibition of the Royal Horticultural Society in the Temple Gardens. If the newly-formed London Pansy Society becomes a permanent institution, as we sincerely hope it will, then we should like to see classes instituted for Pansies in pots. All that is required by an amateur is a small cold frame in which to grow a couple of dozen plants or so. The flowers of the Pansy are not so quickly affected by the cold as the pips of an Auricula, and anything in the shape of artificial heat is not required. As fine flowers could be produced with good cultivation in the suburbs of London now as in the days long ago, if only the attempt were made by a few earnest floral enthusiasts. Who will give a lead?

The Earl's Court Shows.—The announcement made in our advertising columns last week with respect to the arrangements decided upon for carrying out a new series of Exhibitions at Earl's Court during the present year will have been read with much interest. We more than once last year expressed a strong hope that the delightful series of shows then held would not entirely fall through, as they had become so highly favoured by the public and by gardeners. That hope seems likely to be satisfied, even to excess, should the proposal to hold fortnightly shows during the summer season be carried out.

The idea is distinctly an ambitious one, and seems to be aiming at too much. Still in the absence of fuller information we offer no objection, provided the promoters of the series, who we note are very much the same as last year, and carried out the shows there with such marked success, are themselves assured that twice monthly will not be too frequent. It may be that it is desired to make the exhibition element a much stronger feature than it was last year. It remains to be seen whether many small shows will prove as successful as a fewer number of greater ones. The year's exhibition, as will be seen by the prospectus, is ostensibly devoted to Forestry in addition to gardening. How far it may be possible to illustrate that branch of horticulture remains to be seen. We may have examples in abundance of every description of timber producing tree in the young state, and also of wood after the trees have been felled and prepared, but of course we cannot have real forests or woods, although art may perhaps do much in the way of illustrating forest scenery. Still that all will be done that is possible to make the show a fine exposition of the branches of horticulture and arboriculture to which it is specially devoted, there can be no doubt. It is satisfactory to learn that the oddly-shaped open piece of ground at Earl's Court will not only be preserved as such, but may also become during the coming summer one of the most delightful resorts in the Metropolis.

The Eye Flower Show is announced to be held on July 18th.

The Bilston Horticultural Society's Summer Show will be held on August 16th and 17th.

Mr. W. Wilson lately gardener at Kingsknowes, Galashiels, has been engaged as gardener at Loretto, Musselburgh.

The York Gala Schedule just to hand, contains, as usual, an admirable array of prizes, including numerous "specials." The groups again take the lead in value, and in the leading class some £58 are offered in five prizes. Other notable premier awards are £20 for ten flowering and six ornamental foliaged stove or greenhouse plants; £10 for ten Orchids in bloom; £12 for a dozen show Pelargoniums; £8 for seventy-two Roses, cut blooms; and £10 for a collection of fruit in ten distinct varieties.

The Annual Dinner of the Fruit and Potato Salesmen and Growers attending Covent Garden, the Borough, Spitalfields, Stratford, Farringdon, King's Cross, and St. Pancras Markets, at the Holborn Restaurant, on March 22nd, is to be, at the desire of the trade, the inaugural dinner of the London Wholesale Fruit and Potato Trades and Growers' Benevolent Society. The Right Hon. the Lord Mayor has consented to take the chair at the request of a powerful committee representing all the markets in London and every branch of the trade.

National Auricula and Primula Society (Southern Section).—The annual report of this society shows a slight deficit. The report includes a selected list of Auriculas, the varieties obtaining the greatest number of votes in each class being:—Green-edged, Rev. F. D. Horner; grey-edged, George Lightbody; white-edged, Conservative; self, Heroine; and alpine, Edith. The annual show will take place at the Drill Hall on April 25th.

National Carnation and Picotee Society.—The annual report of the committee of the southern section of this society has just been issued and the accounts show a balance in hand of £65 10s. The report also includes selections of varieties in all the classes of Carnations and Picotees compiled from lists sent in by some sixteen growers. The variety in each section which obtained the greatest number of votes is as follows:—Carnations: scarlet bizarre, Robert Lord; crimson bizarre, Rifleman; pink and purple bizarre, Sarah Payne; purple flake, James Douglas; scarlet flake, Sportsman; rose flake, Thalia; self, Germania. Picotees: heavy-red edged, Dr. Epps; light-red edged, Mrs. Gorton; heavy purple, Mrs. Chancellor; light purple, Clara Penson; heavy rose, Mrs. Payne; light rose or scarlet, Favourite; yellow ground, Annie Douglas. The annual exhibition will take place at the Drill Hall, on July 25th.

The Manchester Orchid Show.—The schedule of prizes for this exhibition, to take place at Old Trafford, from May 19th to the 25th, has just been issued. The classes number twenty in all, and the leading premiums are £30 and £20 for the best amateur's collection of Orchids in bloom; a silver cup, value 20 guineas, for the best amateur's collection of thirty Orchids; £20, £15 and £10, for the best trade collection of Orchids; silver cups, value ten guineas each, for the best collections of Cypripediums, Cattleyas, Odontoglossums, Dendrobiums, and ten specimen Orchids in bloom; a fifteen-guinea cup for the best new Orchid introduced since 1887 by Messrs. F. Sander & Co.; Veitch memorial medals and £5 with each for the best hybrid Orchids in commerce and not in commerce; a Williams memorial medal and £5 for the best *bond fide* specimen Orchid; a ten guinea cup for the best collection of hardy herbaceous and alpine plants; and £25 for the best group of miscellaneous plants arranged for effect.

Double-flowered Papaver umbrosum.—The typical form of this Poppy is merely a well marked and distinct variety of the Common Corn Poppy (P. Rhæas) collected in the Caucasus and introduced in 1877. Since then it has been more or less extensively cultivated in this country. Already a double form of it has made its appearance at Verrieres in France, and has been put into commerce by Messrs. Vilmorin Andrieux & Co. The type has a large, black, eye-like blotch at the base of each petal. In the double variety the stamens have almost disappeared, and have given place to petals disposed in a mass similar to what occurs in certain Carnations. The first plate for the year in the *Revue Horticole*, is a representation of this new double Poppy.

Lee, Blackheath, and Lewisham Horticultural Society.—The usual monthly meeting was held on the 24th ult., at the Institute, Old Road, Lee, when Mr. H. J. Jones, the well-known Chrysanthemum grower of Ryecroft Nurseries, Lewisham, gave a paper on "Chrysanthemums and their Culture." The room was crowded to excess by an enthusiastic audience, and the lecturer was listened to with marked attention, but owing to the able and practical way in which Mr. Jones treated his subject, very little room was left for discussion. It is to be hoped that Mr. John Laing, of Forest Hill, will have an equally enthusiastic audience on the 24th of March, when he will read a paper on Begonias.

Double Ragged Robin.—A double form of this wild plant is now under cultivation, and a figure of it is given in the *Bullettino della R. Societa Toscana di Orticultura* for January. The name adopted for it requires forty letters of the alphabet, and the name of the authority swells the number to fifty, thus—Lychnis Flos-cuculi plenissima semperflorens, Adolph Muss. According to the *Bullettino* above cited, the plant is very useful for forcing, and it would be difficult to find another plant uniting within itself so many good qualities. It forms a tuft 16 in. to 18 in. high, is hardy, grows rapidly, and the flower buds succeed each other continually from spring till the first frosts in autumn. The flowers consist of finely fringed and very numerous petals resembling a pin-cushion and of a rose colour. They last a long time in water. The figure shows a plant of very graceful habit, grown in a pot and laden with bloom.

Royal Gardeners' Orphan Fund.—At the meeting of the Committee on the 24th ult., Mr. William Marshall was again unanimously re-elected chairman. The committee received with great gratification a communication from the Home Secretary announcing Her Majesty's command that in future the institution should be known as the Royal Gardeners' Orphan Fund, and requested the Honorary Secretary to express their dutiful thanks to Her Majesty for this signal mark of her Royal favour, and also to their President, Sir Julian Goldsmid, Bart., M.P., for his kind offices in the matter. The Hon. Secretary also announced the receipt of ten guineas from Sir Edwin Saunders; two guineas from "A Friend, Edinburgh"; and 9s. from Mr. Kneller, Malshanger Park, the contents of a collecting box. The remainder of the business was confined to making arrangements for the annual dinner on March 22nd.

The Royal Horticultural Society of Southampton.—At the annual meeting of this society held on Monday last, the council had the gratification of presenting a much more favourable report than usual, as, notwithstanding some adversities, it was enabled to report that the outstanding liabilities on the ordinary account, amounting to £240 at the end of 1891, had been reduced to £72. The Society is at last beginning to reap the benefit of the outlay made from time to time at Westwood Park, and if the inhabitants of the town would only accord to such a useful and popular institution a larger measure of pecuniary support the society would soon be in a flourishing condition. It is not proposed to hold the usual spring show on Whit-Monday this year, but the great summer show will be held as usual on the August Bank Holiday and the Saturday preceding it.

ON KITCHEN GARDENING.

Mr. William Andrews, gardener to Mrs. Biddell, Duryard, read an admirable paper on this subject at the last meeting of the Devon and Exeter Gardeners' Association.

Mr. Andrews opened his subject with a warning to the young men just launching into the gardening world against the neglect of out-of-door work. There was an idea with many, he said, that that class of work could always be picked up. It had often been said that the reason such clever gardeners came from Scotland was that the first few years they were kept at outside work, obtaining thereby a thorough and a practical knowledge of general routine. Undoubtedly there were as clever gardeners and as practical men in Devon and the West as in any part of the kingdom. But, like himself, they did not seem to have the ambition to move abroad, and a man seldom received honour in his own country. Young gardeners more particularly would do well to move into other counties in order to learn different methods and different treatments. After offering a number of hints as to what a gardener should do on taking employment, Mr. Andrews advised his hearers to have vegetables, especially roots, of a nice size, not large and coarse. In Cauliflowers, for instance, instead of growing one as big as a peck measure, to be cut into two or three parts before being cooked, the gardener should have two nice sized ones with the inner leaves just folding back from the flower. Brussels Sprouts should be not larger than Walnuts, but solid, not loose. Carrots should not look in size like Mangel-worzels, and Potatos should neither be black at one end, nor close and waxy, nor of such size as to be hollow in the centre. It was the medium-sized and well-grown vegetable that gave most satisfaction to employer and employed.

Mr. Andrews proceeded to protest with vigour against the tendency of showing gigantic specimens at horticultural shows. The gardeners grew few such for a special purpose to the neglect of the rest. For instance, he would rear a few Celery in pots, his Beetroots would be covered with a frame or grown in pots. For his Parsnips he would make a few large holes, fill up with the best soil, and sow a few seeds. When such plans were adopted the rest of the batch had often to take its chance, and was not fit to be seen. Still if the gardener wished to be a prize-winner, he must do this sort of thing as long as huge specimens were the rage, and size was put before quality. What he, the speaker, would like to see was the adoption by committees of agricultural societies of a code of rules for their judges to work by, laying it down that quality and usefulness should rank first. He knew it was a difficult task, but if it was taken up by the Royal, or some such society, it might be done. One thing more particularly he desired was to see prizes offered for the best cultivated and cropped garden, somewhat on the same lines as the cups offered by agricultural societies for the best cultivated farms, and no doubt it was a thing that would come in time. Turning to the more practical aspect of kitchen gardening, the main portion of the work was the digging, which had not the care bestowed upon it that it deserved. As soon as a crop had been done with, the remains, with all weeds and rubbish, should be cleared off, and the manure wheeled on, the richer the better.

As a method of preparing the ground, Mr. Andrews strongly recommended, that was if the gardener had time, trenching, or bastard-trenching as it was more generally called. Having explained this system in detail, he said that where the time could not be afforded, rough digging must be resorted to. He always preferred to keep manure well down, because it caused roots to search downwards for nourishment, and because the tender roots coming in direct contact with manure in too rank a condition often rotted at the tips, thus stagnating the growth of the plant. As an excellent substitute for artificial manure for a top-dressing he recommended thoroughly decomposed night-soil. What he accumulated of that with fowl droppings, etc., he generally made about a ton a year of, and it was a great deal safer than artificial manure. The ground should always be given a few days rest, exposure to the air sweetening the soil. The season of work had come round again. Presuming all spare ground had been dug, he advised them not to be led away by a fine morning and sow a lot of seed until the ground was in a thorough condition. Speaking especially of soil such as he had to do with, inclined to clay with a marly clay sub-soil, it would be preferable to have it rather dry than otherwise, as there was plenty of moisture beneath. In sowing seed, if the ground was very dry, he gave his drills a thorough soaking, letting them stand a few hours, and then sowed. Everything should be sowed in drills. This plan he had found particularly useful for Peas, far preferable to the practice of soaking them over night in water.

In the purchase of seeds Mr. Andrews advised his hearers to go to a reliable firm, and to get the best. Speaking of Peas, he liked to sow first about the end of January two rows, each four lineal yards long. The sticks intended for them were placed between the drills as soon as the plants began to come up, as that served to help to keep back the March winds. A row of William I. was often sown at the same time, and another row in about ten days. He generally followed with McLean's Advancer, and after that Gold-finder, a Pea which was not to be beaten for every good quality. For a late Pea nothing was better than Walker's Perpetual Bearer. The gardening papers, added Mr. Andrews in a note, were speaking very highly of a Pea which originated in the neighbourhood, the Exonian. Cabbage was another important vegetable, the first sowing being in the last week of July, of Ellam's Dwarf. Having well manured a piece of ground after late Potatos they were put out in the middle of September, and got well established before winter set in. The dwarf was set 18 inches by 15, and the ground cleared as soon as Cabbage was cut. For spring sowing, Earliest of All was chosen about the end of March, and was fit to cut about the end of August. There was one member of the family which was not grown as much as it deserved—the Portugal Cabbage. While the main stem could be cut and cooked as seakale, the remainder was a good Cabbage. The Cornish growers were trying Veitch's Earliest of All Cabbage this season for early cutting, and one had written to him that he hoped to cut in the middle of April from seed sown last September.

As Savoys, Cattell's Green Curled, and Gilbert's Universal were mentioned, and as to Brussels Sprouts—another grand vegetable if well-grown, he made the first sowing of Veitch's Exhibition, putting in a cold frame at the end of February. By taking off the heads before the spring, the frost, he said, was liable to get at the sprouts and destroy them. The Cauliflower and its sister, the Broccoli, it was possible to cut all the year round, particulary if the the winters were not too severe. For summer cutting he had been growing for the past four years Dean's Snowball, generally pricking them out on a spent Mushroom bed trodden firm. If mildew appeared, a little sulphur with silver sand was sprinkled amongst them. Having grown from time to time nearly all the popular varieties of Broccolies he found Knight's Protecting, Leamington, May Queen and Model were most to be depended on. He preferred to grow a small quantity of several varieties, as they were sure to vary by a few days in cutting, and if one sort failed another might stand. Passing on to Celery—both as a vegetable and winter salad of great importance — Mr. Andrews stated that the two best were Henderson's White Plume and Clayworth's Prize Pink. The latter was a strong grower, stout, long, with a grand nutty flavour, and neither course nor stringy. The seed was put in a slight hot bed in March, pricked off on a bed of leaves and dung carefully prepared, and finally, as the Peas came away, placed in two rows one foot apart. They should be watered freely and receive manure water occasionally, but artificial manures tended to make the stems hollow. In a note Mr. Andrews remarked that he had been sent a few plants of a new variety—Early Rose, which he believed had a grand future before it, being a fast grower, and of splendid flavour.

Speaking next of the Turnip, he said it was one of those vegetables which liked liberal treatment although not very particular as to situation. It was not advisable to grow many of them, as they got hard and stringy. His favourite was American Red Top Stone for early summer work, while for autumn and winter, Veitch's Red Top Garden Globe was the best — the queen, in fact, of all the whites. It was a great pity that the yellow Turnips were not grown and appreciated more. The colour, of course, was the objection, but the taste, flavour, solidity, and keeping qualities by far surpassed that of the whites. Beans were not to be lost sight of, being in some families in great demand. Broad Beans he sowed in a warm border in the first week in February, making a second sowing at the end of the month, and a third about the end of March. As to French Beans, a vegetable liked and appreciated by everyone, it was a wonder to him that the dwarf kinds were not oftener grown. Three or four sowings of dwarf Beans would give a constant supply of delicious food for four months in succession. He preferred Canadian Wonder for all the outdoor work. Scarlet Runners would, he supposed, be a stand-by for some time to come, but he was surprised that there were so many grown, particularly in small gardens and by amateurs, especially when the expense of sticks was considered. The only sort worth growing was Girtford Giant, which liked very liberal treatment.

For Onions he found that the best treatment was a well-manured piece of ground which had had a chance of rest with a sprinkling of stimulating manure at the beginning of March. The Leek was not grown and appreciated as it deserved, nor was proper care taken of it in its cultivation. They were a splendid vegetable when served as Seakale, and Mr. Jenkins, of Tenby, told them they were good

Dendrobium Owenianum (*see p.* 424).

for influenza. For early Carrots Nantes Scarlet Horn might be sown in February and in the beginning of March, followed in the middle of that month by Veitch's Model in a warm border. As to Potatos, the most important of all vegetables, Mr. Andrews contented himself with the mention of the three best varieties, in his opinion—Sharp's Victor, Puritan, and Abundance. Sharp's Victor was one of the earliest grown, was dry and mealy when cooked, and was fit as soon as big enough. If there was any fault in the Puritans they were too good, while Abundance was best as a late Potato. In conclusion, Mr. Andrews said there were vegetables which were worthy of papers in themselves. Artichokes, Asparagus, Rhubarb, and Seakale would make a capital subject for a paper, and Cucumbers, Marrows, and Melons for another. Saladings, too, would be an important one, and not least, if last, herbs, which of late years had been sadly neglected.

EARLY SPRING FLOWERS.

PERHAPS some of my old gardening friends may say, What is there to tell about early spring flowers? Why I write is this: Knowing many gardens and owners of gardens I am often surprised to find how few species and varieties of early blooming flowers are grown, and how often it is the old story Snowdrops, Crocuses, Winter Aconites, a few Scillas, Colchicums and Primroses.

I am frequently asked by friends, amateurs, what is the best time to visit Oakwood Garden, the answer usually is that it depends upon taste; individually, I prefer the earliest spring flower season, about the middle of February. There is an especial charm about the first flowers coming after the long wintry weather, sometimes in it, with their bright colours; how beautiful is a large bank of Hepaticas with all the shades of colour. H. angulosa blooming first, then the double pink and blue, and all the different tints of single white, pink, blue and purple. I was told by my friend, Mr. Frank Miles, of a Dutch grower who had raised Hepaticas of very many colours, and was not disappointed with the collection. Moss grew up among the plants and added to the beauty of the bank. Miss North was so taken with the effect that she transplanted Moss to obtain it, but, alas, as the Moss grew stronger it became injurious to the plants, and we had to grub it up. In old gardens are found big plants of Hepaticas but I don't think that they are now planted nearly enough. Leucojum vernum is becoming more common, but it is not in general use. It makes a good companion to Snowdrops, and an effective mode of growing this is in a bed of Sedum pulchellum.

As a carpet, where it sows itself and spreads, Leucojum vernum carpaticum, with its stronger growth and two flowers to the stem, is a great improvement on the type. The newer varities of Snowdrops are getting more into cultivation. Galanthus Elwesii, with its globular form, has very many admirers, others prefer the long-petalled graceful variety G. Imparti. One of the finest forms in bloom at Oakwood is G. Melvillei, which I owe to the kindness of the raiser. Good clumps of the different varieties of Saxifraga Burseriana on a bank bloom, I think, better than when grown under glass, but when out, deserve a bell glass to preserve the blossoms in rough weather. In warm sheltered corners the many species of winter and early spring flowering Crocuses hold their flowers well. Anemone blanda, given me by Mr. Ingram, is a gem, and the so-called white form, which with us usually comes a pale blue, is very pretty. Daphne Blagayana resists frost well and is as sweet as the greenhouse Daphne indica.

Many of the Lent Hellebores which follow on after Helleborus Italicus and H. roseus, are now very beautiful and fine varieties of these may be raised from seed. Petasites albus, where there is room for it is not to be despised. All the Scillas and Muscaris are good but one of the finest earliest flowering of these last came from Mr. Van Tubergen, Junr., under the name of Hyacinthus azureus, it is a lovely soft pale blue.

There are now a great number of early flowering common Primroses with beautiful shades of colour, enough to make a spring nosegay by themselves. Early flowering shrubs such as Chimonanthus fragrans and Lonicera fragrantissima are pretty generally known. I could go on with other flowers but your space forbids.

I think that the early spring flowers of the future will undoubtedly be found among the Irises. Iris Histrio, now in bloom at Oakwood, has richness of colour which few Orchids can surpass. Iris Baberiana, I. Danferdiæ and I. Histrioides are all most beautiful early flowers; when they become as common and inexpensive as Iris reticulata a large spring bed of Irises will be gorgeous. It is to be hoped that Nurserymen will turn their attention to importing, or growing the rarer Irises from seeds, on a very large scale so that they may be generally grown.—*George F. Wilson, Heatherbank, Weybridge Heath.*

NATIONAL CHRYSANTHEMUM SOCIETY.

PERUSING the report of the annual meeting of the National Chrysanthemum Society in your valuable paper, I could not help thinking it is about time that the annual farce of "one-third of the committee retiring" simply to be re-elected was brought to a close, and that an alteration was made in Rule 3, which would have the effect of introducing fresh blood into the committee. The alteration might be made either by amending Rule 3 to read that "one-third of the General Committee shall retire annually, and shall not be eligible for re-election for a period of one year after their three years' term of office," or by substituting a different system of conducting the elections.

I do not think it possible for our society to progress, as we all, I feel sure, desire it should do, unless we give an opportunity for more of our members participating in its management. If we made it necessary for twelve new members to be added to the committee annually, it is impossible for us not to foresee what an immense amount of enthusiasm must naturally ensue among the friends and acquaintances of those newly elected, the accession of strength to the society in the form of a greater number of new members, and the greater interest which will be taken in its work. No doubt you will say that an opportunity is given to us of electing fresh men on the committee, but in reality this is not the case, as the thirty-six votes of the committee can always be relied upon by the retiring members [?] which, together with the votes of their own supporters present, will render absolutely nil the chances of any outside candidate. This fact is strikingly shown in the report of the meeting given in your last week's issue.

I do not for one moment wish anyone to think that I look upon the present committee as incapable of managing our affairs; that is not my point at all. What I desire to do is simply to point out the greater amount of interest which will be taken in our society if we make it essentially necessary for a larger number of our members to share in its work. —*William D. Challis, 17, Springdale Road, Stoke Newington.*

TRUFFLE HUNTING.

MR. BARKER, a visitor to the French province of Aquitaine, gives the following account of a Truffle-hunting expedition, with a professional hunter and his pig:—Our work lies amongst the dwarf Oaks, for there are no Hazels here. At a sign from the old man the pig sniffs about the roots of a little tree, then proceeds to dig with her nose, tossing up the larger stones which lie in the way as if they were feathers. The animal has smelt a Truffle, and the man seizes her by the ear, for her manner is suspicious. This is the first time they have been out together since last season, and the beast has forgotten some of her education. She manages to get a Truffle into her mouth; he tugs at her ear with one hand, and uses his stick upon her nose with the other. The brute screams with anger, but will not open her jaws wide enough for him to slip his stick in and hook the Truffle out. The prize is swallowed, and the old man, forgetting all decorum, and only thinking of his loss, calls his companion a pig, which in France is always an insult.

Our Truffle-hunting to-day has opened badly, although one party thinks differently. In a few minutes, however, another Truffle is found, and this time the old man delivers a whack on the nose at the right moment, and, seizing the fungus, hands it to me. Now he takes from his pocket a spike of Maize, and, picking off a few grains, gives them to the pig to soothe her injured feelings, and encourage her to hunt again. This she is quite ready to do, for a pig has no amour-propre. We move about in the dry open wood, keeping always near the trees, and Truffle after Truffle is turned up from the reddish light soil mixed with fragments of calcareous rock. The forgotten training soon comes back to our invaluable auxiliary; a mere twitch of the ear is a sufficient hint for her to retire at the right moment, and wait for the corn that is invariably given in exchange for the cryptogam. Indeed, before we leave the ground the animal has got so well into work that when she finds a Truffle she does not attempt to seize but points to it, and grunts for the equivalent in Maize. The pig may be a correct emblem of depravity, but its intelligence is certainly of a superior order.

PEACHES AND NECTARINES.*

THE subject which I have chosen to lay before you on this occasion is one in which all gardeners are truly interested, from those who cultivate the broad acres of a ducal establishment down to the caretaker of a villa garden. In opening this paper, if I travel outside the practical part of the subject in some few particulars, I do so for the purpose of introducing more variety into the discussion. The natural order Rosaceæ is one of the most remarkable, as well as one of the most useful to man, in the whole vegetable kingdom; it contains the majority of our hardy fruits, also several of the most ornamental of our garden flowers. The order derives its name from the genus Rosa, and comprises, according to Bentham and Hooker, about 71 genera and 1,000 species, and some authors credit it with even more than this number.

The principal plants which are cultivated for their fruit belonging to the order are, the Almond, Apple, Apricot, Blackberry, Cherry, Medlar, Nectarine, Peach, Pear, Plum, Quince, Raspberry and Strawberry; and of those which are cultivated for their flowers, the Rose is a good example, and is to my mind the finest flowering shrub of our gardens. In Rosaceæ several species are valued for their medicinal properties, while others produce a gum nearly allied to gum arabic, and the bark of some species is used for tanning, and the leaves of others have been used as a substitute for tea or for adulterating tea. There are two characteristics of the order under cultivation worthy of notice, first, the readiness with which sports are produced by many of the species, and the second is their liability to the attacks of insects and diseases.

The early history of the Peach is a very unsettled matter. There is a considerable difference of opinion amongst botanists as to its native country, and many authors avoid giving any definite information, from which fact we may draw the inference that nothing definite is known. Persia is considered by many as the place of its origin, whilst others attribute it to China. I find both Peaches and Apricots spoken of as Persian fruits, but this was probably owing to the absence of a scientific system of botanical matters in those days.

It is very generally recorded that the Romans received the Peach from Persia in the reign of the Emperor Claudius; and that during the first century A.D. the more enterprising of the gardeners or fruit growers in Italy planted Peaches and Apricots with a view to profit, and obtained high prices for the first of these rare and aristocratic fruits produced. The Peaches were spoken of as Persian Apples, and the Apricots as Armenian Plums, these names therefore clearly fix the countries from which the Romans obtained them, namely Persia for the Peach, and Armenia for the Apricot, whether these countries were their original home or not; and the botanical name Amygdalus Persica points strongly to Persia as the home of the Peach. De Candolle was, however, of opinion that China was the native country of the Peach, and advances many arguments in favour of that country. It is mentioned in the writings of Columella, and Pliny describes several sorts. Be all this as it may it is certain that it has been in cultivation in Asia from a very remote period. It was in cultivation in England about the middle of the sixteenth century, but was probably introduced by the Romans when they had possession of the country. Whatever country the Peach sprang from matters not, and I think we may safely affirm that it is now in cultivation over the whole civilised world.

The Peach (Amygdalus Persica or Persica vul-

* A paper read by MR. T. WAUGH, at a recent Meeting of the Chiswick Gardeners Improvement Society.

garis of some botanists) is one of the most delicious of exotic garden fruits, and certainly the most esteemed stone fruit we have. It receives, and deservedly so, a large amount of attention in gardens, for what is more taking to the eye, or pleasing to the palate, than a well-grown Peach or Nectarine when fully ripe. Peaches are very extensively grown in some countries, America for instance, where some growers possess as many as 20,000 and 30,000 trees; in these places a brandy is made from the fruit and pigs are fed with it. And I have read of thrashing machines being driven by an engine fed with Peach stones for fuel.

Peaches and Nectarines are so closely allied that for all practical purposes they can be treated as one, when not in fruit the trees cannot be separated, but the fruits themselves are easily distinguished, the Peach being covered with a thick downy coat, and the Nectarine with a smooth coat. But as Peaches and Nectarines have been grown on the same branch, and half-Peach, half-Nectarine fruits produced, they must be classed as merely varieties of one fruit.

The first question which presents itself in the cultivation of the Peach out of doors is, the situation. Peaches should always be allotted the warmest position in the garden, and if it is slightly elevated it will be an advantage, as in such a position many of the spring frosts will be escaped. At one time I believe there was an idea entertained by some gardeners that a low sheltered position was the best for a garden. Instead of being the best it is the very worst, especially for a fruit garden, as the frosts which do so much damage to the embryo fruits in some seasons are always more severe in low lying places.

The Peach trees should always be given the best position on the walls, and it is absolutely necessary to have a south aspect wall, without which they cannot be grown with anything approaching success. Equally important to the situation, is the soil in which to grow the trees. It is a well-known fact that all stone fruits to be grown successfully must have a good soil, and the Peach is no exception to this.

The limestone districts of England, where the soil is a good stiff loam resting on a bed of chalk, are credited with growing the finest outdoor Peaches. This being so, we should try and approach it as nearly as possible. But, from this I do not mean to infer that first-class Peaches cannot be grown but in such a position, far from it. A criterion of soil in which to grow Peaches I take to be, the top spit of an old pasture, and if it is of a calcareous nature so much the better; it should not be cut more than six inches deep, as the more fibre it contains the better.

If such can be obtained six or eight months previous to making the border, it should be cut up roughly and a good proportion of old lime rubble mixed with it and the whole thrown into a heap ready for use.

In many gardens I know there is very little choice either as regards soil or situation, but the former can be much improved by drainage and the addition of more suitable material. A very stiff soil should be exposed to the action of the weather during the winter, and quantities of old mortar, rubble, wood ashes, and well-decayed vegetable matter added. This along with good drainage will go a long way towards converting the most obstinate soil. On the other hand light soils can be improved by the addition of heavier material, and in bad cases pure clay is very useful. In making a new border the height of the wall should regulate the width, making the border as wide as the wall is high, the excavation should be taken out to about two feet six inches deep, the bottom being kept regular and sloping slightly to the front. If the site is not naturally drained, artificial means must be resorted to. Several rows (from back to front) of small drain pipes should be laid across the bottom, their size and number must of course be regulated by circumstances. A larger one should be carried the whole length of the border in the front and lowest place, and the smaller ones connected to it which in its turn must be carried into a suitable out-fall. On the bottom of the border and over the drain pipes should be from six to nine inches of broken bricks, pots, or clinkers, either will do, and the smallest must be on the top. All this will seldom be necessary, but where it is required, it is always best to do it properly at first; sufficient in all ordinary cases will be to place a quantity of broken bricks or similar material about two feet from the surface where the trees are to be planted.

It is not advisable to make the whole width of a border at once, better rather to put in about four feet where the trees are to be planted, filling up the remainder with the natural soil, to be taken out again in strips of about three feet, and portions added to the to the border as the roots extend. This applies to all fruit tree borders; the roots then get the fresh soil as they require it.

The best time to make a border is in August or September, when the soil is dry, as it can then be rammed firm. The firmer it is made the better, as Peaches are all inclined to grow too strongly at first. After the trees are planted the border should never be disturbed, but let religiously alone.

The propagation of Peaches differs very little from that of other hardy fruits, which have been dealt with in previous communications, therefore it is not my intention to dwell on that subject at present. Peaches are usually worked on Plum stocks, and sometimes on Almond or seedling Peaches. Speaking generally the finest fruit is produced by those grown on Plum stocks. All fruit trees usually grow larger and are longer lived on their own roots, but the modern systems of cultivation have taught us that it is more to our advantage to sacrifice the size and longevity of the tree, in favour of the smaller and more fruitful specimens obtained by working them on well-known stocks. All stocks should be raised from layers, as then you know what you have got; with seedlings much disappointment often occurs by certain trees refusing to grow; this is probably owing to some peculiarity of the stock on which the tree is. In some cases the stock is unable to keep pace with the tree in growth, thereby causing an unsightly swelling just above the union. The swelling is caused by the obstruction which the sap of the Peach tree meets with in the vessels of the Plum stock.

Whether this is an advantage or disadvantage to the fruit, I am not prepared to say, but it probably has the same result as a ligature tied round a branch. In selecting young trees those of a clean, healthy appearance should be chosen, with short-jointed, well-ripened wood, and the union with the stock as perfect as possible. Maidens are preferable, as then the cultivator has the moulding of the tree in his own hands, but if it is desired to furnish the wall as soon as possible, two or three year-old-plants should be obtained from a nursery. In purchasing trees avoid those which have been repeatedly cut back in the nursery rows, or those that show signs of gumming.

To be Continued.

THE VEGETABLE GARDEN.

General Work.

The Broccoli immediately after the severe frost looked very bad indeed, and nearly one half appeared to be killed, but I am sorry to see, now the frost has been away some weeks, that scarcely one twentieth of the plants are alive, although they were planted on hard soil without manure. This will make a serious gap in the vegetable supply during April and May. Great care must be taken with the young Cauliflower plants in pots, and an extra quantity must be grown; a good batch should also be pricked out in a frame or pit. It is a good plan to have some of the most forward of the Cauliflowers in pots of one of the forcing varieties ready to plant in the frames on hot beds, when the earliest Potatos have been lifted. They may be planted about eighteen inches apart, and will give some very useful little heads before the earliest plants out-of-doors are ready for use.

Give Potatos in frames plenty of air on fine days, and water sparingly as the young tubers get ready for lifting. Carrots and Turnips in frames must be thinned as soon as large enough to handle, and keep the soil hard between the rows; Turnips must have plenty of air and water, as they are so liable to run to seed in frames.

Keep up good supplies of Seakale in the forcing house, also of Rhubarb and salads. It is a good plan to plant a frame on a very gentle hot bed, with one of the forcing varieties of Cabbage Lettuce; they should be planted very thickly and thinned as required for use. The early Cabbage Lettuces grow very fast on a hot bed, and it is surprising what a quantity can be grown in a small frame.

It is a good time to make new beds of herbs. Some, such as Sage and Thyme, are best raised from seed, sown now in a frame, and planted out later. Others are best increased by division, and this should be done at once.—*G. H. S.*

Gleanings from the World of Science.

Disease-resisting Potatos.—A series of experiments has been carried out at Warminster, Wilts, with the view of combating the Potato disease and learning which kinds are best adapted to resist the inroads of the disease itself. The authorities who carried out the experiments report that the dressing and spraying of Potatos by means of the sulphate of copper remedy, pays for the labour and materials several times over. The varieties best adapted to resist the Potato disease are Imperator, Magnum Bonum, Main Crop, and The Bruce. Other cultivators have spoken in no unmistakable terms about the healthy character of Main Crop and The Bruce, but the latter is likely to displace Magnum Bonum, which is not now giving the satisfaction which it used to do.

Protection of small Birds.—The agriculturists and horticulturists of France as related by *L'Illustration Horticole*, are beginning to see the necessity of protecting the small birds. M. Chevandier de Valdrome, a minister under the last empire, is represented to have said, "Do not eat the small birds if you would not be eaten by insects." The general council of Meurthe and Moselle in France, according to a remarkable report of M. le Baron d'Hamonville, has expressed a desire that the small chase or hunting destined to take the small birds during September and October, should be prevented over all the territory of France. The council demands, besides, that from the present the Government should recommend to all the prefects, to no longer authorise the capture in mass of small birds. It desires also to call the attention of the functionaries, to see that the prescriptions of the law concerning bird-nesting and the hunting of useful birds be strictly observed.

Reversion in Seedlings.—In the case of variegated plants or those that have some abnormal colouring of the foliage, such as that of the Copper Beech, it is difficult to say why the seedlings should behave differently in different species. We know that the Golden Feather (Matricaria Parthenium aureum) and other varieties of this group reproduce themselves tolerably constant from seeds. Several of the variegated Ferns, such as Pteris reginæ and P. niveum, reproduce themselves tolerably true from spores. Seedlings of Aquilegia vulgaris Vervæneana also behave in the same way, and several other plants coming under our notice might be mentioned. *L'Illustration Horticole* records a case of a variegated Clivia under the care of Mr. Columbien, Sen., a Ghent horticulturist. The plant was lightly variegated and produced seeds which were sown and gave rise to seedlings showing the same tendency to variegation. On the other hand *Gartenflora*, 1893, *p.* 26, states that M. Lindemuth, of Berlin, sowed seeds of Yucca alsefolia variegata, and none of the seedlings showed the least variegation. M. Brandt has had the same result with Eulalia japonica variegata; and M. A. Fintelmann has had the same experience with Phormium tenax variegata. On the other hand a sowing of seed of the latter in the establishment of Louis de Smet, at Ghent, has given two variegated seedlings. We might add, by way of contrast with Eulalia japonica variegata, that another well-known grass, Zea Mays variegata, comes pretty true to character from seeds.

Toxicophlæa spectabilis.—A small batch of this plant might well be grown for flowering in the conservatory during February and March. It flowers while yet in quite a small state, and can also be kept within bounds by pruning it back after it has flowered, and then growing it with plenty of heat and moisture, to encourage the production of young wood. Flowers are produced from the axils of the evergreen leaves in short racemes or clusters, and though neither large nor conspicuous in colour, they are deliciously fragrant, diffusing an aroma through the house in which a plant is grown, but more particularly when the sun warms up the atmosphere of the house. The flowers individually are small and pure white.

FLORICULTURE.

Auriculas.—Heat.

I UNDERSTAND that, for himself and some others, "R. D." expresses the desire that there were, and a regret that there are not, classes in the London Auricula Show for "plants that have been grown without artificial heat."

Now here, we cannot ripen Apricots on our cold stone walls. Am I, therefore, justified in agitating for a class for Apricots, grown where they won't ripen; and may we not on this novel principle, demand a section for sour Grapes? Are there not many amateurs who could do Grapes and Apricots to this modest extent, and why are not their humble efforts to be represented at our great fruit shows? Such fruit cannot possibly compete with highly finished examples; and it is a great shame that those who possess the advantages of sunny brick walls, and proper vineries, with all the attendant expenses, should have the run of the prizes at our fruit exhibitions.

It may be said that they would adulterate a show with inferior produce, thereby lowering its tone and interest. That the public expect to see everything as good as it can be grown, and care little how it has been grown. That the very object of shows is to demonstrate the height of quality and cultivation and to encourage the production of new varieties surpassing the excellencies of the old.

I do not say that I have myself proposed classes for my wooden Apricots, and green Grapes, "but they are not forthcoming, which perhaps is not to be wondered at," any more than in the case of the Auricula grown without the careful and guarded treatment which it ought to have, to be seen at its best.

Now the Auricula does not require, heat, nay, is better without, all that might be easily, and but naturally, inferred from "R. D.'s" remarks. He says, "It is all very well in the case of those who have an Auricula house, or frame heated with hot water or a flue; but what of those who have not?" "Those who have not?" Well! I am one of those who have not. I have often said so, by word and pen, and "R. D." must have forgotten. I have neither pipe nor flue in my Auricula house, nor have had these many years. I never have had, but for experiment's sake, and that experiment of pipe heat (so coveted by "R. D.") I discarded as a positive temptation and no help. It spoilt a good deal, and saved nothing.

I have shown at the London Auricula shows, and more rarely I have not. But whether I did or did not, I owe no successes to artificial heat, though I know I may have spoilt some chances with it. For, I do not call sunshine-warmth under glass artificial heat exactly, nor do I consider keeping out the cold by external coverings, artificial heat. Neither do the Auriculas so regard it, or they would not thrive and flower properly. If my Auriculas are not out in time for the London show, with such simple and helpful protection as their cold glass houses, and non-conducting outside covers afford, I merely blame the season for being late, or the southern show too early for northern flowers, and think very little more about it.

This leads me to say that I think the use of the term "heat," as it has been frequently employed by southern writers and critics on Auriculas, is misleading. Of course the common acceptation of the words "grown in heat" is that pipe or flue heat is used to keep up temperature. If this be the kind of heat suggested, then I say it need not, and ought not to be, and is not depended upon by any one I know in the north, though like myself, some may have tried the experiment with the Auricula, which proves itself particularly impatient under it.

We do not grow our Auriculas as stove or greenhouse plants. Our houses are only cold frames on a larger, more convenient, and more beneficent scale. "R. D." and "D. Deal" could not condemn flue and pipe heat for Auriculas more than I do, and it is misleading for them to infer, or take for granted, that northern successes are due to such kind of heat.

Time and time again, I have detected this phantom of artificial heat for Auriculas dancing before their mental vision, and appearing in criticisms of Auricula shows. If a plant has been "drawn" for lack of air or light, it is attributed to the use of artificial heat. If it is in first-rate condition of bloom it has been only done by "heat." If the flowers are poor in size, texture, and colour, and the stem cannot carry itself unsupported (sometimes a constitutional fault) it is all put down to "heat." "Heat" blows hot and cold—heat is credited and blamed for all results—and experiments are taken for usual practice!

Very carefully and patiently Mr. Simonite and myself tried and noted the effects of truly artificial heat upon the Auricula. The Newcastle men also tried it, and I am bold to say that they found the mischief it did to both plants and flowers. If by "heat" for Auriculas, "R. D." and "D. Deal" should mean the aid of glass and outside coverings, then I maintain that the edged Auricula must have this kind of warmth. But my friends should, in common fairness, call it by its right name, which is not "heat," but protection. If this simple aid cannot be given, it would be kinder not to grow the plant at all, and more kind still not to advocate classes at our shows for Auriculas in distress.

Further mischief, possibly through speaking loosely or carelessly of "heat" for Auriculas, is that some who would like to grow them might be deterred by the idea given that they could only succeed by the aid of pipe or flue heat. The Auricula does not need difficulties, but facilities putting in its way, and we have only to go back in memory to the days of our fathers to find that Auriculas were well done before ever either houses or pipes were thought of for them.

I am sure they would gladly have acknowledged the advantages of a house, and probably have been too wise to even think of experimenting with artificial heat.—*F. D. Horner, Burton-in-Lonsdale.*

IT seems strange to read, as your able contributor "R. D." tells us, of the Auricula—an alpine plant—being regularly forced for exhibition like early Peas or Rhubarb for market. We can understand that people will have the latter on their tables, and that in their impatience they are content to sacrifice quality to novelty. But what is the hurry with the Auricula? Does the warm atmosphere of the hot water pipes or the flue of which "R. D." speaks, produce more refined quality in the flowers that the system of forcing seems so generally resorted to? And if this is so must it not be obtained at the expense of the vigour of the plants? Is it a necessity that the exhibition should be held so early that it is only available to exhibitors who can "put the steam on" in the above way?—*H.*

The Gold-Laced Polyanthus.

THE growers of the show varieties of Gold-laced Polyanthuses being at the present time so few, and the varieties in cultivation so limited, one scarcely feels justified in attempting to encroach upon the space of any floral periodical by referring to it! It is, however, gratifying to know that out of the "few" there exists some true lovers of this grand old florists' flower who are always ready to say a kind word in its favour, and when necessary, afford it abundant support; and to such my remarks, which will be of a twofold nature, may specially apply. They will both bear a very gloomy tint, but one much more so than the other.

The first is to announce the recent death, at the age of sixty-five, of the old veteran grower of Lancer, Abner Bullock, who was the son of the raiser of Lancer.

Abner, and his late brother Charles, have been known for nearly half a century as the great Rose, Polyanthus, and Pansy growers, and "Working men's florists" of the "Black Country," South Staffordshire. These brothers belonged to the old school of florists, and were as honest and straightforward in their dealings as they were successful, as cultivators, in the hobby they pursued!

I know from the most reliable source that these men are entitled to the credit of having caused scores of their comrades to become cultivators of flowers, who formerly devoted the bulk of their spare time in public houses, and by such means many miserable homes have been changed into happy ones! The Bullocks were not only patronised by working men, but by such noted florists as Samuel Barlow, Esq., and others too numerous to mention. Abner leaves an enterprising grown-up son, whose fondness of florists' flowers excels, if possible, that of his late much-respected father, and I am glad to learn that he will keep on the old garden at Wolverhampton, and continue the cultivation of those varieties of florists' flowers which his late parent and uncle so much admired and loved.

The other part of my subject refers to a mishap which has befallen myself, and it may possibly be interesting to some to learn what has happened, and call to their minds the old proverb, "*Experience makes fools wise.*" Well, I will explain all as briefly as I can. Last autumn I was fortunate in having a fine stock of Polyanthus plants, consisting of "Cheshire Favourite," "George the Fourth," "Lancer," and "Prince Regent," and it having previously been my practice to separate the old roots at that period of the year, and before replanting to place them for about half-an-hour in a vessel of soap-suds, so as to wash off or destroy any green-fly which might be upon them, and which process, I may say, had always before proved most efficacious! The green-fly upon my plants last autumn was, unfortunately, more plentiful than usual, and I was recommended by a friend to use, in producing the "soap-suds," a little "petroleum dry soap powder" instead of the usual "soft soap;" and never being too proud to be taught something good, I acquiesced in my friend's suggestion with the result that within a month from the time of planting all the foliage had become brown and withered, following which, the crowns of the plants and roots rotted away. To the best of my recollection I used about an ounce of the powder to an ordinary bucket full of water. I have never thanked my friend for his recipe, but have made a vow that the experiment shall never be repeated by *James Thurstan, Cardiff.*

Pinks.

PLANTS of these in the open ground appear to have come through the winter very well indeed. It is true my plants are seedlings only of good blood, but they have done remarkably well. The soil has been drawn away from them, and fresh added, containing a good deal of fine decomposed manure. No one can expect to have good laced flowers unless the plants were put out in their beds in September or October last, or else wintered in pots, and planted out with good balls of soil full of roots. But there is nothing like autumn planting.

The usual practice with growers is to top dress their Pink-beds at the end of March or early in April, regard being had to the character of the weather, and the forwardness or otherwise of the plants. Top dressing is very beneficial just when the plants are beginning to put forth fresh growth. It is then the root fibres are becoming active, and ready to assimilate the fertilizing properties contained in the top dressing. The surface of the bed should be kept clear of weeds and any noxious insects, and especially grubs sought for and exterminated. With such attentions, provided the sorts are good, and the plants strong and healthy, there should be no difficulty in securing fine blooms.—*R. D.*

PEACHES DROPPING THEIR BUDS.

IN your leader of February 18, p. 386, you are rather severe upon gardeners generally in this matter. You say "the house is shut up close, although it is yet but February, the full force of heat is applied at once, and the utmost pressure is put on the trees to expand bloom," hence the wonderment why the plump buds fail and drop off. Now as I am one of the delinquents in this matter, but with one kind only, Alexander, I resent this unjustifiable summing up and verdict, and consequently take up the cudgels on the defensive, by saying this irrational treatment is not general, indeed, questionable, in any practical gardener's (please don't omit the adjective) curriculum. In my case, for instance, the artificial heat was not applied for three weeks after closing the house, and the solar heat from the 1st of December onwards could not be considered excessive; nevertheless all the best-formed buds on this one kind, Alexander, dropped off, whilst scarcely a bud dropped off other older kinds, such as Hale's Early, Stirling Castle, etc., growing alongside in same border. Under such treatment, I can scarcely consider Nature to be seriously outraged, that is, beyond ordinary forcing proceedings. Therefore I venture to assume there is something constitutional in Alexander to account for such strange behaviour, and I should be glad to learn other Peach forcers' opinions of this particular kind. I am fully aware that gardeners, like other mortals, are loth to record failures; nevertheless there is often better experience gained by failures than by the intoxication of public successes.—*W. Crump, Madresfield.*

GARDEN SUNDRIES.

For more years than we have had any knowledge of Drury Lane there has been carried on in Goldsmith Street, a bye-street leading off that historical but most unsalubrious thoroughfare, an extensive and prosperous retail business in a branch of horticultural trade, which in its way is as important to gardening and gardeners as the production of plants and seeds, for without cultural appliances—the host of things which come under the general denomination of garden requisites or garden sundries—where would the gardener be? The business we refer to is that which for the last 15 years has been in the hands of Mr. H. G. Smyth, who by his energy, business capacity and honourable, straightforward conduct has very greatly developed it.

Mr. Smyth is jocularly known among his friends and customers as "The People's Sundriesman," and "The Gardener's Friend," and both descriptions may be said to fit him equally well, for he can supply us with a truck load of peat or a sixpenny scrubbing brush with equal facility, to say nothing of the hundred and one other articles that come in between the extreme subjects we have mentioned, and he surely is a gardener's friend who can supply his demands in emergency. Mr. Smyth has long made a speciality of the wants of Orchid growers, and deals only in the best materials. He has also been a successful cultivator of cool Orchids, and a few years ago had a nice little collection in his private garden at Forest Hill. He was generally fortunate in his purchases of imported plants, and got more prizes than blanks. Our friend has a strong penchant for floriculture, and loves a good thing as much as any man. He it was who put the popular Carnation Mary Morris into commerce, and he is very sweet just now on a scarlet border variety named Jim Smyth, which he is sending out.

But we are digressing; the floral fancies of Mr. Smyth and the business of his warehouse are two different things. Let us have a look round this emporium of garden requisites, and see what there is to be seen. We sample the peat, a capital sample too, notwithstanding the scarcity of this indispensable article; and take a dip into the sphagnum tub, a clean well picked lot, bright and green. Orchid baskets, rafts, and cylinders follow on in natural sequence, and the handling of these shows them to be well made of good sound teak, fastened together with copper wire. They are of all sizes and shapes, and to this department Mr. Smyth has lately added Orchid pots made of teak, and in three sizes, 8, 9, and 10 in. deep, and which we understand are meeting a want in the Orchid world. Next we are introduced to a first-rate article in the form of a shading material for Orchid and hothouse blinds, a small meshed sort of hexagon netting, which gives the required amount of shade from the sun's rays, with a maximum amount of light. This we were informed was either sold in the piece or made into blinds of any size to order. Still keeping the Orchid man's necessities in view, we come across a heap of coir bushes specially made for pot washing, cleaning woodwork (and blacking boots on a pinch!) and here also is a special kind of bass broom made for cleaning tiled or tesselated floors.

Our olfactory organs attract us next to the samples of various kinds of manures, guano, dissolved and crushed bones, and bone meal, and to the still more odoriferous blood and bone manure, which is a speciality of the establishment. "Well," we remark, "if there is anything in a strong smell, that ought to be good." "It is," spoke out our guide, "a powerful and quick acting stimulant, and specially valuable for forcing purpose. We sell a great quantity." Presently Mr. Smyth adds, "Did you see Mr. Norman's monster Strawberries at the Temple Show last year—that's what did the trick; don't they like it?"

The pungent-smelling insecticides of all kinds look innocent enough on the shelves, but there was enough here to make our friends "the enemy" quake for the preservation of their order could they only come Goldsmith Street way and peep in at No. 21. Weed killing poisons are also a big order; and in orderly array come large stocks of labels and stakes of various sizes, bamboo canes of all lengths, virgin cork, heaps of Mushroom spawn, loam, leaf soil and silver sand, cases of cutlery, gloves, aprons, and syringes of the well-tried "Reid" pattern, water-cans, Hawes' patent, and there are none better, and —but, stop, this is not intended to be a catalogue, and the subjects are too numerous to mention even if it were. A wonderfully interesting place to a gardener is a warehouse like Mr. Smyth's, and quite a liberal education in itself in the luxuries of gardening. Above we give a portrait of the proprietor, which, we doubt not, will be welcomed by his many friends among the gardening fraternity.

Mr. H. G. Smyth.

REPOTTING FUCHSIAS.

A considerable diversity of method in the treatment of Fuchsias during winter and spring prevails amongst gardeners, as to matters of minor detail; nor are the fine specimens we used to see, frequently attempted at the present day. The amount of space they occupy in a house may be objected to, but a few well-grown and shapely specimens are worthy of house room, and produce an effect that hundreds of small specimens fail to do. Occasionally a display is made with small specimens on the same principle as a batch of Pelargoniums, and with a similar effect, namely, of toning down the interior of a house to one common monotony, whereas a few pyramidal specimens would have the contrary effect of relieving it. Some cultivators who are cognisant of these facts yet do not succeed very well in preserving their plants through the winter. Either intentionally or unintentionally the specimens are as thoroughly dried off in winter as if they were bulbs. The specimens are laid down upon their sides, or they are stood in some out of the way position, where no water is given, no matter what the condition of the soil may be. The results are that the greater part of the roots are killed, and the branches likewise die, occasionally the whole plant. All this might have been avoided by supplying the plants with just sufficient water to prevent the soil from getting dust dry. In the comparatively dry atmosphere of greenhouses and other structures at this season of the year, there is a considerable amount of evaporation from plants, so that if supplied with water, Fuchsias are able to counteract this drought, and the branches remain plump. The buds commence to push away again comparatively early even in the cool atmosphere of a greenhouse, and the plants may then be repotted. Some cultivators prefer to subject the plants to heat to start them before repotting; and this may be advantageous if the flowering period of the plants is to be hastened by fire heat; but if they are allowed to come on gradually by the heat of the sun, they need not be started in an artificially raised temperature at all. As a rule the more straggling of the branches are cut back in autumn, but the plants may now be regularly trimmed. The pyramidal is the most handsome form in which a Fuchsia can be trained. The balloon-headed form is more like evidence of bad training, and the columnar one hardly shows off the beauty of the plant.

Fuchsias are not very particular in the matter of soil, but a fact to be remembered is that it should be light and rich. In other words it should be rendered very porous, if not naturally so, by a liberal use of sharp sand. A third of old and dried cow manure with plenty of sand may be mixed with fibrous but mellow loam in a lumpy condition. The pots should be well drained, for that is a matter of the greatest importance, considering the quantity of water required during the growing season. The careful cultivator will have taken care to have plenty of soil and manure in a dry place some time ago for the great amount of repotting that is always necessary at this time of the year. The work can then be effected expeditiously. Clean pots are another requisite, and should there be a scarcity of pots of the requisite size, the old ones may be called into requisition. Having turned the plants out of them. some boys or labourers may be set to wash them and get them quickly dried by placing them over the hot-water pipes or some similar position.

Some of the plants may require a larger sized pot, but the bulk of them may be returned to similar sizes. If the plants had been started in heat previous to their being turned out, it would have been necessary to leave a ball of old soil about the roots; but in the other event the old soil may be clean shaken away so as to admit as much fresh material as possible at the repotting. Put the plants into the

clean pots, at the same depth as formerly, and press the soil rather firmly about them. No staking, for the present at least, should be necessary, provided the plants have previously been grown under favourable conditions for giving solid and short-jointed wood. After the operation is completed return the plants to the greenhouse, standing them on staging as near the glass as possible, so that when they commence to grow the shoots may not get drawn. No water will be necessary for some time, till the plants commence to grow or until the heat of the sun begins to dry the soil too much by evaporation. When brought on in this way purely by the natural rise of temperature, the growth made is more substantial, and the duration of the flowering period greatly extended. When in full growth, or even in flower, Fuchsias enjoy an overhead bath from the syringe or garden engine immensely in the afternoon just before reducing the amount of ventilation for the night. An abundance of top air should always be left on in summer, as it keeps the plants healthy and the wood short-jointed.

GARDENING MISCELLANY.

THE GARDENING CHARITIES.

In reference to the insertion in your issue of Jan. 21 of what local societies can do in aiding gardening charities, I should like to mention the fact that in addition to the £136 10s. which the Reigate and District Chrysanthemum Society have paid in to the Royal Gardeners' Royal Benevolent Institution, they have also remitted no less a sum than £80 to the Royal Gardeners' Orphan Fund, and have thus also nominated sixteen of its members as life subscribers of that institution. Independent of either of the above a sum of £31 10s. has been handed over to a local charity, viz., St. Anne's School, Redhill. There are undoubtedly a good many schemes advocated by which one can assist such deserving institutions, but what could be more successful than the foregoing, as we have realised the splendid sum of £248 for the three institutions during the four years the society has been established.—*Harry Bailey, The Briars, Reigate.*

ASPARAGUS TENUISSIMUS.

The general habit of this plant is very similar to that of A. plumosus, inasmuch as it is a slender climber, but the difference in minor details and in appearance is considerable. The ultimate slender twigs or branches, generally termed leaves by gardeners, are fewer, but longer and finer than those of A. plumosus. The fascicles or clusters are not arranged on one plane so as to give the flattened and plumose character of A. plumosus. On the other hand they are disposed about the main branches in the most graceful manner, thus earning the title expressed in the specific name. It was introduced from South Africa in 1882, or just slightly over ten years ago. The same treatment which suits its congener will answer exactly in this case—in fact, both may be grown under exactly the same conditions. The sprays are also suitable for mixing with cut flowers for which their graceful character renders them admirably adapted. Numerous plants of it may be seen in the collection of Messrs. Hugh Low & Co., Clapton.

RAVENIA HILDEBRANDTII.

The above may be regarded as a provisional name for an undescribed Palm, known only in the juvenile state from the Comoro Islands, and considered by Wendland to be closely related to Hyophorbe. It seems strange that the name should have gone so long unchallenged, seeing that Ravenia is already appropriated by a genus of plants belonging to the Orange family, and of which the best known perhaps is R. spectabilis. Both of the above plants may be seen in the Palm house at Kew, and of course as wide as the poles from one another. R. spectabilis has leaves consisting of one to three lanceolate leaflets similar to those of several others belonging to the same family. The Palm has oblong-elliptic leaves, cut up into long, linear, accuminate, or long pointed pinnæ, all gracefully curved and having an elegant, plumy appearance. To the beauty of the foliage may be added that of the fruit which is now very handsome. It consists of upright shoots, bearing numerous short wavy ones, thickly studded with bright coral red berries about the size of peas. Seeing that is has flowered and fruited it cannot now be said to be known only in the juvenile state. It is evidently a small or dwarf Palm at the best.

CALLIANDRA TWEEDIEI.

As is the case with so many of the Leguminous plants, the stamens and not the petals of this Brazilian shrub, constitute the ornamental part. The flowers appear during February, March, and sometimes April, and are arranged in dense, oblong or rounded heads like a painted or highly-coloured bottle brush. The buds containing these dense clusters arise at the apex of short shoots and expand in succession, hence the length of time during which the plant keeps in bloom. The filaments of the stamens are 1¼ in. to 1½ in. long, and crimson. Their beauty is therefore of a different kind from that produced by broad petalled flowers. The foliage is equally graceful, the leaves being bipinnate, with the leaflets very small and crowded together like those of Acacia lophantha and A. dealbata, but even finer. The plant requires stove temperature, but only of a moderate kind, and would be a highly suitable and ornamental subject for those who have large, warm conservatories to fill. A bushy plant about 3 ft. high may be seen in the Palm house at Kew.

OCHNA MULTIFLORA.

Notwithstanding the many peculiarities and strange beauty of this plant, it does not seem to take the fancy of horticulturists in general. It was originally introduced from Sierre Leone in 1820, but has probably been several times reintroduced since then. The flowers are of appreciable size, and yellow, but though not striking in appearance, are possessed of a strong yet not disagreeable odour. The plant becomes more interesting when in fruit. The calyx changes to crimson or red and the receptacle enlarges finally changing to the same bright red colour as the calyx. At the same time the carpels or portions of the fruit become globular and black resembling seeds of a shining black stuck all over the receptacle. Young plants may be raised from seeds or from cuttings of the half-ripened wood in summer.

LEUCOJUM VERNUM.

One of the most interesting of our early spring flowers is that under notice. It comes into bloom much in advance of the earliest of the Daffodils and almost contemporaneously with the Snowdrop, to which it is most nearly allied. Each scape bears a single drooping or pendent, bell-shaped flower, larger than any of the Snowdrops, and differing in form chiefly by the perianth segments being all of the same length, colour and shape. The young buds are erect, bluntly trigonous, and white, tipped with green; and as they assume the pendent position and expand, each of the six segments is seen to be tipped with green, giving place, however, to yellow with age. The plant is perfectly hardy, and ought to be more extensively planted in such positions where their advent will be noticed in spring. Like Snowdrops and Winter Aconite the spring-flowering Leucojum appears to spring up very rapidly after the disappearance of frost or snow.

ALPINIA MUTICA.

The habit of this plant is similar to that of a Hedychium, which is perhaps the most familar type of the Ginger family to gardeners, to which we may refer the same. To those who have only small houses the plant grows too tall to be easily accomodated, but those who can grow Hedychium coronarium or H. flavescens could easily manage the plant under notice, and which grows to a height of 5 ft or 6 ft., but flowers freely enough at a less height. The flowers are produced in racemes at the apex of the stems, and as the latter assume an arching habit the raceme assumes an erect position, almost at right angles to the stem bearing it. The numerous outer segments of the flower are white, and all the colouring is concentrated in the lip which resembles that of an Orchid. In fact we may compare it to some of the forms of Cattleya aurea. The lip is yellow, closely lined with purple internally, and having larger branching veins towards the top, and a broad yellow margin. The bracts enclosing the individual flower-buds are rose at the base and pink upwards. A flowering plant may be seen planted out in one of the beds in the Palm-house at Kew.

THE IRON-TREE.

Parrotia persica is best known for the fine coloration of its leaves in autumn, and which assume brown, yellow, and red hues while changing in the autumn before falling. During the course of the summer the tree bears a more or less striking resemblance to a Beech, both in habit and in the form of the leaves, which are deciduous. Now the tree is in bloom, and presses itself more or less conspicuously upon the attention of the observer at this early period of the year. It belongs to the same family as the Witch Hazels, which have mostly finished flowering. The flowers are clustered together and surrounded by an involucre of large brown bracts, much in the same way as those of Hamamelis. The long red or crimson anthers are mostly all that can be seen, but being produced while the tree is yet leafless they command more attention. The tree is a native of Northern Persia, and is anything but common in this country. It appears to be perfectly hardy, and might more frequently be planted for the sake of its foliage in autumn.

SPIRÆA MEDIA.

Judging from the success attending the forcing of this species, a number of the shrubby species of Spiræa might reward the efforts of the cultivator in his attempts to keep up a display of flowering plants at this period of the year. The leaves are of a deep glaucous green, and clean in appearance, thus setting off the corymbs of pure white flowers to advantage. The stems vary in height from 2 ft. to 4 ft., but as a rule preserve a medium. When out of flower it can be turned out of doors after it has been gradually inured to a lower temperature. Though perfectly hardy, the effect of forcing at an unnatural season makes it tender for the time being; but the careful cultivator will take care to harden it off gradually before subjecting it to the cold winds that prevail in spring. It is a native of Northern Asia, and has several synonyms, of which S. crafusa is the most common, and that by which the plant is best known in gardens.

HELLEBORUS ODORUS PURPURASCENS.

When at its best the variety under notice is by no means devoid of beauty when seen in the open ground during the months of February and the early part of March. The leaves are deciduous, so that when the stems appear they are merely furnished with leafy bracts, but are unaccompanied by true leaves, which do not appear till spring gives place to early summer. The flowers are produced one, two or three on a stem, and are drooping so that the greenish interior is hidden. The outer surface is coppery purple and somewhat lurid compared with those of other early plants now in bloom. A good tuft of the plant is not devoid of interest, as competitors are still few, and the finest types will not be in bloom for some time to come. The type is a native of Eastern Europe, but the variety is confined to Hungary, from whence it was introduced in 1817.

SYNTHYRIS RENIFORMIS.

The species of this genus are closely allied to Veronica, yet the only species introduced, namely, S. reniformis, is very unlike any of the Veronicas in cultivation. The leaves are reniform-orbicular, doubly and sharply toothed, and of a bright green The flowers are blue and borne upon scapes arising from amongst the tuft of leaves, and supported with more or less leafy bracts. The species of Synthyris are herbaceous plants natives of north-west America, and are hardy in this country. The species under notice flowers naturally in April, but by keeping it in pots and forcing it gently, it may be had in flower in February, as might have been seen some time ago in the hardy plant house at Kew. The leaves have a clean and fresh appearance, which they could hardly be expected to possess later on in the open air, and the flowers are moreover doubly acceptable at a season when flowers are comparativeiy scarce, especially blue ones.

VARIATION OF GALANTHUS ELWESI.

The three inner segments of this Snowdrop are characterised by having a large oblong blotch at the base of the outer face, but covering a great part of the latter, and a horse-shoe shaped blotch near the apex. Occasionally we find individual flowers with the blotches run into one, forked at the apex and

narrowed below this so as to form a sort of neck. Other flowers may be found in a collection having five green spots arranged in a semi-circle a short way below the apex of each of the three outer segments of the flower. This is by no means common, although something similar occurs in a variety of the common Snowdrop. Still another form may be noted in which the five green spots are united in the form of a horse-shoe shaped blotch exactly in the same place as the isolated and small spots. In all these spots and markings on the outer segments we see an attempt of the outer segments to assume the colouring of the inner ones. Hitherto we have not noted any attempt to assume the characteristic form of the inner ones. All of the above varieties may be noted in the hardy plant house at Kew.

FINE-FOLIAGED PLANTS AT CLAPTON.

ORCHIDS are the most prominent features in the nursery of Messrs. Hugh Low & Co., Clapton, and a large proportion of the fine-foliaged plants, together with the Heaths, New Holland plants and flowering subjects generally, are grown at Bush Hill, Enfield. The bulk of the young plants are, however, raised at Clapton, chiefly because there is most convenience there for doing so. The area of glass, however, at Clapton is very great, and a considerable amount of it is devoted to fine-foliaged plants. There are thirty-six houses devoted to Palms alone, and a variety of other subjects is also grown in quantity. Flowering subjects are not numerous except in the young state.

PALMS.

The most popular Palm at the present day is Kentia Forsteriana, because it can be used in such a variety of ways for decorative purposes. Alongside of it may be placed K. Belmoreana, because serviceable in a young state. As it gets larger it becomes too decidedly spreading in habit to be admissable in grouping. K. Mooreana is looked upon as the red petioled form of K. Forsteriana. Some interest attaches to a batch of young plants of Geonoma Seemani, the young leaves of which are red, gradually giving place to a bronzy tint as they get more nearly fully developed. The plants are in small pots, but already bear six to eight bifid leaves that give place to pinnate ones as the plants attain greater size. Already the more forward plants begin to show this character. A similar batch of G. Schottiana consists of plants with broader leaf segments that are green even in the younger stages of their development. Better known than either is G. gracilis, which is grown here by thousands.

Some of the fan Palms are very popular, but perhaps none more so than Latania borbonica, grown in various stages, but most plentiful, perhaps, in 48-size pots. The size to which they can be grown even in this comparatively small pot is astonishing. Thousands of them are distributed through the houses. It is the most popular size for market purposes, and likewise for decorative purposes generally, hence the great numbers of this size. There are a few other fan Palms in commerce, but none of them seem to enjoy the popularity of this species. Cocos Wedeliana may be compared to Geonoma gracilis as to form, but it is different in certain respects, and the Cocos always commands greater popularity, apparently because the fronds are narrower and more graceful. Many growers also consider that Cocos Wedeliana is more durable in the atmosphere of dwelling houses, where it is subjected not merely to the aridity of the same but to the deleterious influences of burning gas. The long pinnæ of Areca sapida are conspicuous even in the young state.

OTHER SUBJECTS.

The quantity of Asparagus plumosus grown at the present day is in itself an evidence of its utility for decorative purposes. The plants are grown in 48-size pots. A. p. nanus is here characterised by its dwarfer and more slender habit. Alongside of it is a quantity of A. tennissimus, which has longer and finer twiglets generally called leaves and a more graceful habit though less compact. The massive-leaved Dracæna Lindeni still finds favour with the public, and we are not surprised at it, considering the fine appearance and the distinctness of its variegation. The broad, clear yellow margins are much more effective than the central and smaller stripes characteristic of D. Massangeana. Aralia Sieboldi is grown in quantity, and so is its variegated form. The type is raised from seed in quantity, but the latter has to be increased by means of cuttings. The leathery leaves are calculated to resist the dry atmosphere of rooms. Another comparatively hardy plant is Ophiopogon Jaburan variegatus, and a quantity of it here is very highly coloured. Amongst ferns the variegated Pteris Victoriæ and P. regina cristata are coming to the front. They can be increased by means of spores, and are therefore likely to become common in a few years; at present the plants are mostly young.

Obituary.

THE LATE MR. G. W. PHIPPEN.—It is with sincere regret we mourn the loss of this very energetic and promising young horticulturist. Born in 1864, at the Oxford Road Nursery, Reading, he at the age of 21 succeeded to the business on the death of his father, and by throwing into it a large amount of energy and enthusiasm, he succeeded in developing it in a remarkable degree. A few years since the site of the Oxford Road Nursery being required for building purposes, he established the Victoria Nursery nearer the town, and making forced spring flowers a speciality, held annually in the Town Hall of Reading a large exhibition of a varied and high class character, which attracted considerable attention. For several years past he had, as his father before him did, the charge under the Corporation of Reading of the Forbury Gardens, doing the town and himself great credit by the excellence of his spring and summer displays. For some time he had charge of the horticultural department of the Reading Cemetery, and he laid out the new Park presented to the borough two years or so ago by the late Mr. W. J. Palmer. He also succeeded his father as the superintendent of the exhibition of the Reading Horticultural Society. Last year he was a prominent exhibitor on a large scale at the International Horticultural Exhibition at Earl's Court, and frequently at the exhibitions held by the Royal Horticultural Society. A Fellow of the R.H.S., he was also a member of the Floral Committee of that body, and of the National Chrysanthemum and other societies. Locally, he was active in a great deal of phisanthropic work, and his loss will be felt by many of the poorer classes of his native town. The cause of Mr. Phippen's death was blood poisoning. We learn with sincere regret that he leaves behind him a widow and three children.

WILLIAM DUNLOP BRACKENRIDGE died suddenly at Govanstown, Baltimore Co., Md., on February 3rd, in his eighty-third year. Mr. Brackenridge, who was one of our oldest nurserymen, has been identified with the best work of the country for many years. He was born near Ayr, Scotland, June 10th, 1810. After receiving a thorough education in the schools of his native town, one of his special studies being botany, he at the age of 18 years assumed charge as flower gardener of Sir John Maxwell's extensive pleasure grounds at Springkell, Scotland. After the expiration of a year, and at the solicitation of William McNab, Curator of the Edinburgh Botanical Gardens, he was appointed gardener to Dr. Neill, at Edinburgh, where he remained four years. Subsequently he was engaged to lay out a large and elegant place for Count Ebors in Poland, after which he took charge of a department in the Berlin Botanical Gardens for three years under Professor Otto, and then sailed for America, landing in Philadelphia in 1837. He had not been in that city many days before he engaged as foreman with Robt. Buist. Such was his reputation, acquired in Europe, as an expert in botany, and so satisfactorily did he perform his duties while with Mr. Buist, that the attention of Mr. Poinsett, Secretary of War of the United States, was directed to him as a naturalist, and his services were secured for the exploring expedition of Lieutenant Wilkes, then about to start. The expedition sailed from Fortress Monroe in August, 1838, and was away four years, most of which time was spent along the west coast and among the Pacific Islands. The seeds, plants, &c., collected during the voyage finally formed what is now the United States Botanic Gardens. While exploring California, which they entered from the north, passing down from Mt. Shasta to the Bay of California, Mr. Brackenridge discovered the now famous Darlingtonia or California pitcher plant in a very singular, almost accidental, manner. Having wandered some distance from the camp an alarm of Indians caused all to break into a run. Mr. B., however, attracted by a strange looking plant, grabbed a clump and carried it with him. When he reached camp he found it to be this singular plant. To him was committed the preparation of the Ferns of the expedition, at which he spent three years of hard work. The book was published by the government and but a small number of copies had been finished and issued, when the whole of the manuscript, plates, &c., were destroyed by a fire. On his return from the expedition he had married in 1843 Miss Isabella A. Bell, of Jedburgh, Scotland, by whom he had four sons and three daughters, the three daughters surviving him. He succeeded Charles Downing as Superintendent of public grounds in Washington, and to his taste and skill we are indebted for some of the finest landscape work in that city. On resigning this position he came to Baltimore County and established the florist and nursery business in 1854. —*American Florist.*

ORCHID NOTES AND GLEANINGS.

Orchid Growers' Calendar.

EAST INDIA HOUSE.—Phalænopsis as they go out of flower will require top dressing with some live sphagnum Moss. In some cases it may seem waste of time, and a pity to remove the existing, and to all appearance better material than that with which it s to be replaced, but experience teaches us that although fresh and sweet on the top, underneath it is gradually but surely decaying, and consequently becoming sour. Our plan is to remove all the old Moss and as many of the crocks as possible, without injuring the roots. The remaining crocks are washed as clean as possible by syringing them with tepid water. After they are sufficiently drained, new crocks are carefully placed in the basket, which is finally finished off with a layer of the new Sphagnum to which has been added a sprinkling of sand or small particles of potsherds. The plant when finished should be well above the Moss. Watering will have to be carefully done for some little time, or spotting of the foliage will take place. Phalænopsis are not grown to such an extent as they deserve, on account, perhaps, of their requiring plenty of heat, or more than most amateurs can give them. The general remark is "they are too hot for us." Certainly, unless the house can be kept at a uniform temperature without hard firing, it is difficulty to keep them in good health for long. But those who possess a stove may grow them easily enough. Some of the best plants I have seen were grown at one end of a plant stove, in which Crotons were grown to perfection. Of course, precautions were taken to shade them from the sun, but not to such an extent as is sometimes practised under these conditions. The leaves were shorter, but of much greater thickness, and able to stand a fluctuating temperature much better than those grown under too much shade.

CALANTHES.—There is no better place for these most useful winter-flowering Orchids than the plant stove above mentioned, and as they will now require attention as regards repotting, a few hints as to their requirements may not be out of place, although most people grow these well and in quantity, such a universal favourite has it become. The compost which we use and which the plants delight in, is two parts loam, one part peat, some chopped Sphagnum Moss, sand, and cow dung. I may say that we always dry the cow manure before using it and have it rubbed through an inch sieve. The most convenient size pots are 6 in.; fill them nearly half full of drainage and over this place the roughest of the compost, add an inch more and then ram it firmly down with a blunt stick. Place three or four bulbs according to size in the 6 in. pot, filling in between with the soil to within an inch of the rim. The soil should be pressed rather firmly about them, being careful not to damage the young growths if at all advanced. No water will be required until the growths are well above the soil and the roots active. Too much water and a low temperature are the chief causes of spot in the foliage.

TEMPERATURES, &c. East India house, 68° at night, with a rise of 10° by day; Cattleya house, 55° to 58° at night, with a rise of 10°. by day; cool house 50° at night, 58° to 60° by day. Roller blinds on all the houses should now be fixed.—*C.*

Orchids at Selwood.

THE principal feature in Mr. G. D. Owen's fine collection at the present time is the display of rare and beautiful Dendrobiums, namely, D. Owenianum (Linnawianum majus x Wardianum). The flowers, which are borne in bunches, are nearly 4 in. across, the sepals and petals white heavily tipped with rosy crimson. It is a very charming novelty and sweetly scented. Close by are well-flowered plants of D. Ainsworthi, Leechianum, Dominianum, a curious and pale form of D. nobile flowering from imported bulbs. D. Wardianum and nobile have made fine growtbs and beautify the house with their profusion of flowers. The well-flowered Lycaste Skinneri alba with twenty flowers deserve special mention; indeed, the plant is a masterpiece of culture. Other noteworthy plants in flower were several fine forms of Cattleya Trianæ, Oncidium ampliatum majus, the charming Sophronitis grandiflora with their bright sparkling flowers, Cypripedium Calypso, C. Godseffianum, C. Lathamianum, and other sterling bybrids. Cool house Orchids are not quite so largely represented; still, I noted several good forms of O. triumphans, O. Pescatorei, the rare and beautiful Oncidium lamelligerum, Odontoglossum Rossi majus, several exceedingly pretty forms. The collection of Orchids at Selwood is only of recent formation, and is improving under the careful management of Mr. Watts, the gardener.—*E.*

Dendrobium Wardianum album.

CALLING at Mr. R. Lee's, Audenshaw, near Manchester, the other day I noticed an unusually well grown plant of Dendrobium Wardianum album in flower. Mr. Lee is well-known to be an ardent collector of choice Dendrobiums, and his collection contains many gems of great value. The plants are remarkably well grown and well set with buds.—*E.*

Maxillaria Sanderiana.

A FINE batch of this grand Orchid is now in flower at Messrs. Charlesworth, Shuttleworth & Co.'s Nursery, Heaton, Bradford. It appears the plants have to grow strong and become well-established before they will flower; and they seem to tbrive best in teakwood baskets in a compost of fibrous peat and sphagnum Moss. During the summer montbs they delight in a copious supply of clean soft-water; during the winter montbs, however, they require less moisture.

NEW ORCHIDS CERTIFICATED.

Cymbidium grandiflorum.

THE leaves of this grand Cymbidium measure 2 ft. to 2½ ft. in length and are linear, deep green, and marked with greenish-yellow veins. The scape bears four to six huge flowers. The sepals and petals are lanceolate-oblong, acute, and vary from pale to a deep green. The most conspicuous feature of the flower is the large lip, which is well expanded, three-lobed, and creamy-white, deepening to yellow round the margin, which is also marked with a line of brownish-purple spots; there are a few crimson spots over the central area. The margins are boldly undulated and the side lobes are ovate, acute, ciliated, and creamy-white, spotted witb crimson. The column is pale yellow, thinly marked with brownish-crimson on the back, and densely spotted all over tbe face. All who see it acknowledge tbe boldness and beauty of this rare Orchid, whicb was exhibited by Messrs. F. Ross & Co., Merstham Nurseries, Surrey, and received a First-class Certificate.

Phaius amabilis.

IN this we have a new and distinct type of hybrid raised from Phaius grandifolius crossed with the pollen of P. tuberculosus. The leaves are lanceolate, plicate, 12 in. to 18 in. long, but as a rule falling short of the latter figure, and therefore comparable to those of the pollen parent. The sepals and petals are lanceolate, white externally and flesh-coloured internally. The lip is relatively short, emarginate, with a rosy lamina more or less marbled with purple; the side lobes on the other hand are brownish-purple, sbaded witb crimson and pubescent. The dwarf habit of the plant, the shortness of the lip and the rosy and purple shades of the latter show the influence of the pollen parent rather forcibly. It may be described as neat, novel, and pretty, and was awarded a First-class Certificate. Exhibited by Messrs. James Veitch & Sons.

Dendrobium Owenianum. (*See page* 417).

THE stems of this Dendrobium vary from 12 in. to 16 in. in height and consist of numerous rather compressed internodes, swollen or dilated towards the top of each. The younger stems bear leaves in greater or less quantity as in D. nobile. with flowers in clusters of one or two. The plant itself is a bybrid obtained between D. Linawianum majus and a fine variety of D. Wardianum, and was raised by Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne. The sepals are oblong, white and purple for half their length from the apex downwards; the petals are oblong-ovate, white with purple tips. The lip recalls that of D. Wardianum, but smaller, and the maroon blotch is smaller merging into yellow, beyond which is a broad white band and the apex purple. A large and well flowered plant of it was shown, and a First-class Certificate was accorded it.

Dendrobium nobile Amesiæ.

NUMEROUS varieties of D. nobile have been brought forward from time to time for recognition, but it is some time since a prettier or more distinct one has been brougbt before the public for the first time. Tbe sepals are oblong, the petals much broader, and all are pure white. The lip is also white with exception of a clear and rich purple blotch in the throat, which with the purple anther cap, shows off tbe purity of tbe rest of tbe flower to advantage. An Award of Merit was accorded it.

Lælia hybrida Maynardii.

THE seed parent of this hybrid Lælia was L. pumila Dayana, and the pollen parent Cattleya Walkeriana dolosa. The progeny as might be expected is dwarf, the pseudo-bulbs being clavate, slender, and only 2 in. to 3 in. high, bearing at the apex, one or two, short, oblong, leatbery, dark green leaves. The spreading sepals, are oblong-lanceolate and pale purple with deeper veins. The spathulate petals are several shades darker with a corresponding venation. The lip is three lobed with an orbicular, bifid lamina, that is of an intense purple with crimson veins towards the base; the side lobes are also of a dark purple, rounded, and there are purple veins on a paler ground in the throat. An Award of Merit was granted it. Both the Lælia and the two Dendrobiums above described were exhibited by Messrs. F. Sander and Co, St. Albans.

Diuris maculata.

LIKE all the rest of the genus, this singular looking species belongs to Australia. A short way off it resembles a species of Cuphea owing to the prominence of the petals which are larger than the sepals, and yellow with long black claws. The upper sepal is roundish and yellow with two black spots at the base. The lateral sepals on the contrary are linear, and brownish black with greenish tips constituting the tails, indicated by the specific name. The small three lobed lip is yellow with black spots on the middle lobe, with a single spot on the tip of the longer lateral lobes. It is very rare in this country in a living state. A Botanical Certificate was awarded this as well as to Eria barbata. Both were sent over from the Royal Botanic Gardens, Glasnevin, by the Curator, F. W. Moore, Esq.

WHAT TO DO IN THE GARDEN.

Rondeletia speciosa.—As a rule this plant is treated by gardeners in a half-hearted way. Instead of cutting back the straggling shoots, or, in fact, pruning the plant into shape at tbe proper season, they simply allow the plant to grow much as it likes, and then adopt the unnatural method of tying the plant into orthodox form. More satisfactory results are obtained by a free use of the knife; this should be done at once, and the young shoots that arise pinched in the course of eight or ten weeks to make them break freely.

Ixoras.—If not already done, lose no time in having all the last year's shoots cut back to the hard wood. Young plants are more desirable than old ones, so that by raising a few young ones every year a few of the old ones may be discarded, retaining only the best-conditioned for the supply of cut bloom. Young plants that will produce six to nine trusses of bloom, will be most serviceable for decorative purposes.

Medinilla magnifica.—As the flower buds commence to swell up and show the colour bracts, assist the plants with liberal supplies of water and frequent doses of weak liquid manure. Mealy bug is a most troublesome pest to this plant, secreting itself amongst the bracts and young unexpanded flowers. Therefore look sharply after it and prevent its increase by frequently syringing tbe buds forcibly in such a way as to dislodge the bug.

Eranthemums.—Several of the species of Eranthemum are pretty and interesting for autumn flowering, including E. pulchellum, E. Andersoni, E. albiflorum, and others. Cuttings taken and rooted now will make useful and vigorous plants for decorative purposes next autumn and winter.

Winter-flowering Heaths, &c.—All the Heaths and Epacris that have finished flowering should be cut hard back, if not already done, and placed in beat to encourage them to make a good and early start. Keep them moderately dry at the roots till their buds commence to swell up again. Frequent syringing will encourage the process considerably. The object is to get them to ripen their wood early, and plump up their buds before autumn.

Gladioli.—Take the first opportunity when the soil is in a suitably dry condition to plant out all the small corms that are usually considered worthless for flowering. By thus giving tbem a long season for growth, some of the very smaller ones will produce strong-flowering spikes by August or September, according to the part of the country in which they are grown. A batch of full-sized corms may be put in boxes in a compost consisting largely of decayed manure and leaf soil, and started in a moderate temperature. Harden off and plant out in May.

Melons.—It would be unwise to stimulate tbe plants into rapid growth unless we get more favourable weather. A temperature of 65° to 70° from fire heat will be quite sufficient until the outside air is sufficiently genial to admit of free ventilation, otberwise the plants will get drawn and spindly. Syringing should be discontinued, except on fine days, till the young plants are tboroughly established in the soil.

Cucumbers.—The increasing ligbt and longer days are telling upon old plants where they have been carefully managed. Continue to remove all supernumerary fruits, so as not to overtax the plants. Give a plentiful supply of moisture and ventilation when the sky is bright overhead. A night temperature of 70° with 10° or 15° of a rise during the day will be sufficient for the present. Young plants should not, however, be urged on too rapidly.

Rhubarb.—Take advantage of an early opportunity to make any fresh plantations of Rbubarb that may be required. Trench deeply, using a liberal quantity of manure, and plant the divisions in lines about 3½ ft. apart. and 3 ft. from plant to plant. A little loose manure may be thrown over the crowns to shelter the young growth.

Asparagus.—Do not miss an opportunity of getting ready tbe ground for the planting of Asparagus in April. Trench 3 ft. deep if tbe soil will permit of it and work in a liberal amount of manure. Where the natural soil is heavy and inclined to clay it should be taken out or at least the lower portion of it, and the remainder improved by incorporating with it old soil from under the benches, leaf soil and any light, rich material that may be at command.

QUESTIONS AND ANSWERS.

*** *Correspondents are requested, in order to avoid delay, to address all communications to* "THE EDITOR" *or* "THE PUBLISHER," *and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed* "*Bambusa, London.*"

BLACK CURRANTS NOT FRUITING.—*G. L. S.*: From the descriptions which you give of certain of your Black Currants not fruiting we have little doubt but that they are attacked by the Currant-bud mite (Phytoptus Ribis), and if so the sooner you root them up and burn them the better. Examine the bushes to see whether the buds are now swollen up and globular, resembling Peas. If so, the mite is there, and you will never get any fruit. See p. 407 of last week's issue.

RAIN WATER FROM ROOF.—*G. L. S.*: Wben it commences to rain there will no doubt be a flush of sooty water until the roof gets partly cleansed. If you could run this off down a drain pipe for five or ten minutes wben it commences to rain, the dirty water would mostly be carried away. A little soot in the water would not hurt your plants in any way, and we believe the soot would settle sufficiently to enable you to take out what would be necessary for syringing purposes. Surely the chimney of your furnace would not throw out so much soot as to make the water collected from the roof detrimental for syringing. By running off the sooty water in the way above-mentioned, and occasionally cleaning out the tank itself, you can keep the water relatively clean.

BEST FORM OF PROTECTING LIGHTS.—*J. Reid*: Whether you use *cloches* or hand lights is a matter of convenience or necessity. Both are liable to get broken if not carefully handled and stored. The hand lights are easily repaired, but *cloches*, or bell glasses, when once broken to any extent, are practically useless. The hand lights are useful for protecting a number of plants, such as early Cauliflower planted out permanently, and a *cloche* can only be expected to protect a single plant, whatever it may be, of the larger growing vegetables. In giving air the top of the hand light may be turned round so as to admit air at the angles of the bottom light, or it may be removed altogether. In the same way the *cloche* may be tilted up or taken off altogether and stood upon one side. The hand lights would be most expensive in the first instance, but they would be most durable and you could turn them to other uses such as rooting cuttings, raising seedlings or protecting them in the early stages when transplanted. It will therefore depend upon requirements as to which of the two kinds you should employ.

NAMES OF PLANTS.—*T. J. N.*: 1, Carex sp. or Cyperus sp.; 2, Carex japonica variegata; 3, Pteris hastata macrophylla; 4, Celsia arcturus; 5, Streptosolen Jamesoni; 6, Salvia rutilans.

COMMUNICATIONS RECEIVED.—A. H.—H. B. M.—G. J. I.—J. D.—D. & G.—W. S.—G. P. W.—Scot.—R. G. W.—E. W. & S.

TRADE CATALOGUES RECEIVED.

THOMAS S. WARE, Hale Farm Nurseries, Tottenham.—Hardy Perennials, hardy Florists' Flowers, and hardy and half-hardy Climbing Plants.

JAMES DICKSON & SONS, 32, South Hanover Street, Edinburgh.—Agricultural Seeds.

LONDON SEED TRADE.

February 27th.

MESSRS. HURST & SON, of 152, Houndsditch, E.C., and 39, Seed Market, Mark Lane, report an increasing demand for agricultural seeds, at prices current last week. Italian Ryegrass is in very short supply.

COVENT GARDEN MARKET.

March 1st, 1893.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Grapes..... per lb.	2 0	3 6	Pine apples.		
Kent Cobs...100 lb.			—St. Michael's, each	2 6	6 0
Peaches ... per dozen			Apples...per ½ sieve	1 0	3 6
Melons ... . each			Plums...per ½ sieve		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d
ArtichokesGlobe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, French, perlb.	1 6	3 0	Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng.dz.	3 0	5 0	Seakale .....per bkt	2 0	3 0
Celery.....per bundle	2 6		Smallsalading,punnet	0 4	
Cucumbers .....each	0 9	1 3	Spinach ... per strike	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	1 6	2 0
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Champions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d
Azaleas... per doz	24 0	42 0	Genesta .....per doz.	9 0	15 3
Cyclamen per doz ...	9 0	18 0	Hyacinths, doz. pots	8 0	12 0
Cyperus .....per doz.	4 0	12 0	Lily of the Valley doz.		
Cineraria ...per doz.	8 0	12 0	pots	9 0	18 0
Dracæna term., doz.	24 0	36 0	Marguerites, per doz.	6 0	12 0
Dracæna viridis, doz.	9 0	18 0	Palms in variety, each	2 6	10 0
Deutzia .....per doz.	9 0	12 0	Palms, Specimen ...	15 0	63 0
Erica Hyemalis, doz.	12 0	18 0	Primula Sinensis		
Evergreens, invar. doz	6 0	24 0	per doz.	4 0	6 0
Ferns, invar., per doz.	4 0	18 0	Solanums.....per doz.	9 0	12 0
Ferns, small, per 100	6 0	10 0	Tulips—various—		
Foliage Plants, doz.	12 0	60 0	per doz. pots	8 0	12 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s d		s. d.	s. d
Anemones, doz. bnch	2 0	4 0	Mignonette... 12 bun.	2 0	4 0
Azalea, doz sprays.....	0 6	1 0	Narcisse, various, doz.		
Arum Lilies, 12 blms.	2 0	4 0	bnchs	2 0	4 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, 12 sps.	0 9	1 0
Carnations, 12 blooms	2 0	4 0	—scarlet.....12 bchs.	6 0	9 0
Chrysanthemum, dz bn	3 0	9 0	Primula, double, bun.	0 6	1 0
Camellias doz blooms	1 0	3 0	Primroses doz. bchs	1 0	3 0
Cyclamen doz blooms	0 4	0 6	Orchid Bloom in var.		
Daffodils, var. dz. bch.	2 0	9 0	per bloom, from	0 3	1 0
Eucharis ...per doz.	3 0	6 0	Roses, yellow, dozen	3 0	6 0
Euphorbia Jackminafolia, doz. sprays	1 0	4 0	— French, per bnch	1 6	4 0
Gardenias 12 blooms	6 0	12 0	— French, 100 blms	6 0	12 0
Heliotropes, 12 sprays	0 6	0 9	— Red..... doz. blms.	3 0	9 0
Hyacinths doz. spikes	3 0	6 0	— Saffrano...per doz.	2 0	3 0
Hyacinths Roman			Snowdrops doz. bchs	1 0	2 0
doz. sprays	0 6	1 0	— Tea ..... per dozen	1 0	3 0
Lilac, White, French,			Tuberoses, per doz	1 0	1 6
per bunch...	2 6	4 0	Tulips, red, per doz.	0 6	0 9
Lilium Harrisii,			— White, per doz. ...	1 0	2 0
doz. blooms	6 0	9 0	— Yellow, per doz....	1 0	2 0
Lily of the Valley dz. sps.	0 6	1 6	Violets, Parma, French		
Maidenhair Fern, 12 bs.	6 0	9 0	per bunch ..	2 0	2 6
Marguerites, 12 bun.	4 0	6 6	—Czar, French, bun.	1 6	2 0
Mimosa (French) p. bb.	1 0	1 6	Small ,, doz. bun.	1 0	2 0

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EARL'S COURT EXHIBITION.

EXHIBITION OF GARDENING and FORESTRY.

The EXHIBITION will Open on the 13th May, and Close about the middle of October.

Exhibits have been promised by the British and several Foreign Governments, and the most prominent Horticulturists and Foresters have expressed their desire to help.

FORTNIGHTLY FLOWER SHOWS will be Held, Commencing 13th MAY. For particulars see Special Schedule

CLASSIFICATION of EXHIBITS.

MEDALS AND CERTIFICATES WILL BE AWARDED.

GROUP 1.—Gold, Silver, and Bronze Medals, and Certificates.—(a) Specimens of new and rare flowering trees and shrubs. (b) Forest flora. (c) Collection of seeds, cones, etc. (d) Forest fauna and entomology. (e) Specimens of damage done to timber and growing wood by insects, etc.

GROUP 2.—Gold, Silver, and Bronze Medals, and Certificates.—Growing Collection of Trees and Shrubs.—(a) Deciduous and evergreen, indigenous and exotic, in classes. (b) Deciduous and evergreen, indigenous and acclimatised, with special reference to the grouping for effect. (c) Undergrowth for coverts, etc. (d) Fruit trees, trained.

GROUP 3.—Gold, Silver, and Bronze Medals.—(a) Garden and forest literature. (b) Working plans of gardens, forests, and plantations. (c) Valuations and survey of estates. (d) Charts illustrative of the geographical distribution of trees, their adaptability to various soils, their rate of growth, etc.; of the sequence of plants, natural and artificial. (e) Specimens of fossil trees.

GROUP 4.—Gold and Silver Medals.—Hybridisation of Plants.—(a) Specimens of a hybrid, accompanied by the two parent species or varieties, indicating which of these has furnished the pollen. (b) Specimens of a hybrid A × B produced by crossing the two species or varieties A and B—the plant A having furnished the pollen; and specimens of a hybrid B × A produced by the crossing of the same species or varieties A and B—the plant B having furnished the pollen. The plants A and B must accompany the hybrids.

GROUP 5.—Gold and Silver Medals.—Collection of Timber Specimens and Ornamental Wood, Rough and Polished.—(a) Indigenous. (b) Exotic.

GROUP 6.—Two Gold, Silver, and Bronze Medals.—Wood Working Machinery.—(a) Sawing, planing, moulding, lathes, etc. (b) Implements and tools used in gardening and forestry. (c) Lawn mowers, rollers. (d) Digging and draining tools, axes, pruning tools, pumps, cutlery. (e) Appliances for the transport of timber, and (f) The transplanting of trees.

GROUP 7.—Gold Medal.—Wood Engraving, with samples of wood; special attention being given to the supply of Boxwood (Buxus sempervirens) or its substitutes.

GROUP 8.—Gold, Silver, and Bronze Medals.—(a) Wood used for ordnance and small arms, backing for armour plates, lance stocks, etc. (b) Wheels. (c) Sleepers and rolling stock of railways, telegraph poles, etc. (d) Paving or street purposes. (e) Mining timber. (f) Bent timber.

GROUP 9.—Two Gold, Silver, and Bronze Medals.—(a) Woods used for parquetry, with examples. (b) Mosaic. (c) Wood block flooring. (d) Ceilings, wainscoting, and internal wall decorations. (e) Household furniture.

GROUP 10.—Silver and Bronze Medals.—(a) Fibres. (b) Wood pulp materials used for paper-making. (c) Ropes, lines, and twines. (d) Resins and oils. (e) Dyes and stains. (f) Barks. (g) Spires.

GROUP 11.—Gold and Silver Medals.—(a) Wood carving. (b) Turnery. (c) Decorative painting on wood.

GROUP 12.—Gold, Silver, and Bronze Medals.—Processes for the Preservation of Timber.—(a) To resist wet and dry rot. (b) To resist fire. (c) Paints and other wood preserving compositions.

GROUP 13.—Silver and Bronze Medals.—Fertilizers and Artificial Manures

GROUP 14.—Silver and Bronze Medals.—(a) Garden pottery. (b) Statuary vases. (c) Edgings, etc.

GROUP 15.—Silver and Bronze Medals.—Miscellaneous accessory Decorations to a Garden.

GROUP 16.—Silver and Bronze Medals.—(a) Fancy woodwork. (b) Baskets. (c) Bamboo canes, willows, etc.

GROUP 17.—Gold, Silver, and Bronze Medals.—(a) Plant houses. (b) Show and growing houses. (c) Systems of glazing. (d) Heating.

GROUP 18.—Gold, Silver, and Bronze Medals.—(a) Fencing. (b) Gates. (c) Tree guards.

GROUP 19.—Gold, Silver, and Bronze Medals.—(a) Summer houses. (b) Chalets, kiosks. (c) Garden seats. (d) Flower stands. (e) Boats, canoes, etc.

GROUP 20.—Gold, Silver, and Bronze Medals.—Distillation and Preparation of Scents, and Flowers and Woods used.

GROUP 21.—Gold and Silver Medals.—(a) Settlements in new countries, showing camps and camping contrivances. (b) Cultivation of tea, coffee, opium, cinchona.

GROUP 22.—Gold and Silver Medals.—(a) Sporting trophies. (b) Pictures of forest trees.

GROUP 23.—Gold and Silver Medals.—Any Exhibit not particularised in the above Groups, in furtherance of the objects of the Exhibition, will be admitted.

All exhibits must be submitted to the approval of the Executive, who retain the absolute right to admit only such exhibits as they may approve, to appoint Judges, and award the Medals and Certificates.

The Judges will be instructed to recommend additional medals should they think any exhibit worthy of special distinction; and the right is also reserved to withhold medals offered in any group should the Judges determine that the exhibit is not sufficiently meritorious.

Application Forms, copies of the Rules and Regulations, and all particulars can be obtained on application to the Secretary.

H. E. MILNER, *Chairman.*

GEORGE CADELL, (late) Indian Forest Department, *Vice-Chairman of Committee, Forestry Section.*

HARRY TURNER, Royal Nurseries, Slough, *Vice-Chairman of Committee, Horticultural Section.*

G. A. LOVEDAY, Earl's Court Exhibition, S.W., *Secretary.*

H. CANNELL & SONS

Wish to announce that their

FLORAL GUIDE

Is now posted to all their Customers. Should any fail to receive it an early intimation will have our immediate attention.

Mr. A. D. HEALEY Walsham, Norfolk.

Gentlemen.—I beg to thank you for the splendid plants you sent, they are very different to what one generally obtains.

Mr. D. ANSELL, Supt., St. George's Gardens, London, W.C

Gentlemen,—I cannot speak too highly of the complete way you have treated my order, no cavilling about this or that, it showing the advantage gained by dealing with a first-rate firm.

J. HOWE, gardener to J. T. MASTERS, Esq., Lanelay House Llantrissant, Wales.

Sir,—I and my friends are delighted to tell you that from what you sent me I was awarded Two Firsts, N.C.S. Silver Medal, and a Second in the strongest competition for 48 blooms. I think you will admit I did well.

J. E. MILLER, Esq., Ivy Grove, Middleham.

Gentlemen,—Plants came safe, grand packing, and very satisfactory in every way. Your plants are not scraps, but large healthy specimens, and the gratis plants were up to the standard of those ordered. I am more than pleased, and so ought all your Customers be.

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12	Maiden-hair Ferns, 12 var., most lovely kinds...	5	0
6	Maiden-hair Ferns, 4 distinct var., named	2	0
3	Adiantum Farleyense, most handsome Maiden-hair	2	6
3	Greenhouse Asparagus plants, strong, well rooted	1	9
3	Lygodium scandens, the pretty climbing Fern	1	9
6	Greenhouse Selaginellas or Mosses, including golden	1	6
12	Assorted Ferns for cool greenhouse without heat	2	6
6	Large choice greenhouse Ferns, A. Farleyense tenerum, amabile, &c., 1 ft. high.	3	0
6	Fuchsias, 6 varieties, named	1	6
1	Tacsonia, 1 Hoya, 1 Solanum jasminoides	2	0
6	Primula obconica, always in flower, strong	2	0
6	Ivy Geraniums, 6 var.	1	6
6	Foliage Begonias (B. Rex), handsome leaves	2	0
3	Passion Flowers, 3 varieties, named	1	6
3	Double White Primulas	1	6
6	Cyclamen persicum, good strain	1	9
3	Hydrangeas Dr. Hogg	1	6
6	Heliotropes, 6 varieties	2	3

ENGLISH'S HARDY PLANTS.

6	Delphiniums, mixed colours, light and dark	1	9
6	Perennial mauve Michaelmas Daisy	2	0
6	Lavender or Southernwood, strong plants	1	6
6	Christmas Roses	2	6
12	Hollyhocks, mixed, from double flowers	1	6
12	Sweetbriars, strong plants	2	3
20	Canterbury Bells. Aquilegias, or Campanulas	1	9
3	Large-flowering Clematis, purple, etc., named...	2	6
6	Mrs. Sinkins, new white Pink (12 for 1s. 10d.)...	1	4
12	Irish Ivies, strong plants, 2 ft. to 3 ft. high	1	9
6	Named perennial Phlox, 6 var.	1	6
6	Perennial Michaelmas Daisies, white, very large	2	0
12	Iceland Poppies, pretty perennials	2	0
6	Helianthus (Perennial Sunflowers)	2	0
12	Pansies and Violas, best named kinds	1	9
6	Lobelia cardinalis, intense red flowers, perennial	2	0
3	Scarlet Salvias, very free flowering	1	3
6	Tritoma Uvaria (Red-hot Poker)	2	0
6	Nicotiana affinis (sweet-scented Tobacco plant)	2	0
100	assorted hardy perennial plants, named	5	0
12	Carnations, from double flowers	2	0
40	Wallflowers, blood-red, yellow, etc.	2	0
12	Wallflowers, Double German, mixed	1	6
6	Double Scarlet Geums	1	6
6	Carnations, Crimson Clove, Purity, Gloire de Nancy, etc., named	3	0
12	Perennial Gaillardias	2	0
12	Auriculas, fine plants...	1	6
6	Roses in pots, 6 varieties, named	8	6
6	Hardy Primulas, Sieboldi, cashmeriana, etc.	1	6
6	Tiger Lilies (12 for 3s.)	1	0
12	White Gladioli, The Bride	2	9

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FLOWER SHOWS, 1893.

[The Editor will be greatly obliged if Secretaries of societies will communicate to him the dates of their exhibitions as soon as fixed.]

MARCH.

14.—Flower Show in Manchester Town Hall.
14,28.—R.H.S., Drill Hall.
22.—Royal Botanic Society.
23.—Shrewsbury Spring Flower Show.
25.—Crystal Palace Flower Show.

APRIL.

5,6.—Royal Caledonian Horticultural Society.
11,25.—R.H.S., Drill Hall.
19, 20.—Newcastle-upon-Tyne Spring Show.
25.—Flower Show in Manchester Town Hall.
26.—Royal Botanic Society.
26,27.—Ancient Society of York Florists.

MAY.

9.—R.H.S., Drill Hall.
10,11.—Crystal Palace Flower Show.
17.—Royal Botanic Society.
19.—Orchid Show at Old Trafford.
24.—Midland Counties Pansy Show at Tamworth.
25,26.—R.H.S., Temple Show.

JUNE.

6,20.—R.H.S., Drill Hall.
14,15,16.—York Floral Fete.
20.—National Rose Show at the Drill Hall.
21.—Royal Botanic Society.

JULY.

1.—National Rose Show at the Crystal Palace.
4.—Gloucester Rose Show.
5.—Ealing Flower Show.
5.—Royal Botanic Society.
5, 6.—Lee, Blackheath, and Lewisham Horticultural Society.
11.—R.H.S., Chiswick.
12,13.—Royal Caledonian Horticultural Society.
13.—National Rose Show at Worksop.
13.—Woodbridge Flower Show.
18.—Eye Flower Show.
20, 21, 22.—Newcastle-upon-Tyne Summer Show.
22.—Rose Show at Old Trafford.
25. R.H.S., Drill Hall.

AUGUST.

1.—Oxford Union Carnation and Picotee Show.
5.—Midland Counties Carnation Show at Birmingham.
5, 7.—Southampton Floral Fête.
7.—Beddington, Carshalton, and Wallington Flower Show.
7.—St. Neots Amateur and Cottage Horticultural Society.
8.—R.H.S., Drill Hall.
10.—Margam Cottagers' Show.
10.—Maidenhead Flower Show.
16.—Reading Flower Show.
16, 17.—Bilston Flower Show.
18.—Devon and Exeter Horticultural Society.
23, 24.—Shrewsbury Summer Show.
29,30,31.—R.H.S., Agricultural Hall.

SEPTEMBER.

1,2.—National Dahlia Society's Show at the Crystal Palace.
6,7,8.—National Chrysanthemum Society at the Aquarium.
8.—Bute Rose Show at Rothesay.
12,26.—R.H.S., Drill Hall.
13,14.—Royal Caledonian Horticultural.

OCTOBER.

10,24.—R.H.S., Drill Hall.
11,12,13.—National Chrysanthemum Society at the Aquarium.

NOVEMBER.

1,2.—Kent County Chrysanthemum Show.
1, 2.—Steyning Chrysanthemum Show.
6.—St. Neots Chrysanthemum Show.
7,8,9.—National Chrysanthemum Society at the Aquarium.
7,8.—Kingston Chrysanthemum Show.
8, 9.—Brixton, Streatham, etc., Chrysanthemum Show.
8,9.—Bournemouth Chrysanthemum Show.
10.—Exeter Chrysanthemum Show
10.—Windsor Chrysanthemum Show.
14,15.—Croydon Chrysanthemum Show.
14,28.—R.H.S., Drill Hall.
15.—Reading Chrysanthemum Show.
15,16.—Birmingham Chrysanthemum Show.
15,16.—Bristol Chrysanthemum Show.
15, 16, 17.—Hereford Fruit and Chrysanthemum Show.
21,22.—Manchester Chrysanthemum Show.

DECEMBER.

5,6,7.—National Chrysanthemum Show at the Aquarium.
12.—R.H.S., Drill Hall.

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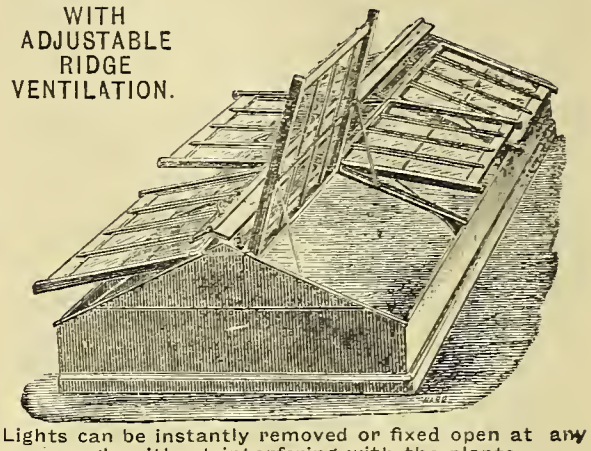

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THE NATIONAL CHRYSANTHEMUM SOCIETY'S CATALOGUE.—Centenary Edition. Containing 1,000 new varieties. All the novelties. A history and complete bibliography of the Chrysanthemum, by Mr. C. Harman Payne. *Price, 1s.; post free, 1s. 1½d.*

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For Index to Contents see page 442.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, March 13th.—United Horticultural Provident and Benefit Society; Annual Meeting.
Sale of Plants, Roots, &c., at Protheroe & Morris' Rooms.
TUESDAY, March 14th.—Royal Horticultural Society; Meeting of Committees at 12 o'clock. Flower Show in Manchester Town Hall.
Sale of Border Plants at Protheroe & Morris' Rooms.
WEDNESDAY, March 15th.—Sale of Bulbs and Hardy Plants, at Protheroe & Morris' Rooms.
THURSDAY, March 16th.—Sale of Lily and other Bulbs, at Protheroe & Morris' Rooms.
FRIDAY, March 17th.—Sales of Orchids and Hardy Plants at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, MARCH 11th, 1893.

THE FUTURE OF THE DAHLIA.—There is just a possibility, from the growers' and exhibitors' point of view, that the Dahlia is in danger of falling somewhat into neglect as an exhibition flower. Perhaps it is only natural. The introduction of the Cactus type, and its wonderful development, took a deep hold upon the public taste, and this, added to something like a floral furor over the single varieties, operated to infuse a large amount of energy into the production of new and improved forms, which also acted favourably towards the Show and Fancy types. The rush of enthusiasm appears to be sensibly declining, for these fluctuations come periodically and they serve to show that the general public are as changeable in reference to floral favourites as they are to fashions in dress, or in relation to other things which for a period powerfully operate upon the public mind.

And yet, it must be said, a Dahlia show is always popular. Visitors look upon the large, finely moulded, brilliantly or delicately hued blooms of the Show varieties and wonder at their marvellous development and superb beauty, for dislike as some may "the lumpish and inelegant Dahlia," as Dr. Lindley once termed it, there is yet a grandeur and at the same time a refinement about it which compels admiration. The exhibitions of the National Dahlia Society have done so much towards the development of the flower of late years that we should greatly regret if the danger which appears to beset it in the immediate future—a falling off in its funds—was to be realised. Whatever may sometimes be said as to the waste of power in the multiplication of special societies in the floral world, rightly regarded they are a necessity. They are powerful, as far as their limited means will allow, in keeping a particular flower prominently before those who find in flowers so much to fascinate, that we shall be very sorry indeed if the future operations of the National Dahlia Society become crippled for want of means. All who have a kindly regard for the Dahlia, even if one type is preferred before another, should support the National Dahlia Society. Its existence is a guarantee—and a most substantial one—for the improvement of the flower, and we have by no means reached the *ultima thule* which bars the way to the future march of progress.

If it were only for what the society has accomplished with such signal success, viz. the marked improvement in the Cactus, Pompon and decorative types—it demands wide support. It has laid open to the view of the flower-loving public a marvellous wealth of beauty and variety in the form of decorative material of an almost priceless character. The development of the new Cactus type during the past year was remarkable in the extreme, and with an active society encouraging future enterprise the possibilities of further development are boundless. This being so the National Dahlia Society can lay fair claim to a wide spread and generous support.

THE CHRYSANTHEMUM TRADE.—Those of our readers who are privileged at this season of the year to visit some of the leading Chrysanthemum nurseries will have perhaps gained a keener perception of the extent of the trade in these plants, and of the wonderful extent to which they are grown, not only in this country, but also all over the world, than can in any other way be furnished. Hardly have the plants begun to bloom in the autumn than the process of propagation is begun too, and thus it goes on for some six months—almost practically all the winter. During that time, in one nursery alone, some one hundred thousand young plants are rooted and put into commerce, sometimes more.

The demand begins early in the winter, and goes on till the spring. It is not so much a matter for wonder how so many young plants are produced. That is comparatively easy work. It is rather a matter for surprise that when everybody seems to have an abundance there should still be so great a demand for others. We can count these Chrysanthemum nurseries, large ones by the score, small ones by the hundred. They are found all over the kingdom. The large establishments lead the way with novelties, because with them enterprise and willingness to keep pace with the times constitutes the life blood of their existence.

There is with many of these traders a sharp race to be first in the field with new things, for not only do good novelties pay best, they help to sell older sorts, and in country districts the smaller traders, a year behind, follow the same course, so that in a couple of seasons the finest novelties are found growing everywhere.

It is indeed a godsend for the Chrysanthemum traders that the plants now seed freely at home and abroad. Very fine novelties are thus produced in great abundance, and these the private growers will have. Even the cottager, who grows his score or half hundred plants, will have them of the best, and thus the demand spreads all over the kingdom. Long may that demand continue to grow and its strength never grow less.

The Railway Rates Question.—When our good friends the representatives of the market trade had the other day so interesting an interview with Mr. Mundella, with respect to the increased railway rates for the transit of the commodities in which they are specially interested, we wonder whether any of them reflected on the apparent incongruity of their acts in thus invoking the Government and Parliament to step in between the private contracts of trader and purveyor, whilst they would hold up their hands in horror at any suggestion of the State interposing in ordinary private contracts.

We are here only enforcing stern logic. All the same the absolute need for State interposition in the case of the unfortunate trader and the omnipotent railway companies seems beyond dispute. That being so, it is certain that in all similar cases when the needs and interests of the community are concerned, State interposition may not only be asked but may become a necessity. We have already seen the State interpose on behalf of the penny per mile passenger, and of the workman, and that shows that the public interests demanding such interposition may be both lawful and right in relation to goods.

After all there seems to be no other satisfactory way out of the existing dilemma, which this general raising of rates to extortionate heights has created, than the holding and controlling of the railways by the State, both in the interest of the State and the public. That is, however, a very big order, but every day's bitter experience on the part of traders makes it loom less large. The case of the market grower is indeed a strong one, indeed it is of the very first importance. To strangle land cultivation is to throttle at its source the very foundation of labour, trade, and prosperity, and we cannot in any case allow grasping railway companies to do that.

Flower Show Fixtures.—Edinburgh Chrysanthemum Show, November 16th, 17th, and 18th. Richmond (Surrey) Flower Show, June 28th. Great Saughall Flower Show, August 2nd. Ovenden Flower Show, August 12th.

Death of Mr. J. T. Burnell.—We regret to have to announce the death of Mr. John Thompson Burnell, so well known as a member of the seed firm of Waite, Burnell, Huggins & Co., of Southwark Street, London, and Paris. The deceased gentleman was in his fifty-ninth year.

The Herbaceous Department at Kew.—Mr. D. Dewar has been succeeded in the herbaceous department at Kew, by Mr. Irvine, who previously had charge of the stove. Mr. Irvine owes his success to a large collection of British plants which he had collected, dried, and mounted in an admirable manner during the past and previous summers.

London Pansy and Violet Society.—A meeting of the members of the London Pansy and Violet Society was held on the 28th ult., at the Guildhall Tavern, Gresham Street, E.C. Several new members were enrolled, and the hon. secretary, Mr. George McLeod, reported the rapid advancement which the society is making. It is anticipated the exhibition on June 6th, in connection with the R.H.S. at the Drill Hall, Westminster, will be the finest display of Pansies and Violas ever seen in London.

Prize for Botany in Aberdeen University.—Among the matters discussed at a recent meeting of the Aberdeen University Court—the Marquis of Huntly, Lord Rector, presiding—was a letter from Mr. Hector Allan, Sydney, N.S.W., stating that a sum of £75 had been given by the late Rev. Robert Collie, Presbyterian minister, New Town, near Sydney, for a botany prize in the University. The Court unanimously agreed to accept the money, and a remit was made to the Senatus to draw up the conditions of the prize. It was explained that this was the first endowment for botany, and the hope was expressed that it might be added to.

A Legacy left to a Gardeners' Association.—The sum of £300 has just been left by will to the Birmingham Gardeners' Association, by a friend of Mr. J. Hughes, the secretary, to be used for the benefit of the association as he may think fit, and in announcing the unexpected intelligence to the members, he stated his intention of handing the sum to the trustees of the library, of which he is one, to be dealt with as they may think best.

The late Mr. George Phippen.—"Con." writes:—"It was with extreme regret that I read last week of the death of this most amiable and clever young horticulturist. When an old man passes away we feel that a light has gone out for which the world is all the poorer, and this feeling is greatly intensified when one is removed from amongst us so early in life as was Mr. Phippen. I knew him for several years, had business relations with him, and never knew a more honourable straightforward man. He was kind to a degree, had a most pleasing, winning manner, and gave high promise of future greatness in the horticultural world. After his spring show last year, which he made so successful, he wrote me for suggestions as to what other spring blooming plants he should grow to add variety to his exhibition, and he did me the honour of following my advice, but, alas! poor fellow, he has been taken away before he could see the results. Truly could we have better spared a better man."

Cottage Cookery at a Flower Show.—Our go-a-head friends on the Committee of Management of the Beddington, Carshalton, and Wallington, Horticultural Society, of which Mr. A. H. Smee is chairman, and his able gardener, Mr. W. G. Cummins, secretary, have, we notice, introduced another new feature into their schedule this year, beside the novel vegetable competition recently referred to in our columns in connection with the subject of "Points and Prizes." The new competition, for which Mr. Smee provides the prizes, is a class open to the wives and daughters of all subscribers and members, "for the best dinner to be produced at a cost not exceeding two shillings. The dinner must consist of meat and at least two distinct kinds of vegetables, and be sufficient for a man, his wife, and three children. The value of each article must be clearly stated. Prizes: £2, £1 10s, £1, and 10s." The competition will take place on Monday, August 7th, and we hope it will prove as successful as its promoter could desire.

Illustrated Catalogue of Orchids.—It is very unusual for the catalogues of plants appearing in the sale rooms of Messrs. Protheroe & Morris, Cheapside, to be illustrated. A second portion of the Fernside collection of Orchids belonging to H. M. Pollett, Esq., Fernside, Bickley, is to be sold at the above rooms on Wednesday, the 15th inst. Three dozen of the Orchids to be put up for sale are illustrated by coloured plates of a flower of each sort. A life-sized figure of a plant with a raceme of bloom adorns the cover of the catalogue. By far the larger proportion of them consist of Odontoglossums, that on the cover being O. elegans, a supposed natural hybrid. The others represent very fine forms of O. crispum, O. Pescatorei, O. Andersonianum, O. Ruckerianum, O. fastuosum, O. Wilckeanum, O. citrosmum roseum grandiflorum, and others of that high-class character. There is also a plate of Cattley Mossiæ Wageneri, or the White Mossiæ. A rather lengthy list of other Orchids are catalogued for sale, but we are most interested in the fine varieties which have been so sumptuously illustrated.

Propagation and Culture of the Potato.—Under the above title a small pamphlet has been written and published by Mr. James Dobbie, founder of the firm of Messrs. Dobbie & Co, Rothesay. The pamphlet also gives directions how to avert the Potato disease. It is the outcome of many years of experience and observation on a subject that has constantly been engaging the attention of cultivators and the public generally since 1845. The writer upholds the opinion rapidly gaining ground that Potatos have only a limited duration of healthy life, after which they become weakly in constitution and a prey to disease. He mentions the Scotch Champion as an instance. He has some curious notions, however, that low-lying and sheltered, or even shaded ground, will give a crop of Potatos free from the disease, and accounts for it by saying that the fungus cannot thrive where the ground is wet and uncongenial. The parasitical fungus, he says in another paragraph, cannot exist in cold, wet seasons. He is more in accord with our opinions where he says that the disease is most destructive in warm, sheltered situations, and less so in proportion to the exposure and elevation of the site.

National Chrysanthemum Society.—A meeting of the General Committee took place on Monday evening last, a large number being present, Mr. E. C. Jukes occupying the chair in the absence of Mr. R. Ballantine. The Hon. Secretary reported that the Reserve Fund had now reached the amount of £34, including contributions of £6 10s. from Mr. R. Owen, £5 from W. Herbert Fowler, Esq., £3 3s. from Mr. Norman Davis, and £1 from Mr. H. J. Jones. Amid a great deal of excitement a contest took place for eight members of the Floral Committee, the five out-going members, viz., Messrs. Cannell, Boyce, Gordon, Gibson, and Jones, being re-elected, and Messrs. C. E. Shea, W. Herbert Fowler, and E. Beckett being also elected. The votes on this occasion were taken by ballot by way of experiment, but the scrutineers scarcely considered it successful. The two highest of the losing candidates for seats on the Floral Committee were Messrs. E. Molyneux and E. Rowbottom. Two candidates were proposed as chairman of the Floral Committee, Messrs. C. E. Shea and G. Gordon. The votes were again taken by ballot, there being twenty-one for Mr. Shea and twenty for Mr. G. Gordon, the former being declared duly elected. Messrs. E. C. Jukes, A. Taylor, H. Shoesmith, and C. Harman Payne were re-elected members of the Catalogue Revision Committee, and Mr. W. H. Fowler was elected in the place of Mr. G. Gordon, who retires. The Secretary reported that a large portion of the schedule of prizes was in type. Eight new members were elected, and the Royal Agricultural and Horticultural Society of Jersey was admitted to affiliation. A vote of thanks was passed to the chairman for presiding.

News from Cornwall.—Our Cornish correspondent writes:—For several days this week the weather in Cornwall has been as warm as July, and beneath the brilliant sun and cloudless sky garden operations have considerably progressed. Vegetable products are more forward than for several years past, and planting of Potatos may be said to be complete without the difficulties usually attendant upon the month of March. Broccoli and other green vegetables have been and are doing remarkably well, and now that the railway rates for carriage to the large consuming centres have been brought into something like reasonable quarters, market gardeners should have no reason to complain of bad times. The fact is, the mild weather has had the effect of bringing on the Broccoli crops faster than they can be sold, and the wonder is, therefore, they are not cheaper to the consumer. The late crops, indeed, are very nearly ready for sending away, so early has vegetation become. Daffodils and Primroses are abundant. Flower-growers of Scilly have reaped a wonderful harvest this year. Indeed, so extensive has been the yield that, notwithstanding that all the possible labour has been engaged in picking and packing and seventy tons per week have been despatched to the markets, many acres of the choicest of flowers are still left uncut. Forced fruit is doing well also.

THE HIBBERTIAS.

About seventy species of Hibbertia are known to science, but of this number a few only are in cultivation. Some of them come from warm countries and require stove treatment, but by far the larger number of them come from Australia, and thrive perfectly in a greenhouse. They vary in habit, some being strictly climbers, others trailers, and the rest upright shrubs of a more or less bushy character. The leaves vary considerably in size and form, indeed, so much so that some of them do not at first sight appear to be related; in the case of H. Reidii and others they are small and almost heath-like. The species thrive well enough in a mixture of peat and loam, or in either of those soils unmixed. The soil should in all cases, however, be well mixed with sand to render it porous. The dwarfer species are most suitable for cultivation in pots in the same way as New Holland plants generally. The climbers may also be grown in the same way, but they will grow more vigorously if planted out in a bed of prepared soil, and trained up under the rafters of the roof or to the pillars supporting it. They are evergreen, and may receive what pruning they require after they have flowered.

The most popular and the most widely cultivated of all the species is H. dentata, having flowers of a bright yellow, 1½ in. to 2 in. in diameter, and produced in clusters on the short lateral shoots all along the stems. The plant commences to bloom very early in the year, and continues on all through the spring and summer; in fact the plant is seldom out of bloom all the year round, and then only for a short time. The young twining shoots are produced during the summer, and when they have ripened their buds begin to develop and form the short, lateral, flowering shoots. The flowers are themselves produced in succession over a long period of time. The oblong leaves are dark green above and purple beneath, particularly when young.

Another Hibbertia that has been brought into some prominence within a few years past is H. Reidii. Unlike the last this is always a dwarf and self-supporting heath-like bush with small, linear, pubescent leaves. The flowers are yellow, and necessarily much smaller than those of H. dentata. They are produced in profusion upon little, bushy specimens only 3 in. to 6 in. high; the largest specimen we have seen were about 18 in. high, but young specimens raised from cuttings will take some years to attain this size, and flower profusely every spring.

The largest flowers of any in the genus are produced by H. volubilis, a species that climbs by means of twining stems. The leaves are also large, measuring 3 in. to 4 in. in length, and serve to show off the yellow blossoms to advantage, but the latter are rather offensive to the olfactory nerves owing to their fœtid odour. It is a native of Queensland and New South Wales, and can be grown to perfection in a greenhouse where it should be planted out and trained like H. dentata.

Strikingly distinct from either of the above is H. perfoliata, owing to the peculiar form of the leaves which are stalkless and strongly clasp the stem by their base. The flowers are large, pale yellow, and produced singly or a few together at the ends of short side shoots along the main branches, and continue to appear in succession during the summer months. Being a native of Western Australia, it only requires a greenhouse temperature. Its habit is somewhat variable, and the branches require to be cut back occasionally to keep them from straggling, or they may be tied into shape.

ABOUT STRAWBERRIES.

On Making New Plantations.

In gardens where these were made not later than the 1st August on thoroughly cultivated land, strong healthy plants will have made good growth and passed through the winter for the most part uninjured. In many instances such plantations may be expected to carry fair crops of fruit this season, but in the case of a number of rows of early sorts not planted till about 20th August, the flower trusses which may appear will be removed, as their retention would be calculated to weaken the plants, and prevent them producing as good crops in the future as they might otherwise do.

When young plants cannot be got into their permanent quarters early enough in autumn to ensure their being well established before winter sets in we prefer postponing the work till spring. As soon as they are detached from the older fruiting plants, or come to hand from nurseries or other gardens, they are carefully laid in nursery lines some 2 in. or 3 in. apart, which is preferable to merely laying them in thickly as I have seen practised. In placing the runners a handful of leaf soil may with advantage be afforded each of them, and the usual firming of the soil with the foot should not be overlooked. In this work, as well as in forming permanent plantations, especial care is advisable that varieties do not get mixed, and all should be correctly labelled and kept distinctly apart from each other to prevent the slightest chance of such mishaps.

Several lots—comprising John Ruskin, President, and President Improved—wintered as indicated, are now fairly on the move, and will be in good order for lifting and planting out by the end of the month. The plot reserved for this purpose was trenched and manured about fifteen months ago, and carried a crop of Onions last season. It will again be manured and deeply dug preparatory to planting the Strawberries. If 30 in. is allowed between the rows—and they should never have less space—with at least 16 in. from plant to plant, some light crop such as Spinach or early Turnips may be grown between the lines the first season. Respecting general summer culture frequent surface stirrings, especially during severe droughts and on light soils, mulchings and soakings of water if time permits, are items that can hardly fail to be rewarded on the arrival of the fruiting season. The timely removal of runners is also advisable.

While writing of laying down new plantations of Strawberries, it may not be inopportune to refer to the immediate wants of such as may have produced several crops of fruit, but may still have to be retained till new plantations come into full bearing. The number of years which plantations growing in deep clayey land continue to crop satisfactorily is occasionally the subject of remark among cultivators. As a case in point I am reminded of the full crops of excellent fruit which, as a rule, are gathered annually in the garden on an adjoining estate. Mr. Stewart, the gardener, informs me that his system of culture is first to trench the ground, and after an intervenin crop of Potatos is taken from it, preparations are made for planting Strawberries by digging and manuring. The soil is very heavy and retentive of moisture, and winter digging between the rows, which are 3ft. apart, is practised, but no manure is applied after a plantation is made during the five or six years it occupies the ground.

On most soils of a light description results, however, are not so gratifying, and plantations on such land are invariably benefited by an annual dressing of good manure. Although this work is usually done in autumn it is not yet too late; and where hungry roots are abundant throughout the space between the rows this mulching possesses the double advantage of sustaining the plants and protecting them from severe draughts and spring frosts such as occurred late in April last year in some districts.—*M. Ayrshire.*

RHODODENDRON GRANDE.

Rhododendrons have been introduced from various parts of the world, but none of them excel in grandeur some of the Himalayan species, some of which have been introduced now close upon half a century ago, including that under notice. It may not be the finest, but it is certainly one of the finest, species in cultivation. The stems attain the dimension of a small tree in their native home, so that specimens under glass in this country must attain some size before they flower. There are three flowering specimens in the temperate house at Kew, and the two tallest, which are flowering at the tip of every branch, are about 8 ft. or 10 ft. high. The flowers are large, campanulate, 8 to 10-lobed, the lobes being small and bifid; the whole is white with a large and lobed deep purple blotch internally, the blotch being most conspicuous on the upper side of the tube. The leaves vary from 6 in. to 12 in. in length, and are deep green above, and silvery beneath. To this latter fact is probably due the name of R. argenteum sometimes given it. The only fault to be attributed to this, as well as other species of the same habit, is that relatively few branches are produced as a rule, but this is what we might expect considering the size of the leaves.

HYACINTHS IN ORCHID POTS.

A visit to Falkland Park, South Norwood, the palatial residence of J. MacMeekin, Esq., is always interesting. That interest, perhaps, attains the climax in the earlier months of the year.

> While yet we look through lowering skies,
> To spring, ere spring appears.

Certain it is that the vernal season, from which most people obtain so much satisfaction, is, in these huge gardens under glass, anticipated long before the time. Here all seasons, except winter, are ushered in considerably in advance of their proper period, winter alone being not allowed to enter here.

But while those who are acquainted with these beautiful gardens may take it for granted that everything is well done that Mr. A. Wright, the able gardener, undertakes to do, I could not help noting the manner in which—even in a small matter of this sort—Mr. Wright gives effect to his views. The Hyacinth is always sweet and lovely, is indispensable for early greenhouse decoration, and well repays any liberal consideration which may be bestowed upon it. It is always fragrant and useful, and lends a charm and a pungency peculiarly its own, whether it is grown singly and "dotted" about amongst other plants, or, as here, in "groups," six bulbs to a pot. Mr. Wright holds advanced opinions in respect to the grouping of hardy plants, and he has made these views apparent even under glass. He maintains that six plants placed together produce a superior effect to the same number of plants dotted about, and I am disposed to agree with him. Certainly the result in this case was very pleasing, and although the "grouping" is on a miniature scale, the individual flowers which go to make up the whole are in no wise insignificant. As double flowers seemed to predominate, and, of course, are invariably planted together, the "bells" give no sound—they are effectually muffled. In the place thereof we have massive, fleshy spikes, crowded with rosettes, highly attractive, and fit to grace not only the conservatory, but the exhibition table. Single varieties are likewise employed, and in the same manner with equally successful results.

Gardening is said to be an empirical art. If this be empiricism, I like it, and would commend the experiment to others of the craft.—*C. B. G., Acton, W.*

Gleanings from the World of Science.

Bees in relation to Fruit.—In April of last year the Legislature of Ontario, as related by *Bulletin 81, of the Ontario Agricultural College*, passed a law whereby the spraying of fruit trees while in bloom with poisonous substances was made a misdemeanour, and the offender thereby made liable to a fine of not less than one dollar and not more than five dollars, with or without the cost of prosecution. If the fine should not be paid within the stipulated time, the offender might be committed to the common goal for a period not exceeding thirty days. Professor Panton speaks of the aid of bees in the fertilisation of the flowers of fruit trees, and believes that the great mortality amongst bees at that season is to be attributed to the spraying of the fruit trees while in bloom with Paris green and other poisons containing arsenic. Some observers have also noted that the brood also perished in the hives at that time. No analysis of bees that have died have yet been made to testify whether they have died of arsenical poisoning, but on all hands it is considered that this is the cause of their death, because no such mortality was known amongst bees previously to the practice of spraying. It is further stated that little or no good can be done to the trees by spraying them while in bloom.

How a Rose changed colour.—Some years ago my neighbour, Mrs. Scott, took a Rose bush from a matted row of ordinary pink Roses in front of her house, and planted it in a box filled with earth taken from a spot where Mr. Scott had long been accustomed to throw the sweepings from his blacksmith's shop. She grew the Rose as a house-plant, and when it bloomed, the flower, instead of being an ordinary light pink, was rich, dark and velvety.—*F. C. Fairbanks, Michigan, in American Gardening.*

FLORICULTURE.

National Dahlia Society.

THE lovers of the Dahlia met in council at the Hotel Windsor, on the 2nd inst., it being the annual meeting of the subscribers to the above society. Mr. E. Mawley, the chairman of the committee, presided, and among those present were Messrs. H. Turner, W. H. Williams, J. R. Tranter, A. Rawlings, J. T. West, A. Ocock, W. Frost, J. Cheal, G. Humphries, A. Taylor, R. Dean, etc. The minutes of the last meeting having been read, the Secretary presented the report for the year, which set forth that the Dahlia season of 1892 was one of gales, as strong ones prevailed throughout the country previous to and during the blooming time, the patience of growers being severely taxed. In spite of difficult climatic conditions the annual exhibition at the Crystal Palace was in all respects a very fine one; the quality of the show types was decidedly good; there was a great advance in quality, quantity, and effective display in relation to this section; the Pompons, single, decorative, and Cactus types, were very fine, and the usual excellence more than maintained.

In reference to the Cactus section, the class for those of a true character which were shown in accordance with a select list of varieties set forth in the annual report proved a very attractive addition to the exhibition, and compared most favourably in point of effect with the classes in which the decorative types were admitted. This class will be maintained, and the list of true Cactus types revised and added to for the ensuing season. The report deplored the loss of one of the society's vice-presidents, the late Mr. John Downie, of Edinburgh, many years a judge at the exhibitions at the Crystal Palace, and who will be missed in that capacity. Mr. Downie was pre-eminent as a florist, and also for the consistent liberality with which he supported the funds of the society.

The financial statement showed the income of the society to be fairly well maintained. Subscriptions had been received to the amount of £56 9s., and £50 from the Crystal Palace Company. Other items brought the income up to over £140. Prizes were paid amounting to £122 15s., and this, with other payments, left a balance for the next season, and several special contributions were announced towards a prize fund in the ensuing year, to which the members look forward with confidence.

In reference to the election of officers, the Rev. Charles Fellowes was re-elected president, several lady patronesses were announced, Mr. William Frost, of Maidstone, was added to the committee in the place of Mr. George Phippen, deceased; and the name of Mr. R. Dean was also added. Mr. E. Mawley undertook to discharge the duties of treasurer in conjunction with those of chairman, and Mr. T. W. Girdlestone was re-elected hon. secretary by acclamation, hearty votes of thanks being passed to the chairman and secretary for their services during the past year.

The schedule of prizes for 1892 was adopted as that for 1893. Slight reductions were made in the prize money offered in a few of the small classes, and an offer of special prizes from Mr. John Walker, Thame, for blooms of his new white self Dahlia, John Walker, was accepted. The Secretary reported that the annual exhibition would take place as usual at the Crystal Palace on September 1st and 2nd. In accordance with the usual custom the following were nominated to act as judges at the Dahlia Show at the Royal Aquarium on September 6th:—Show varieties: Nurserymen's classes, Messrs. A. Ocock and J. T. West; amateurs' classes, Messrs. H. Turner and J. Wyatt; decorative, Pompon and single varieties, Messrs. T. W. Girdlestone and E. Mawley. A hearty vote of thanks to the chairman brought the proceedings to a close.

On Planting Pansies and Violas.

THE planting out time for these is now close upon us, and plants in frames, if they have been kept rather close, should be well hardened and exposed, to prevent "drawing" in growth, and that they may be able to stand cold nights and bad weather. If cold biting winds should come upon us, then protect the plants from such winds, but admitting air and plenty of it when the sun is out. I always like to plant out about the end of March, in drills about 2 in. deep, as this affords protection to the young plants, and allows a space for a stimulating soil presently by way of mulching. Plant very firmly, and if the growth is rather long, either peg it down or secure it by a stick or two.

To grow Pansies and Violas well, planting should take place at the end of March or as early in April as can be, provided the plants are strong and well rooted. Many persons do not think of buying in plants until May or June, a very great mistake, as they have no time to get well established before hot dry weather sets in, and so a large number of them die away. Plants should also be closely watched for brown Aphis, and it is best to examine them before planting, and get them properly cleaned by washing the plants with Tobacco water or some other *safe* insecticide.

A large number of new Pansies are being sent out this year, chiefly by Messrs. Irvine, Smellie, Sydenham, and others, and many new sorts also of Violas by Messrs. Dobbie & Co. (who have done so much to make the Viola popular), Irvine, Steel, and others. Many of the new varieties are very lovely, and the leading sorts can be bought at low prices now. A flower garden without Violas will soon be as great a rarity as the Dodo. They flower very early and are continuous, and so many lovely shades of colour now exist in them. As cut flowers they are lovely and valuable, and so many have a delightful perfume, and even in small pots, they are so easily cultivated, they make a most desirable addition to the early blooming occupants of a greenhouse.—*W. Dean.*

Selection of Carnations and Picotees.

I WAS surprised to see in your last issue, that the National Carnation and Picotee Society in their annual report have published another selection of the best Carnations and Picotees so soon after the one given in their "Carnation Manual," and differing from the latter in many instances. The "Manual" and the annual report of the Carnation Society, according to the extract you make from the latter, give the following selections:—

MANUAL.	REPORT.
S. B. Robert Houlgrave.	Robt. Lord.
L. P. B. William Skirving.	Sarah Payne.
H. R. Picotee John Smith.	Dr. Epps.
H. P. Picotee Muriel.	Mrs. Chancellor.
L. P. Picotee Ann Lord.	Clara Penson.
H. R. Picotee Mrs. Sharpe.	Mrs. Payne.

If the report as a later publication is meant to be a revise of the Manual, it does not seem a very happy one (except in the substitution of Mrs. Payne as the best heavy rose instead of Mrs. Sharpe), and will not be found to be in agreement with the prize lists.—*J. W.*

EPIPHYLLUM TRUNCATUM.

AMONG greenhouse flowering plants, there are few subjects that are more showy and easily grown than Epiphyllum truncatum. They are the more appreciated, because at this dull season we have little colours in the house except that afforded by Cyclamen and Zonal Pelargoniums. They light up a house in a most charming manner, and are also well suited for a dwelling room, remaining in flower for a long time, and receiving no harm from the change of temperature. The flowers are borne upon the end of the flat and fleshy leaves, drooping in a most graceful manner that suggests their adaptability for growing as standards. Fortunately they are very easily cultivated in this manner, the best stock being Pereskia aculeata. This is stout enough to bear a good sized head.

Saddle grafting is a good method to adopt in this case. It is very simple, and all but certain to succeed. Cut the top of the stock wedge shape, then split the graft and fit it on to the stock. The graft should be split flatwise, and lightly tied around with a little Sphagnum Moss. Use a fair sized graft. If you have an extra strong stock, and wish to make your plant pyramidal instead of standard, it is easily done by grafting several pieces upon the stem. It matters not how these are connected with the stock so long as the two freshly cut portions unite neatly. A simple plan is to cut the graft to a point by making a slight cut upon each side, and then make a downward cut in the stock and insert the graft beneath the severed portion; afterwards tying all together neatly, but not so firmly as to constrict them in any way. Well-drained pots, and a compost of sandy loam, leaf soil, and a little well decayed manure will grow these charming greenhouse flowers to perfection. Very little water is needed, although from their succulent appearance it might suggest to the amateur that they were thirsty subjects.—*Experience.*

THE UNITED HORTICULTURAL PROVIDENT AND BENEFIT SOCIETY.

IN view of the annual meeting of this most excellent gardeners' society, which is to be held at the Caledonian Hotel, Adelphi, W.C., on Monday evening next, we propose in this number to bring the society and its work more prominently under the notice of our readers than we have hitherto done, in the hope that by so doing we may in some measure be the means of extending its sphere of usefulness. While we are heartily in sympathy with the objects embraced by the two gardening charities, and support them both so far as we can, we confess to a large measure of respect for all well and honestly conducted societies which have self-help and mutual support for their one aim and object, and essentially is this the case with the society under notice. It is the best of all provident and benefit societies of which we have any knowledge; it is managed, and most ably managed, by gardeners, and gardeners only can participate in the advantages which it offers.

The stability of the "United" is beyond question, for its funds are all invested in 3 per cent. English Corporation Stocks, and the amount of capital so invested is £7,700, the increase in investments during the past year being £1,000. A special feature of the society is the rule by which every member participates in the profit accruing from the interest on the Benefit Funds from year to year, and the oldest members are now receiving as much as £2 per annum interest on their account, and this increases from year to year. Each member at the close of the year has a private balance sheet sent to him, which is a copy of his account in the society's ledger. As an illustration of such an account we give the following statement copied from an early page in the ledger.

DR.	£	s.	d.
To Balance from last account	66	1	3
„ Interest allowed	1	18	0
„ Contributions, 1892	1	19	0
	£69	18	9

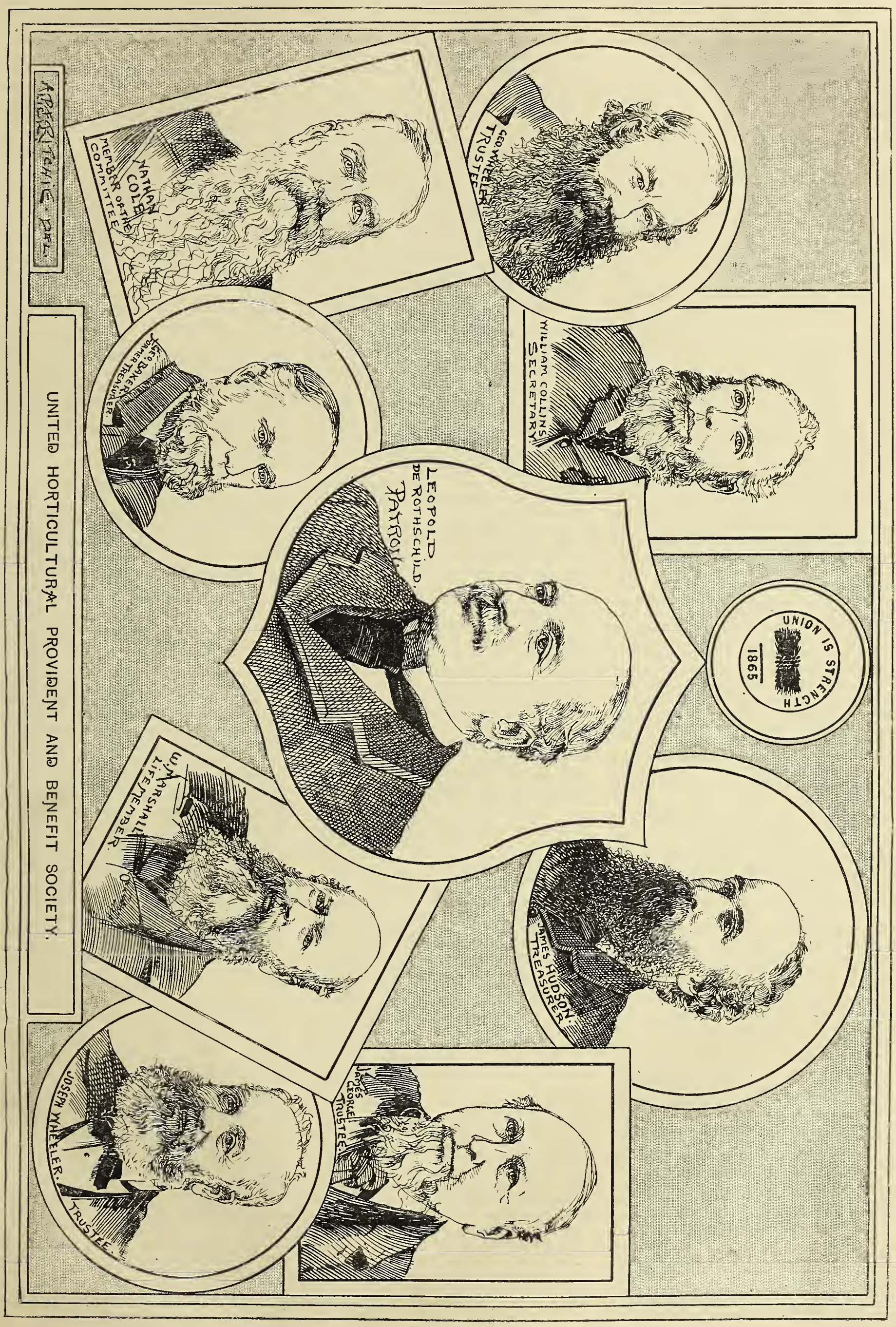
CR.	£	s.	d.
Deduct Sick Pay proportion	0	4	7
To Balance	69	14	2
	£69	18	9

This member, it should be added, pays 9d. per week, which entitles him to 16s. per week in times of sickness. Another member, who pays on the lower scale for 10s. 6d. per week, has a balance to his credit of £45 18s. 10d., the interest accruing to him during the past year being £1 5s. 4d., which is within 8d. of his annual contribution. In both of these cases there is one remarkable feature which is quite unique in the working of benefit societies, viz., the amount of interest allowed is as nearly as possible equivalent to the amount subscribed for the year, and herein lies a distinct advantage over other benefit societies, inasmuch as that should a member when he is advanced in years be in distress, and thereby be unable to keep up his payments, he can have a sufficient amount transferred from his deposit balance yearly without decreasing the amount of his capital. He thus remains a fully accredited member of the society, whereas in the general run of benefit societies as soon as a member falls into arrears he ceases to be a member and loses all prospective benefits.

Benefit societies constituted upon this latter plan undoubtedly gain a vast amount of money in forfeited payments, thereby gaining financial strength at the expense of the unfortunate members, but this is not the case with the "United," as no member loses the money he contributes, not even when he ceases to subscribe. In such a case his account is closed, but he does not forfeit his subscriptions, though he cannot receive the amount standing to his credit back from the society until he attains the age of sixty, but should he die before that age the amount can be paid out to his nominee. The first case of a member claiming his deposit under this rule has occurred during the past year, but previous sums have been paid to nominees.

In the balance sheet quoted will be noted the sum of 4s. 7d. as being deducted for proportion of sick pay, this was on the 16s. a week or higher scale, the charge on the lower scale of 10s. 6d. a week being 3s. 6d. This is the proportion debited from each member for the year 1892 to meet the sick payments for the year, thus at the end of the financial year all liabilities are discharged.

Then there is the Benevolent Fund, to which each


ARCHIBALD RITCHIE. DEL.
NATHAN COLE
MEMBER OF THE COMMITTEE
GEO. WHEELER
TRUSTEE
WILLIAM COLLINS
SECRETARY
GEO. BAKER
FORMER TREASURER
LEOPOLD DE ROTHSCHILD.
PATRON
UNION IS STRENGTH
1865
E.N. MARSHALL
LIFE MEMBER.
JAMES HUDSON.
TREASURER
JOSEPH WHEELER.
TRUSTEE.
JAMES GEORGE
TRUSTEE.
UNITED HORTICULTURAL PROVIDENT AND BENEFIT SOCIETY.

member contributes a small sum yearly, viz. 3s. on the 16s. scale, and 2s. on the 10s. 6d. This is entirely different and distinct from the Benefit Fund, and provides for such contingencies as accidents, long periods of sickness, giving relief to widows, and assisting the orphans of members. All these benefits are in addition to those derived from the Benefit Fund proper.

Another and all important use of the Benevolent Fund is to give assistance to gardeners who have passed their seventieth birthday, as well as to help those who may have been ill for fifty-two weeks and then cease to have claims on the Benefit Funds. This is a happy arrangement as it does not tax that fund, being at the same time better provided by the Benevolent Fund. Subscribers of 21s. per annum, being gardeners, are also eligible as recipients from this fund should the emergency arise.

Besides these two sections there is the Convalescent Fund, which is a purely voluntary one on the part of the members, no payment thereto being at all compulsory. This fund, as its name denotes, provides for grants to members during convalescence, generally of 10s. per week for two or three weeks, the weekly payment from the Benefit Fund still continuing. This fund owes its origin to the far-seeing wisdom of Mr. N. N. Sherwood, a life member and a most generous supporter of the society, whose name will always be associated with this unique arrangement for the benefit of its members. To this fund the handsome donation of £100 received from Mr. and Mrs. Veitch, on the occasion of their silver wedding celebration last August, was devoted by special request. The Management Fund has always been the weakest part of this admirable society. When it is borne in mind that each member only contributes 2s. 6d. per annum to this fund, this will readily be seen. With the large increase of members, however, the funds have been provided for working in a more efficient manner.

In the limited space at our command we are unable to do more than indicate the main features of the society in a general way, but these are unquestionably such as no gardener should lose sight of, for we know of no other society which offers the same advantages to members who desire to provide for the proverbial rainy day which overtakes so many of our order. So much for the society. What of its officers? Well, it has for patron that large-hearted and most generous supporter of horticulture, Mr. Leopold de Rothschild; it has an able treasurer in Mr. Hudson; a persevering and capable secretary in Mr. Collins; exceedingly safe and cautious trustees in Messrs. George and Joseph Wheeler and Mr. James George; and a committee of twelve members, four of whom are elected annually.

Mr. James Hudson, the treasurer of the society, is the son of a well-known Sussex gardener, Mr. Samuel Hudson, and for the last seventeen years has been gardener at Gunnersbury House, Acton, formerly with H. J. Atkinson, Esq., and latterly with the Messrs. de Rothschild. Our acquaintance with Mr. Hudson commenced in 1869, when he was foreman to that fine old gardener, the late Mr. J. B. Whiting, at The Deepdene, Dorking, and in which year he passed the examinations of the Royal Horticultural Society, coming out a "double first," and 600 marks ahead of his competitors. On the death of Mr. Whiting he stayed on with his successor, Mr. Burnett, who is now, we hope, making a fortune in California. In 1870 he became gardener to J. C. im Thurn, Esq., at Champion Hill, S.E., and stayed there until he went to Gunnersbury House in 1876. At Champion Hill Mr. Hudson soon proved his claim to be called a gardener, growing everything well that he took in hand, and specially distinguishing himself as a grower and exhibitor of specimen stove and green house plants, and as a table decorator. Mr. Hudson has served on the Fruit and Floral Committees of the R.H.S., and is a member of the committee of the Gardeners' Royal Benevolent Institution.

Mr. William Collins, who succeeded the late Mr. McElroy as secretary, after being for some years a member of the committee, is gardener to A. A. Vlasto, Esq., at Clapham Park, S.W. He commenced his gardening career in a clergyman's garden at the age of twelve years, and subsequently served under the late Mr. John Wilson, at Arundel Castle, and the late Mr. Anthony Parsons, at Danesbury, Welwyn. Then he became gardener in succession at Highbury Grange, N., Merton House, Surrey, and Lincoln House, Clapham Park, before entering upon his present employment, nearly ten years ago. A most assiduous, painstaking, and courteous officer is Mr. Collins; it need hardly be said, therefore, that he enjoys the respect and esteem of all the members.

Mr. James George, one of the trustees, is a born florist, and has been a most successful raiser of garden plants. He is the son of a nurseryman and florist, formerly in business at Faringdon, Berks, and carries his knowledge of floriculture back to the days when "Springfield Rival," "Beeswing," and "Essex Triumph" were the leading show Dahlias. In early life he was employed at Faringdon House, and Warnford House, and in the nurseries of Mr. John Fraser, at Lea Bridge. In 1853 he became gardener to Mr. Nicholson, at Stamford Hill, and at his death went with the Misses Nicholson to Putney Heath, and remained in their service for some 30 years. At Stamford Hill Mr. George made his mark as a Chrysanthemum grower at the old Stoke Newington Chrysanthemum Society's Shows. He was also the introducer of the compactum type of bedding Tropæolum, sent out from the old Wellington Road Nursery, St. John's Wood, and which caused a sensation in the early days of the ribbon-border fever. He was also great as a raiser of zonal Pelargoniums, and quite a hundred of his seedlings must have been sent out at one time or another, by the Messrs. Paul, Turner, Cannell, Lee and others. Soon after Mr. John Wills brought out the ivy-leaved varieties, he turned his attention to them, and sent out some fifty or more seedlings through Messrs. Veitch, Osborn, Cannell, and Stevens. Subsequently he turned his attention to Abutilons, with which he met with much success, and had, perhaps, the finest collection in the country when he left Putney Heath in 1884 to extend the business he had previously entered into as a Horticultural Sundriesman, and which he now carries on at 14, Redgrave Road, Putney.

Mr. Joseph Wheeler, another trustee, is gardener at Barn Elms, Barnes. He began his working life as a garden boy, and spent two years with the late Mr. John Keynes, at Salisbury. Subsequently he entered the nursery of Messrs. Parker & Williams, in the Seven Sisters Road, long since passed away, and on the death of Mr. Osman Rhodes became gardener to J. Philpotts, Esq., at Stamford Hill. Some twenty years or more ago he was one of the leading metropolitan exhibitors of stove and greenhouse plants. On the death of Mr. Philpotts he became gardener to the late Sir Francis Goldsmid, at Rendcomb Park, Cirencester, and from there, on the death of Sir Francis, he went to Barn Elms. Mr. Wheeler, like Mr. George, was one of the founders of the "United," and these two, with Mr. Nathan Cole, were selected to sign the rules, and it is a singular fact that not one of them have since been really ill, or drawn one penny from the society's funds.

Mr. George Wheeler, the other trustee, was apprenticed in 1852 to Mr. Green, gardener and bailiff to the late Sir Edmund Antrobus, Cheam, Surrey, who was a constant exhibitor at that time at the London shows. Mr. Wheeler well remembers the first show held at the Crystal Palace, when Mr. Green staged twenty stove and greenhouse plants, twelve Azaleas, Orchids, and Cacti, and wonders where are those fine Epiphyllums now? He was at Cheam ten years going through all the departments; then became gardener to W. Westcar, Esq., Hersham, whose garden he completely renovated. He then went as gardener to Sir Francis Goldsmid, at St. John's Lodge, Regent's Park, where he remained twenty-four years until the place was sold to the Marquis of Bute. He was a constant exhibitor at the metropolitan shows of Azaleas, stove and greenhouse plants, and various other things. Mr. Wheeler is now manager to the Tongswood estate, near Hawkhurst, Kent, lately purchased by the Misses Goldsmid, sisters to Sir Julian Goldsmid, Bart., M.P., President of the Gardeners' Orphan Fund. Mr. Wheeler was one of the original members of the "United," and exhibited at the shows held in Finsbury Circus and the Guildhall, about 1866, to further the objects of the society.

Mr. Nathan Cole's name appears fourth on the roll of members. At the time the society was founded he was gardener to John Peters, Esq., The Grange, Kilburn, and he has been a member of the committee ever since. Some four years after the foundation of the society he was appointed by the then First Commissioner of Works, the present Duke of Rutland, to take charge of the plant department at Kensington Gardens, under the late Mr. John Mann. His duties were to propagate and grow the plants and flowers required for decorating the West-end Parks and the public offices, and to superintend the bedding-out. Mr. Mann loved trees and shrubs, and took little interest in bedding plants, so that Mr. Cole and Mr. Joseph Chamberlain were left during his reign pretty much to their own resources. Mr. Mann was a fine old Scotchman, kind and considerate to all employed under him. On his death he was succeeded by the late Mr. John Gibson, who was transferred from Battersea Park. With Mr. Gibson plants were a ruling passion, and as a landscape gardener in his day he had no equal. On his death he was succeeded by his son, the present superintendent of Victoria Park, and thus Mr. Cole served under three superintendents in fourteen years. Since Mr. Cole left the parks he has been his own gardener, has become a member of the Vestry of St. Marylebone, and naturally takes a lively interest in the management of the open spaces and gardens in the parish in which he resides. Mr. Cole has also been a contributor to periodical gardening literature for over thirty years, and in 1877 he published "The Royal Parks and Gardens of London," a very interesting work, dealing with the history of the Parks, and their mode of embellishment, with hints on the propagation and culture of the plants employed. The book, originally published at five shillings, had a good sale, and is now in the third edition, which is being published at half-a-crown.

Mr. William Marshall's connection with the society also dates from its commencement. In conjunction with Mr. John Fraser, of Lea Bridge, and a number of gardeners, he rendered most valuable service in framing the rules and otherwise promoting the welfare of the society at the commencement, and for some years subsequently. Mr. Marshall was the first treasurer of the society, is a life member, and still continues to take a paternal interest in its welfare. Mr. Marshall is chairman of the Gardeners' Orphan Fund, and of the Floral Committee of the Royal Horticultural Society, and as we pointed out in our number for December 3rd last, has a strong claim upon our respect and esteem for the valued services he has rendered to gardeners and gardening. Another of the founders of the society, is

Mr. George Baker, gardener to Lord Revelstoke, at Membland Hall, Devon. Mr. Baker was also treasurer of the society for several years previous to Mr. Hudson, resigning the office only on his leaving the metropolis some eleven years ago. Mr. Baker was born at Windrush, near Burford, and began his gardening career at Sherborne Castle, Gloucestershire, where his father was for many years gardener, and after serving his probation in several gardening establishments of repute, including that of Mr. Sigismund Rucker, at West Hill, Wandsworth, he became gardener to Ambrose Bassett, Esq., at Stamford Hill, some forty or more years ago, and quickly made a name for himself as one of the "Stamford Hill School" of exhibitors at the Metropolitan Shows. Orchids, stove and greenhouse plants, notably Azaleas, were all shown by him in rare style, and at a time when there were such giants as Barnes, Ayres, Wheeler, Rhodes and others were in the field. From Stamford Hill, Mr. Bassett removed to Sisters' House, Clapham Common, and Mr. Baker with a good number of the specimen plants went with him, but he did no exhibiting after that. Subsequently Mr. Baker went to Combe Cottage, Kingston, for several years, and subsequently to Membland, where he has had plenty of scope for the display of his abilities as a gardener of the highest order.

We would add one word in conclusion, *i.e.* that young gardeners in particular should look into the merits of this society before joining any other; that they cannot join it too soon if above the age of eighteen years; and that we feel sure they will never regret taking such a step. The secretary's address is 9, Martindale Road, Balham, S.W., and he will be glad to give any information.

Hardy Fernery.—The old fronds may now be cut away before the young ones commence to grow. This applies to the perfectly deciduous kinds. Those whose fronds are still green should not be cut away unless they are very much injured and brown. Except in the neighbourhood of smoky towns this will hardly be the case.

THE VEGETABLE GARDEN.

Notes on Vegetables.

THROUGH the severe weather which we experienced at the turn of the year, I hope it may not be considered out of place to take stock of our position as to the future supply of vegetables. There can be no question as to the destruction caused by the iron King. So much more then the necessity to endeavour to reduce as far as possible the inconvenience likely to accrue. This may readily be done where cold pits and frames are at command, as only the slightest amount of heat is necessary at any time in the cultivation of early vegetables and salads. Broccoli have suffered terribly, very few being left, and those have been so punished that they will perforce be very small. Even the Scotch Kale has been decimated, and the supply even of this is smaller than usual.

To supply the deficiency extra care must be taken and no time must be lost, if not already done, in sowing a box or two of Brussels Sprouts, Cabbage, Dickson's Early Forcing and Erfurt Cauliflowers, Tom Thumb Lettuce, or any other variety most fancied. Carefully nurse them on in their young state, but don't coddle them, and harden them off as quickly as possible, so that they may not suffer much when put into their quarters. The Brussels Sprouts, of course will not be of any use for spring gathering, but we find the early sown batch far more reliable than those sown out-of-doors in March, in fact the latter are never trusted by us.

Then again, where there are plenty of glass structures how much may be done. French Beans may now be gathered in abundance two or three times a week, in fact, from now onwards they should be considered one of the most reliable dishes. Osborn's Winter Forcing never fails to fruit freely, and although not so long in the pod as some other varieties, we find nothing to equal it for pot work. Our first batch is over, and for the fourth sowing we have tried Williams's Prolific upon advice, and just as a test. Many fancy Ne Plus Ultra, but with us it is not to be relied upon, especially in early forcing; in pits for spring it is all very well.

Then again, how much may be done by husbanding the supply of Seakale. If not already done lift all the crowns, storing them away at the back of a north wall if possible, introducing only so many as may be known to be required, and for the last supply placing a quantity in ridges of coal ashes in the coolest place available, taking care to exclude the light; litter or fern answers well for the purpose. How useful too is Witloef-Chicory. Place the roots in any moderately warm place; they force rapidly, and when the crowns are about six inches high they make a most acceptable dining-room dish. How useful it is for mixed salading, particularly if the supply of Endive fails.

Asparagus, of course, must not be omitted to be lifted and placed in heat rather longer than usual this season, so as to prevent any break in the supply. Radishes must be nursed and induced to come in as early as possible, as Celery is so badly cut up. Ours are sown in a heated pit, and during the day the lights are removed, but still the heat is allowed to circulate in the pipes, keeping the atmosphere warmer, and we shall draw in a few days. Carrots too we treat in the same way. But I must not trespass too much upon your space, but hope these few notes may be of service to those whose supply is likely to run short.—*Cor.*

Asparagus.

THE time will soon be upon us for making new plantations of this highly esteemed vegetable, and if the ground is not already trenched it must be done at once. Unless the soil is of a very heavy nature it is not necessary to add anything at the time of trenching except a good dressing of rotten manure, and this should not be buried too deeply. Supposing the soil to be of a heavy character anything of the nature of burnt refuse will be of advantage, and it is then advisable to plant on raised beds; but if the soil be of a fairly light nature, I much prefer to plant in rows on the level. The planting should not be done until several inches of growth is made, and a damp or dull day should be selected if possible, exposing the roots to the air no longer than is necessary. The rows may be 3 ft. or more apart, and the plants 18 in. or 2 ft. in the rows. The trench should be made the width of a garden shovel and 3 in. deep; the roots can then be spread out in a natural position. One-year-old plants are the best for planting, and all growth should, if possible, be secured so that it is not broken by the wind. This is particularly necessary when the crowns get strong, and the growth is tall and heavy, as, if the tops are allowed to fall about and get broken off while green, good crowns for the next year cannot be expected. Old plantations should have a dressing of well rotted manure lightly forked in between the rows, and where the Asparagus is required to be blanched it can be earthed up as it starts to grow; a good dressing of salt is beneficial to the plants and a great check to the growth of weeds.—*G. H. S.*

Early Lettuce.

WHERE these may be required in May or sooner, the demand will be most readily met if a stock of autumn-sown plants of Bath Cos, or All the Year Round, has been pricked out where frames could be placed over them. A portion of these can be thinned out and transplanted in the open, and, provided space can be spared, a number of them might well be left in the frame till ready for use. If hand glasses are available, some of the thinnings might with advantage be planted under each light. By this means I have known Lettuce cut soon after the middle of April in a moderately good spring. For early summer supplies, plants that may have survived the winter on a sheltered border may be transplanted to the foot of south walls, where they will make rapid progress on well enriched soil. Where these have been destroyed by frost, plants raised under glass may have to be relied on for a first crop. Sown in a brisk temperature and an abundance of strong seedlings will soon be at command. These when pricked off and afterwards well hardened preparatory to planting out, will turn in for use much sooner than those sown in the open if they are afforded good soil and a favourable situation.—*M., Ayrshire.*

About Parsley.

THOSE who have been equal to the task of maintaining a good supply of Parsley daily during the last three months, when frost prevailed almost constantly for the greater part of that period, may congratulate themselves on the accomplishment of this feat, if such a word is permissible, and a few notes on their mode of procedure would no doubt be valuable to many readers of your esteemed journal. In order to secure a handful once in two days since Christmas, we have had to draw on a frame sowing made about the beginning of July and never in my experience has a supply—limited though it has been—come in so opportunely. The sowing referred to might well have been made a fortnight sooner, as a much better crop would doubtless have been realised. The lights should be kept off the frame till frost sets in and good soakings of water afforded if necessary.—*M., Ayrshire.*

PEACHES AND NECTARINES.

(*Continued from p.* 418)

THE borders and trees being ready, planting is easily accomplished. A dry day should be selected for doing the work, and the autumn undoubtedly is the best time, just when the leaves begin to fall; the trees then make a few roots before the hard weather sets in, which are of great service to them in the spring, especially in the case of the Peach, as it starts into growth very early.

Eight or nine feet apart is a good distance at which to plant young trees; very little wall space is then lost, and in four or five years, when the trees overgrow each other, every second one should be removed, leaving the more promising to occupy the whole space.

Before planting the roots should be examined, and any very strong ones of a downward tendency cut back, any that are bruised or broken must also be shortened, as a clean cut will heal much quicker than a bruise. In planting the stem of the tree should be kept 3 in. or 4 in. off the wall, and care taken not to plant too deeply, if the uppermost roots are 3 in. below the soil it will be quite sufficient, and they must all be laid out horizontally to their full length, making the soil about them very firm as the work proceeds; and the trees ought only to be temporarily fastened to the wall until spring, when they can be properly nailed.

The pruning and training of Peaches is one of the most pleasant operations connected with our craft, and it is also one of the most important. The Peach is very accommodating in the matter of training, and lends itself very readily to any ornamental designs, of which the French horticulturists take full advantage. But the form usually adopted in this country and to be recommended is the fan-shape. A maiden Peach usually has one straight shoot of from 2 ft. to 4 ft. long, this to produce a fan-shaped tree, must be cut down to within eight or nine buds of the base. And in the spring when these buds push out, the best placed shoots must be selected, and trained out at about equal distances, to lay the foundation of the tree, if six can be obtained they make a fair sized tree the first year. But a few nicely placed shoots are preferable to a greater number of awkward ones. If the tree is in good health the shoots will grow 2 ft. or 3 ft. during the summer; these in the following winter must be again shortened, those in the centre rather severely to furnish more growths to fill up, the side should only be cut back to well-ripened wood.

The main point in training a fan-shaped tree is to maintain an equal distribution of sap amongst the branches. Careful watching is needed to prevent any of the central branches growing too strongly at the expense of the others; stop them whenever they show such a tendency, this will cause them to make several lateral growths, but will produce a better balanced tree than letting them grow unchecked. The lateral growths will help to fill up the centre of the tree and do away with the necessity of hard pruning; the result of hard pruning is always more strong growths, and as they are very undesirable objects in a Peach tree, the less hard cutting practised the better.

At the end of the second season a tree treated as described will be well furnished with bearing wood, and ready for its annual journey without any winter pruning, save the removal of a branch if they are at all crowded; 3 in. or 4 in. should be allowed between each.

Disbudding consists in the removal, while very small, of all the young shoots not required to furnish the tree with bearing wood for the ensuing year. Too many shoots must not be removed at one time; the operation should extend over two or three weeks being partly done at intervals of five or six days. As soon as the buds have grown sufficiently that you can get hold of them with the finger and thumb, is the time to start; all the foreright shoots should be removed first, then those on the opposite side, that is, next the wall.

We now have left the buds on the right and left of the shoots; at the next turn about half of these should be removed, reserving the terminal one and two of the best at the base of the shoot.

At the next going over the most promising bud at the base ought to be selected, as it is the growth on which next season's fruit will be produced. This and the terminal one are generally sufficient, but should there be room more can be left at intervals along the branch. At the final look over, when the shoots are about 6 in. long any that are likely to cause crowding can then be removed with a sharp knife.

Overcrowding of the shoots is one of the greatest evils in Peach-culture, and should be avoided, as it is of the utmost importance that the wood be thoroughly ripened, and it is only by full exposure to the light and air that this can be effected.

Referring now to established trees which are in bearing condition, they must be constantly tended—from the time the first flowers begin to open until the trees are nailed the following spring there is always something to do. The protection of the blossoms from frost first calls for attention, and the shelters used for this are of various descriptions.

What is wanted is a shelter from frost only, therefore a contrivance to cover the trees at night and which can be removed in the day is far preferable to any fixed form of shelter.

Light tiffany or herring nets hung in front of the trees will ward off a lot of frost and will not exclude the light, which is very important. More harm is sometimes done by injudicious covering with heavy material, than if the trees were left to take their chance. Permanent copings of a foot wide or more should not be tolerated, but a very narrow one is an advantage when the trees are in flower. Of the two materials mentioned tiffany is, I think, the best for covering low walls of from 6 ft. to 8 ft. high; it should be furnished with small rings at about 3 ft. apart along both edges, it is then easily hung on nails or

hooks placed in the front of the coping and the bottom of the wall. In the case of higher walls it would be better to mount it on light rollers to be drawn up with ropes, through small pulleys placed at the top of the wall. It would then be necessary to have poles placed against the wall to keep it off the trees, and fastened down about two feet from the bottom of the wall.

The disbudding already referred to must be followed up by nailing or tying in the shoots, care being taken not to break or bruise them in the operation; the most satisfactory are the medium-sized short-jointed growths.

When the fruit has set in clusters, it is advisable to thin out all the badly shaped and placed ones when they are about the size of Peas. At the second thinning, about a week after the first, it will be seen which are swelling best; they should be retained, and where there is sufficient choice always remove those towards the ends of the shoots. There is an opinion which finds weight with some people, that a fruit will not come to perfection unless it has a shoot beyond it to encourage the sap upwards.

This is not the case, for several in such a position have come under my notice during the past season which were quite equal to those on other parts of the tree. The final thinning should not take place until the fruit is stoned, and then the crop must be regulated by the vigour of the tree. A very strong vigorous tree should carry a fruit to every 6 in. of foliage on the wall, and an ordinary crop would be one to every foot.

(To be continued.)

GARDENING MISCELLANY.

PALMS STANDING ON THEIR TOES.

There are several of the Palms that behave very much in the same way as old specimens of Pandanus, which throw out stout aerial roots resembling the cordage or stays of a ship's mast. The base of the stems often dies away ultimately, so that the plant is left standing on its aerial roots or toes so to speak. Socratea exorhiza is one of the Palms that behave in this way. The young plant commences very early to run up with a slender stem, and growing rapidly it soon forms a heavy top which would over-balance the plant were it not for the fact that it throws out strong roots from that part of the stem which has already acquired considerable thickness; these roots fix themselves in the soil and form a support to the plant, which is already top-heavy. This the plant will do in a pot by the time it is 2 ft. high, with six or seven aerial roots. In its native habitats in Guiana and the regions of the Amazon River, one tree would have from eight to twenty or more of these stays, produced from the stems at 6 ft. from the ground. Another Palm behaving in a similar way is Verschaffeltia splendida, better known in cultivation than the last-named. It produces huge oblong leaves intermediate in form between the pinnate ones of Kentia and the fan-shaped ones of a Latania. The stem of the young plant is slender and always remains so, while the aerial roots supporting the top-heavy heads are stout and black.

GALANTHUS FOSTERII.

The forms of Galanthus are now getting very numerous in gardens, making it difficult to remember the distinctions between many of them. G. Fosterii is closely allied to G. Elwesii, but the leaves appear paler and remind us of those of G. caucasicus; they are of a pale glaucous hue, almost green, and in that respect approach those of G. latifolius as well as the last-named kind. The general form of the flower is similar to that of G. Elwesii, but the inner segments are rather more spreading perhaps at the mouth; they are green on the inner face, striated with white lines, while there is a horse shoe-shaped blotch round the sinus on the outer face, and an oblong green blotch at the base, and which is shorter than that of G. Elwesii usually is.

HYACINTHUS AZUREUS.

The flowers of this Hyacinth are so small and densely arranged in a spike that horticulturists will persist in regarding it as a Muscari or Grape Hyacinth. So close is the resemblance to a Muscari, however, that all except botanists are to be excused for making the mistake. The flowers are pale blue, fading almost to porcelain white at the mouth; furthermore they are campanulate and widest at the mouth, whereas a true Muscari is always contracted or narrowed at the mouth. The beauty of the plant is indisputable, and it always flowers before any of the species of Muscari, either in February or March.

BROWNEA CRAWFORDI.

Comparatively recently several hybrids of Brownea have been raised and put into cultivation. The subject of this paragraph is a hybrid between B. grandiceps and B. macrophylla. It must have been raised some years ago, for there is a plant in the Palm-house at Kew, about 12 ft. or 15 ft. high, and which flowered recently. The flowers are produced from the old wood in large circular clusters or heads similarly to those of B. grandiceps. They are, however, much darker in colour, being of a bright brick red. The colour of the flowers, their form and arrangement suggests some of the Rhododendrons in appearance, and that, too, borne on tall stems, clothed with magnificent, pinnate and leathery, evergreen leaves. The latter are also very striking when they are about half grown and drooping from the buds. When the above had finished flowering, B. grandiceps commenced with similar flowers except that they are pale rose. The leaves of this latter are also very striking in the young stage. They appear quite limp and are heavily and irregularly blotched with brown on a pale green ground. This coloration of course gradually disappears as the leaves attain their full size and acquire rigidity.

THE WHITE POPLAR.

The effect of the White Poplar (Populus alba) in the landscape during summer is striking when the leaves are ruffled by the wind so that the hoary or white under surface is turned up and shows itself by contrast against the dark green of the upper face. This alone should ensure the planting of this noble tree in the parks and pleasure grounds of this country. It also appeals to this lover of landscape in the early spring, say, during the latter part of February and the beginning of March, when the tree is in flower, but particularly the male tree which seems the most plentiful. The male catkins are produced in most wonderful profusion, loading the tree at this season with a drapery which renders the tree very conspicuous, particularly in the case of large specimens standing by themselves or towering above the heads of surrounding trees. The flowers are of a dull purple, but in a mass very striking during the leafless condition of the trees.

PANICUM SPECTABILE.

Very little seems to be known of this grass in Britain, although it has been introduced some years ago. It is a tall growing perennial grass with beautiful foliage, having a white stripe down the centre, and the stems are terminated by a large drooping panicle of brownish-rose flowers. It is a native of Jamaica, Brazil, and other countries. The *Bulletino della R. Societa Toscana di Orticultura*, an Italian journal, gives a figure of it in their number for February, and says that it is a native of New Zealand, and much used for decorative purposes. Seeds of it are sown early in spring in Italy, and planted out later on about a yard apart and it flowers in autumn, ripening its seeds successively as long as the weather remains good. The flowering panicles can be cut, and, after being dried, used for decorative purposes in the same way as other ornamental grasses. At present it is but little cultivated in Italy as it is here. It might, however, be used for making clumps or masses in the pleasure grounds, as its gigantic proportions give it a sub-tropical appearance during the summer months.

SALVIA RUBESCENS.

The stems of this Salvia grow about 18 in. high, and when allowed to assume their natural form they become very much branched, forming an evergreen bush. It flowers in summer unfortunately, otherwise it would have been more extensively grown than it is. It is a native of the Andes of Peru and Columbia, and requires stove temperature in this country. In the neighbourhood of Naples, in Italy, seeds may be sown early in spring, and afterwards planted out, when it will come into bloom during September. It can readily be multiplied by cuttings. The flowers are very abundantly produced in branching racemes or panicles terminating the branches. The purplish-brown calyx adds considerably to the appearance of the plant independently of the scarlet corolla. The *Bulletino della R. Societa Toscana di Orticultura* gives a wood-cut of it, and compares it with S. splendens, S. gesneræflora, and other fine types of the genus.

STREPTOSOLEN JAMESONI.

The flowers of this plant are not, as a rule, produced in great quantity, but their rich colour makes amends for the deficiency. They are produced in clusters at the ends of the branches and show off beautifully against the dark green foliage. When they first expand they are yellow, but they change to an orange-red, and the two colours may be seen blended together in the same truss. The leaves are rough not unlike those of a Heliotrope, but smaller, neater, and evergreen. The plant is of shrubby habit although closely allied to the Browallias, which are known to be annual, at least those in cultivation. June is usually considered the month in which it flowers, but it is already in bloom in some collections. The species is a native of Columbia, and requires only greenhouse treatment such as is accorded to Heaths. The wood should be well hardened off to make the plant flower.

ANEMONE HEPATICA ALBA.

All of the Hepaticas are highly desirable plants for spring flowering in the open garden. The flowers are so neat, so plentifully produced, and so pleasant in colour, that the Hepaticas could hardly fail to endear themselves to a large number of the community. The only drawback to their culture in the south of England is the dry atmosphere of the summer months, and possibly also the smoky atmosphere in the neighbourhood of London, which tells upon the evergreen leaves in winter, destroying them to a great extent. By a judicious amount of shading, and in the selection of moderately moist soil in which to plant them, the difficulties in cultivating them can to a great extent be surmounted. The flowers of the variety under notice are white with exception of the anthers, which have a purple stripe along the outer and the inner face. This increases their beauty considerably, and the aspect is so different, that another variety with white sepals and white anthers, and named A. Hepatica nivea, is readily recognised as a distinct and choice form, and altogether worthy of cultivation. There is ample room for both forms in collections.

A NEW WINTER ACONITE.

A few years ago tubers of what were considered a new species of Winter Aconite were sent to Kew and elsewhere, under the name of Eranthis cilicica, by Mr. Whittall, of Smyrna, in the neighbourhood of Adalia. Boissier, in his *Flora Orientalis*, considered it a good species, but the distinctions between it and the well-known E. hyemalis are very slight. Moreover, the plant in question was known as long ago as 1854, so that if it had been very distinct we should have been acquainted with it long ago. The principal distinction consists of the finer and more numerous divisions of the involucral leaves surrounding the flower. These linear divisions are said to vary from twenty-five to forty, but we could only detect fifteen to eighteen in a plant in the hardy plant house at Kew the other day. The number of sepals is six in both plants, but they are reckoned to be broader in E. cilicica. Before this can be satisfactorily determined, both plants will have to be seen in a vigorous condition. The sepals are yellow in both cases, but the small petals of E. cilicia seem darker in hue. Other differences are mentioned, but they are slight, while all the characters are somewhat variable and inconstant.

CALCEOLARIA FUCHSIÆFOLIA.

Calceolarias and Fuchsias are both common plants in gardens, and widely different in aspect. It is somewhat novel therefore to find characteristics of the two combined in one. The flowers are those of a Calceolaria truly, but they are somewhat different in form from the common types. The leaves are narrowly ovate or lanceolate serrate, dark green, somewhat leathery and evergreen. In form and texture they are remarkably different from those of Calceolarias in general and not unlike those of a Fuchsia, so that we are not surprised that the botanist should have given it the above specific name. The flowers are bright yellow, and the upper lip is almost circular and flattened; the lower lip is pouched and lies over the mouth of the flower in its earlier stages, but ultimately becomes widely spreading. The blooms are produced in cymes terminating the shoots of small plants.

STROBILANTHUS ISOPHYLLUS.

THE flowers of this plant are not very striking individually, but they are produced in such quantity as to make up for that deficiency. They are produced in axillary clusters, and the leaves being close together, a well-grown plant is quite floriferous, and remains so during great part of the winter. They are pale lavender, tubular, and pretty. If small or medium-sized plants are desired, they must be raised from cuttings every spring in the same way as most other plants which are grown for winter flowering. In this way specimens about a foot high and nearly as far through may be obtained. Old plants are, however, equally floriferous, and if cut down in spring and started again in heat they make bushy plants, never very high, but of considerable width, and bear any quantity of bloom.

ORCHID NOTES AND GLEANINGS.

Cypripedium Lucienianum.

A HANDSOME Cypripedium obtained from C. villosum, crossed with the pollen of C. bellatulum, is described in the *Lindenia, pl.* 362. At first it was supposed to be derived from C. villosum crossed with a superior form of C. oenanthum superbum; but the raiser stated that the pollen of C. bellatulum was used. On this assumption the writer in the *Lindenia* takes it for granted that no other hybrid has hitherto appeared in which C. bellatulum has been used as a parent. To this we take objection, seeing that Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, exhibited a hybrid named Lawrebel (derived from C. Lawrenceanum crossed with the pollen of C. bellatum) at a meeting of the Royal Horticultural Society on the 12th April, 1892, and for which he received a First-class Certificate (See THE GARDENING WORLD, vol. viii., p. 536). C. Lucienianum is, however, a grand hybrid with a very large dorsal sepal heavily blotched with red and crimson or violet on a pale or clear green ground in the lower and central portion, and white on the upper portion. The petals have the form of those of C. villosum, heavily suffused and netted with red on a green ground, seen chiefly at the margin. The lip is more uniformly of a dark red. The lower sepal is unusually large, and blotched with red or crimson on a green ground. Altogether it is a handsome hybrid and one likely to long remain in favour amongst Orchid growers.

Cœlogyne Hookeriana.

WE may here state that this species belongs to that section of the genus known amongst gardeners as Pleione. The flowers of C. Hookeriana are large even for this section, bold and richly-coloured. The sepals and petals are similar and of a uniform intense purple according to the figure in the *Lindenia, pl.*, 363. The lip is deeply bifid, fringed at the margin, and having the tube richly coloured like the sepals and petals. The lamina of the lip is somewhat paler, with a yellow disc and blotched around this with crimson. It is a native of the Himalayas ranging from 7,000 ft. to 10,000 ft. elevation, where it was discovered in 1849 or 1850 by Dr. (now Sir Joseph) Hooker. There are at least two forms of it, the typical form occurring at the lower elevation. That coming from the more alpine habitats has a shorter lip, and more spread open from the base, and was named C. H. brachyglossa by Professor Reichenbach.

Cœlogyne odoratissima.

THERE are several of the small species of Cœlogyne that are very pretty, and flower in winter when their presence in the Orchid house is very acceptable. Their diminutive size enables them to be grown in small baskets or pans and suspended from the roof of the Orchid house, where they take up but a small amount of space. The small pseudo-bulbs are void and surmounted by a pair of lanceolate, leathery, evergreen leaves. The raceme of flowers is pendulous and arises from the centre of the undeveloped leaves of the pseudo-bulb, which is equally rudimentary at that time. The flowers themselves are agreeably odoriferous, and appeal to the lovers of Orchids in this way independently of the beauty of the flowers themselves, which are white with a horseshoe shaped yellow blotch on the lip. One to three flowers are produced on each raceme. It flowered quite recently in the warm or East Indian division of the Orchid house at Kew, and is a native of India.

Rodriguezia secunda.

THE general appearance of this Orchid so closely resembles Cochlioda sanguinea, better known perhaps under the name of Mesospinidium sanguineum, that on superficial observation one might be justified in considering it a species of Cochlioda. Although the outward form is thus so deceptive, the structural conformation of the flowers shows that the plant has its affinities with Rodriguezia. The flowers, although moderate in dimensions, are very numerous and arranged in two ranks upon a drooping raceme, much in the same way as those of Platyclynis (Dendrochilum). They are also of a uniform rosy purple, and therefore different from those of the other species in cultivation. The leaves are strap-shaped, rigid, dark green, and it is almost needless to say they are evergreen We noted some plants of it recently in the nursery of Messrs. Hugh Low & Co., Clapton, in small pans, suspended from the roof, and bearing two to four racemes each, giving the whole a very pretty appearance.

Vanda Amesiana.

EVER since this was introduced in 1887 from India this has proved one of the most easily cultivated Orchids and easy to flower provided it is given the treatment as to temperature and moisture requisite for subjects belonging to the East Indian section. Where a number of plants are kept a succession of bloom is kept up for a long period during the winter months. The individual flowers are only of medium size, but they are very sweetly scented and vary considerably in colour. Usually the flowers are white with a rosy purple band along the middle of the lip; but frequently the latter is darker, and the sepals and petals are more or less tinted with the same hue. The narrow, rigid and channelled leaves are very neat, as is the whole plant, the latter being by no means bulky. A large quantity has been flowering for some time past in the nursery of Messrs. H. Low & Co., Clapton.

Gardeners' Improvement Associations.

Tunbridge Wells.—At a recent meeting of this association, Mr. F. Garrett read a paper on "How to grow Horse Radish in ten Months," in which he detailed the results of his experiments in the cultivation of this useful root, which may be summarised as follows:—"In December I dig up the whole of my Horse Radish, selecting the large pieces to be put away in sand for the year's supply, taking care to collect the small straight pieces of root about a foot long, cutting off at the same time smoothly the top end and lower end obliquely, and place them away in a box with the bottom stood in a little mould, in a cold frame ready for future use. I then select a piece of fresh ground, trenching two spits deep, putting plenty of manure in the bottom of the trench. Then, about February, I sketch a line, making holes a foot apart with a dibber, just deep enough to take the roots. I then take the pieces singly, and rub my hand up them to take off any fibrous roots from the body of the pieces, taking care not to rub the two ends, as they may be shooting out, or roots may be forming; I then place them in the holes, putting just a handful of fine mould in with each one, leaving the other part of the hole open for a month, as by that time small roots will be formed at the bottom. I think this is all, with the exception of keeping them clean through the summer, and I venture to say that if this system is carefully adhered to there is absolutely no reason why the finest specimens should not be grown by anybody with ordinary care."

Birmingham.—At the last meeting, a very numerously attended one, Mr. G. A. Bishop, The Gardens, Wightwick Manor, Wolverhampton, read a very comprehensive paper on "Chemistry as applied to Gardening," in which much valuable information was given as to the constituents of soil and plants, and pointed out the value of a knowledge of chemistry in relation to horticulture and agriculture, and impressed upon all young men the value of a study of this subject. Mr. Bishop also gave many interesting experiments and answered several questions put to him. Messrs. Hewitt & Co., nurserymen, exhibited several fine specimens of forced Witloof or Barbe de Capucin, from plants grown from seed sown early last spring and planted out like Sea Kale, and then forced in the same way. The samples were very fine indeed and showed its value as a winter salad. Mr. Hughes, the secretary, also exhibited a very fine blooming specimen of Dendrobium Pierardii.

WHAT TO DO IN THE GARDEN.

Achimenes.—The main batch of Achimenes may now be put in to heat to start them. The dry soil in which they have been kept all the winter may be carefully crumbled up or rubbed to pieces in the hands so as to remove the rhizomes. Make up a fresh compost, mainly of leaf soil and sand with a small proportion of loam. Fill some well drained pans with this, sort the rhizomes into sizes and having arranged them rather thickly cover them up thinly. The pans may then be put into heat till the young stems are well above the soil, after which they may be potted up or put into baskets as the case may be.

Lachenallias.—As the later batches throw up their flower spikes assist them with weak liquid manure. Those in baskets will have to be carefully and thoroughly watered from time to time. Dipping is a sure plan, but after the leaves and flower stems have become fairly well developed dipping would be injurious to them, particularly in the case of liquid manure.

Repotting Palms.—In private establishments the bulk of the Palms are required in a small state. It is unadvisable therefore to give large shifts. A better plan is to feed with liquid manure to keep the foliage healthy. Where a shift is, however, necessary, a compost should be made up of good fibrous loam and peat in equal proportions with a quantity of silver sand. Some finely crushed bones may also be used.

Fern Rockeries.—Before much fresh growth has been made, Fern rockeries should receive a thorough overhauling to fill up the crevices where the dry soil may have shrunk away from the stones. Some of the pockets or receptacles will also require a good top dressing to make good what has been washed away or wasted during the course of the year. Some fresh planting or re-arrangement may have to be made where plants may have outgrown the allotted space. When finished give the whole a thorough watering.

Calceolarias.—With the approach of spring and warmer weather increased observation will have to be given this class of plants to see that they do not get infested with green fly. It frequently gets established on the underside of the large leaves before being detected and spreading thence to all the younger shoots and leaves of the plant, the latter get irretrievably injured. Fumigation should be effected as soon as the first colonies are detected.

Vineries.—Houses in which the vines are in bloom at this time should be kept at a minimum temperature of 65° to 70°, allowing a rise by day with considerably more from sun heat. The atmosphere of the house must be allowed to get thoroughly dry during the middle of the day, as the flowers expand most actively about that time. Shy setting varieties should be assisted by means of a camel hair brush, or if that is objected to as a slow operation, then with a hare's tail. In the case of free setting sorts, like Black Hamburgh and Gros Colmar, such trouble is unnecessary. Vines intended for next year's fruiting in pots should now be ready for their final shift.

Melons.—Seedlings that were stopped some time ago will now have made a number of laterals. Where the plants are grown in frames heated with dung, all that will now be necessary will be to distribute three or four of the laterals over the bed; all the rest may be stopped at once by pinching out the tips. The three or four shoots may be stopped again when they have made about 20 in. of growth and flower bearing shoots will be given off from the sides. Give a little air on bright mornings when the temperature rises to 75°.

Cucumbers.—Continue to treat old plants liberally with weak liquid manure. Remove old laterals when they cease to be profitable, and at the same time encourage young shoots to take their place. Young plants should also be attended to in the matter of tying and stopping, so as to cover the trellis regularly and evenly. When the roots show themselves on the outside of the mounds of soil, a little more of the fresh compost should be added to give the plants fresh impetus. A night temperature of 65° to 70° may be maintained in the houses, with a considerable rise by day.

Rockery.—Where the rockwork is of any extent a commencement may now be made to put it on a proper footing for the season. There may be some vacancies to fill up, some re-arrangement of plants into more suitable positions, and top dressings to be given, all of which take some time to effect.

QUESTIONS AND ANSWERS.

ROYAL GARDENERS' ORPHAN FUND.—*W. H. H., St. John's, Newfoundland*: Your letter shall be brought under the notice of the committee.

TOMATO CULTURE.—*Amateur*: "The Tomato," by William Iggulden, price 1s., published at 171, Fleet Street, E.C.

HORSERADISH.—*J. B.*: See the report of the Tunbridge Wells meeting of gardeners on p. 441.

NAMES OF PLANTS.—*John Crook*: Ferns: 1, Asplenium Ruta-muraria; 2, Asplenium Trichomanes; Begonias: 1, B. foliosa; 2, B. metallica.—*H. B.*: 1, Crocus susianns; 2, Crocus biflorus; 3, Anemone Hepatica alba; 4, Anemone Hepatica rubra; 5, Eranthis hyemalis.—*J. Ward*: 1, Erica carnea; 2, Berberis Aquifolium; 3, Cornus mas; 4, Salix Caprea; 5, a garden variety of Polyanthus; 6, Narcissus obvallaris.—*J. R. W.*: Chimonanthus fragrans grandiflorus.

FREESIAS NOT STARTING.—*Con.*: Without knowing the treatment to which the plants have been subjected it would be difficult to determined the whole cause of the plants not making a proper growth. In the first place, they are slightly affected with a bulb mite, but a different one from the Eucharis mite, larger and more active. Further, the corms might not have been potted in sufficient time to enable them to start regularly and form roots before commencing growth on being subjected to heat. The corms were certainly deficient in roots as sent us, and, without further evidence, they seem to have been urged on by heat before they were properly rooted. Lily of the Valley and some bulbs often behave in the same way and for the same reason.

EARLY AND FRAGRANT FLOWERS.—*Flos*: Only two of the flowers you mention are early unless they are forced, namely the Lent Lily (Narcissus pseudo-Narcissus, and Marguerites (Chrysanthemum frutescens). Neither of these are sweet scented. Roses are fragrant as a rule, and commence to flower about the end of June. The Bluebottle and Bindweed would flower in July and August, but are not fragrant. The common Lily (Lilium candidum) flowers in July and August, and is fragrant. We do not think that the old writers alluded to either of them for the properties you mention. As to colour, the Bluebottle is the richest, being of a deep blue; the Lent Lily is sulphur coloured; Roses vary from light to deep rose, that is, the wild ones; the rest you mention are white. The Cedar trees are all more or less noted for their resinous properties. Some of them, such as Thuya articulata, the Cedar of the ancients, were much used to drive away the clothes moths. The Cedar of Lebanon is noted for its large size and stately appearance. The Pencil Cedar (Juniperus bermudiana) is the tree from which the best wood is obtained for the manufacture of lead pencils. The Mount Atlas Cedar and the Deodar Cedars are noted for their beauty when half grown.

CELSIA CRETICA.—*J. Leith*: The flowers of this species are, as you say, very much larger than those of C. arcturus, but the plant itself is very much taller and less easily accommodated for pot work. It is a biennial, with very much the same habit as a Foxglove, although the flowers are entirely different in form, and we do not think you would succeed in growing C. cretica with any degree of satisfaction in pots. We have no desire, however, to discourage experiment, so that you might try a few plants. Encourage a vigorous growth of leaves the first year, for upon that will depend the strength of the flower stem the second year. Treat the plants as you would Campanula pyramidalis in pots.

GLADIOLI SEED.—*S. Wilkins*: Sow the seed at once in square pans sufficiently deep so that the plants may be grown in them for the rest of the summer. Place the pans in heat, and when the seedlings are up, stand the pans as near the glass as possible, and gradually inure the plants to a cooler atmosphere until they can be placed out of doors for the summer. Attend to them in the matter of watering to keep them in vigorous growth till the leaves begin to turn yellow, when they may be allowed to go to rest. The corms may be taken out of the soil when mature, and stored in sand for the winter. Plant out in March next year.

PLANTING CAMELLIAS OUT OF DOORS.—*A. R. L.*: We believe that any of the varieties of the cultivated Camellia would grow in the open air in your neighbourhood, but in selecting varieties for planting out you should give preference to those whose flowers are the least complicated or confused with petals, because they expand better than those having a great number of petals. The flowers will be smaller than when grown under glass, and if the petals are very numerous they would have greater difficulty in expanding, and would not appear pretty at the best. Could you get hold of some of the old single or semi-double sorts they would suit your purpose well. The old alba plena is a very satisfactory white variety under glass, and would probably serve your purpose. Plant in a western or northern aspect in preference to an eastern or a southern one. The position should be thoroughly sheltered from rough winds by trees, but not overhung by them in any way, otherwise the leaves will not acquire the leathery character which they ought, nor will the wood get as well ripened, both of which are necessary to the setting of the buds.

WHITE TEA ROSES.—*J. W.*: Before planting the Roses a little preparation of the house will be necessary. If there are no ventilators in the front wall it would be advisable to put in some for the sake of getting bottom air. Five or six of them would ensure an equally distributed supply of fresh air. Every other light at least should be so fitted that it can be drawn down when wanted. unless you have made other provision for ventilation at the top. A border should be made in which to plant the Roses. This should be well drained if not so naturally. Take out the soil to the depth of 2 ft. and fill in with good turfy loam, and some well made farmyard manure, and a quantity of half inch crushed bones. Good white Tea Roses for planting out are Climbing Devoniensis, Climbing Niphetos, Souvenir de S. A. Prince, and you might also get Madame de Watteville, and Innocente Pirola to do well. Seeing that the front wall is 3 ft. high it might be advisable to make the border on the level of the floor of the house, and run up a brick wall about 2 ft. high and 2 ft. from the front wall, and then fill in the bed so made with the fresh soil. This would bring the Roses up near the glass, and enable them to get better light. Stretch some wires about 8 in to 10 in. below the glass, and train the stems and shoots to them.

COMMUNICATIONS RECEIVED. — J.W. — J.G. — H.W.N.—A.J.R.—J.C.—R.E.—W.A.—S.H.—W.R. —W.J—Con.

LONDON SEED TRADE

March 7th.

MESSRS. HURST & SON, of 152, Houndsdith, and 39, Seed Market, Mark Lane, report a good demand for all agricultural seeds. English Red Clover and Cowgrass realise higher prices. Foreign Red Clover, Alsike, White Clover, and Trefoil steady Ryegrasses unchanged.

COVENT GARDEN MARKET.

March 8th, 1893.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Grapes..... per lb.	2 0	3 6	Pine apples,		
Kent Cobs...100 lb.			—St. Micbael's, each	2 6	6 0
Peaches ... per dozen			Apples...per ½ sieve	1 0	3 6
Melons ... . each			Plums...per ½ sieve		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d
ArticbokesGlobe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, French, perlb.	1 6	3 0	Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per buncb	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng.dz.	3 0	5 0	Seakale .....per bkt	2 0	3 0
Celery.....per bundle	2 6		Smallsalading,punnet	0 4	
Cucumbers .....eacb	0 9	1 3	Spinacb ... per strike	1 6	
Endive, Frencb, doz.	2 6	3 0	Tomatos..... per lb.	1 6	2 0
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

POTATOS.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s. to 100s. per ton; Cbampions, 70s. per ton.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d
Azaleas... per doz	24 0	42 0	Genesta .....per doz.	9 0	15 0
Cyclamen per doz ...	9 0	18 0	Hyacinths, doz. pots	8 0	12 0
Cyperus .....per doz.	4 0	12 0	Lily of the Valley doz.		
Cineraria ...per doz.	8 0	12 0	pots	9 0	18 0
Dracæna term., doz.	24 0	36 0	Marguerites, per doz.	6 0	12 0
Dracæna viridis,doz.	9 0	18 0	Palms in variety,eacb	2 6	10 0
Deutzia .....per doz.	9 0	12 0	Palms, Specimen ...	15 0	63 0
Dielytra ..... per doz.	6 0	9 0	Primula Sinensis		
Erica, various, doz.	12 0	18 0	per doz.	4 0	6 0
Evergreens,invar.doz	6 0	24 0	Solanums.....per doz.	9 0	12 0
Ferns, invar.,per doz.	4 0	18 0	Tulips—various—		
Ferns, small, per 100	6 0	10 0	per doz. pots	8 0	12 0
Foliage Plants, doz.	12 0	60 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s d		s. d.	s. d
Anemones, doz. bnch	2 0	4 0	Mignonette... 12 bun.	2 0	4 0
Azalea, doz sprays.....	0 6	1 0	Narcisse, various, doz.		
Arum Lilies, 12 blms.	2 0	4 0	bncbs	2 0	4 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, 12 sps.	0 9	1 0
Carnations, 12 blooms	2 0	4 0	—scarlet.....12 bchs.	6 0	9 0
Cbrysanthemum,dz bn	3 0	9 0	Primula, double, bun.	0 6	1 0
Camellias doz blooms	1 0	3 0	Primroses doz. bchs	1 0	3 0
Cyclamen doz bloomso	4 0	6	Orchid Bloom in var.		
Daffodils, var. dz. bch.	2 0	9 0	per bloom, from	0 3	1 0
Eucharis ...per doz.	3 0	6 0	Roses, yellow, dozen	3 0	6 0
Euphorbia Jackminafolia, doz. sprays	1 0	4 0	— French, per bnch	1 6	4 0
Gardenias 12 blooms	6 0	12 0	— Frencb, 100 blms	6 0	12 0
Heliotropes,12 sprays	0 6	0 9	— Red..... doz. blms.	3 0	9 0
Hyacinths, doz. spikes	3 0	6 0	— Saffrano...per doz.	2 0	3 0
Hyacinths Roman			Snowdrops doz. bchs	1 0	2 0
doz. sprays	0 6	1 0	— Tea ..... per dozen	1 0	3 0
Lilac, White, French,			Tuberoses, per doz	1 0	1 6
per bunch...	2 6	4 0	Tulips, red, per doz.	0 6	0 9
Lilium Harrisii,			— Wbite, per doz. ...	1 0	2 0
doz. blooms	6 0	9 0	— Yellow, per doz....	1 0	2 0
Lily of the Valley dz.sps.	0 6	1 6	Violets,Parma,Frencb		
Maidenhair Fern,12bs.	6 0	9 0	per bunch ..	2 0	2 6
Marguerites, 12 bun.	4 0	6 6	—Czar, French, bun.	1 6	2 0
Mimosa (Frencb)p.bh.	1 0	1 6	Small ,, doz. bun.	1 0	2 0

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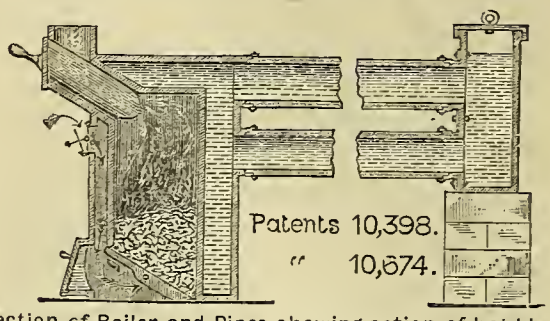
SILVER MEDAL HORSESHOE BOILER



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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, March 20th.—Sale of Hardy Plants, &c., at Protheroe & Morris' Rooms.
TUESDAY, March 21st.—Sale of Bulbs and Hardy Plants at Protheroe & Morris' Rooms.
WEDNESDAY, March 22nd.—Royal Society's Spring Show. Sale of Lily Bulbs, Plants, &c., at Protheroe & Morris' Rooms.
THURSDAY, March 23rd.—Shrewsbury Spring Flower Show. Sale of Plants, Bulbs, &c., at Protheroe & Morris' Rooms.
FRIDAY, March 24th.—Sales of Orchids and Hardy Plants, at Protheroe & Morris' Rooms.
SATURDAY, March 25th.—Crystal Palace Flower Show.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, MARCH 18th, 1893.

THE SPRING.—It is but the other day that the universal topic of conversation was the "beastly weather," now it is exactly the opposite, "what magnificent weather!" There are not a few probably, who, vigorously denouncing our insular climate a week or two back, now eat their words with avidity, and admit that when the British weather is on its good behaviour it is hardly excelled for enjoyableness in any part of the world. So much for the common aspect of the weather. Of far more importance to us as gardeners is the probable effect of such magnificent weather upon our prospective fruit crops.

What a splendid prospect there is on every hand now, and how rapidly bloom is expanding on wall trees and on Pears,

and the buds swelling up on all other fruit trees. Finer and plumper buds we have rarely seen, and so far there is every indication of a very early bloom, and a grand crop of fruit. That is the optimistic aspect of the weather effects in gardens. What about the other aspects? How long will this superb weather last? How soon may it be succeeded by cold biting winds, snowstorms, hail, frost and all other sorts of climatic evils. It is true these may not come, but if they do not, then we shall have a truly marvellous spring, one of the earliest and most genial on record.

It is too much to hope, remembering past experiences, that things will assume so roseate an aspect. For that reason, whilst appreciating fully the delicious nature of the weather, we could wish that this bright sunshine had come a little later, that, in fact, it were the weather of April rather than of March. Whilst it is difficult to avoid fearing harm, we will all the same hope for the best. It will indeed be a misfortune if such splendid promise as is now seen be marred by untoward weather later.

Early Spring Flowers.—With such a mild open time as we are now having there should be in gardens many more of purely hardy flowers in bloom than are now, or for the past few weeks have been seen. Only last week we passed one of the most famous of hardy plant nurseries by rail, where a full view of every part was to be had, yet not a single flower was visible, though possibly some few inconspicuous things in sheltered places may have been in bloom. But even if we take ordinary gardens, the comparative dearth of what may be called Lent flowers is very marked. Now and then paragraphs are published respecting what flowers seem unseasonable in bloom, but these are only found in highly-favoured localities and many could hardly be termed flowers.

It is not every one, alas, far too few, who can command such surroundings as Mr. G. F. Wilson has in his delightful gardens at Weybridge and Wisley, and our reference is rather to ordinary gardens, where flower borders and beds show only the very fewest of hardy flowers. Few as we have, what would be our bloom but for such bulbs as Snowdrops, Crocuses, Squills, etc., or of one or two of the very earliest Irises, although these are most rare in ordinary gardens. Of real hardy perennials, Hepaticas, only too sparsely grown, yellow Aconites, Helleborus colchicus and its varieties, a few very early Primroses, far too few, these seem to comprise the chief, if not almost all, of the hardy flowers met with. Sometimes we see the pretty but not striking reddish blue flowers of the Pulmonaria.

Of shrubs almost the only ones in bloom are the naked Jasmine and the still less conspicuous but fragrant Chimonanthus. Some of our readers perhaps may think after all that our list of early spring flowers is a fair one. So it may be, but after all their is room for many more. Even now there are few such bright clusters of bloom in gardens as the Coltsfoot give to us on the railway banks as the train dashes hastily by.

Town Trees.—Were all streets of the width of the Thames Embankment, or Portland Place, it would be not at all difficult to find ample room for tree heads, as well as for roots. The roots spread in all directions; they penetrate into the deeply moved road foundations, and cluster about sewers or drains. They spread beneath pavements, into forecourts, and lick the walls of houses. It matters not where they penetrate to so long as they are out of sight, and do not stop up drains. But this is not the case with the heads; these must be seen, and the stronger they grow, especially in narrow streets, the more obvious they are. Thus it is that all about the London suburbs, where local tastes or enterprise has planted trees, the heads have become too large, and darken windows, shutting out sunshine and air, and collecting dust, sewer gas or other evils, that it is found needful every year or two at the most to hard cut back their heads; and when this is done, as is generally the case early in the winter, very hideous objects these poor hacked, mutilated trees are for some three or four months.

It would seem as if the initial mistake made was in planting in these narrow thoroughfares at all, and especially of strong growing trees. Were these town trees restricted to Laburnums, Thorns, Almonds, and other very moderate growing and flowering trees, the beheading now so common would not be often needed, and the gain in beauty at certain times of the year would be considerable. It would be very difficult indeed for anyone to aver that so far our average town tree planting had proved to be a success.

The Royal Gardeners' Orphan Fund.—We are requested to state that by special request of the chairman, Baron Ferdinand de Rothschild, M.P., the annual dinner of the Royal Gardeners' Orphan Fund, arranged for Wednesday, March 22nd, is postponed to Wednesday, April 26th, 1893.

Guild of Kew Gardeners.—We are requested to draw attention to the notice of the above society which appeared in our columns a few weeks ago. All old Kewites who have not yet sent in their names and address for publication in the Guild's *Journal* should do so without delay.

The Lord of the Scilly Isles and the Flower Industry.—Mr. T. Dorrien-Smith, the lord of the Scilly Isles, says that twelve years ago the flower industry there was anything but remunerative. But few flowers were sent to the market, and the cultivation was not on anything like the general scale that at present obtains. Last year 330 tons were sent away for sale. Mr. Dorrien-Smith estimates that this year the quantity will reach quite 400 tons—182 tons were despatched during the month of February alone. The only matter the islanders have to grumble at is the want of proper railway rates and facilities, given which the flower trade could be made to pay most handsomely.

Royal Horticultural Society of Aberdeen.—The prize schedule for 1893 has now been issued. There are 239 classes, in which 721 prizes are offered. The classes are open to professional gardeners, nurserymen, florists, amateurs, and the working classes, and embrace pot plants, cut flowers, fruit, and vegetables, including several special classes for Potatos. The fete is to be held on 17th, 18th, and 19th August, in the Central Park, Kittybrewster, Aberdeen, the place where it was held last year.

Late Chrysanthemums.—Mr. Thomas Mackie, The Gardens, Abbey Bank, Arbroath, N.B., kindly sent us on Monday a couple of large, richly-coloured and beautifully fresh blooms of Chrysanthemum Mons. Bernard, respecting which he writes:—"The blooms are from crown buds taken in September, '92, cut fresh and fully developed on March 13th, '93. They were grown during last season along with other Chrysanthemums and got similar treatment. I grow a large collection of Chrysanthemums, and have been very successful as a competitor at local shows, and Dundee Chrysanthemum Show especially, but I do not remember in all my experience having seen in the middle of March two Chrysanthemum blooms such as are enclosed for your inspection."

Mr. George Hardy's Sale of Orchids.—Orchid growers will be interested to know that good prices were realised at the thinning out sale conducted by Messrs. Protheroe & Morris, at Pickering Lodge, Temperley, last week. The highest priced lot was a specimen of the remarkably handsome Cattleya Hardyana, which commanded 105 gs., and went into Mr. Ashworth's collection. Other notable lots were: —Cattleya Tresederiana, 21gs.; Lælia calistoglossa 38gs.; Lælia elegans Blenheimense, 40gs.; Cattleya Mossiæ Hardyana, 22gs.; Cattleya Massaiana, part of the Howick House plant, 50gs.; Odontoglossum vexillarium superbum, 12gs.; Lælia hybrida Arnoldiana, 66gs.; Cattleya Mendelii bella, 15gs.; Lælia Philbrickiana, 20gs.; Cattleya Trianæ Hardyana, 16gs.; and Odontoglossum crispum, hybrid, heavily spotted, 11gs.

Death of Mrs. Edward Beck.—The death is announced as having taken place on the 7th inst., at Worton Cottage, Isleworth, of Mrs. Susanna Beck, relict of the late Mr. Edward Beck, the distinguished amateur florist of many years ago. The deceased lady was in her 85th year.

A sad case of poisoning occurred at Horsey, a few miles from Great Yarmouth, on the 2nd inst. A labouring man, aged twenty-nine, took home some roots from his master's garden in mistake for Celery. He asked his wife to wash them for his tea, and when he bit a piece off he quickly discovered that it was not Celery which he was eating. He went back to his employer and told him what he had done. This gentleman gave him some mustard and water, which made him vomit, and suggested his seeing a doctor. He started for home, but fell down partly unconscious. His employer and a clergyman afterwards drove him to the nearest doctor, a few miles away, arriving at the surgery soon after nine in the evening, and he died shortly afterwards. It transpired at the inquest that the roots he took were those of the Monkshood, Aconitum Napellus. The deceased said he was in no pain, but felt he was losing his strength after he had bitten the root and swallowed a small portion of it.

Chinese Primulas.—A box of blooms of the strain of Chinese Primulas grown by Messrs. B. S. Williams & Son, has reached us. Superb Red is the name given a fine sort with blooms somewhat over 2 in. across with much overlapping segments. The whole flower is dark, but the colour is more intensified towards the margin, and the angled eye is heavily shaded with crimson. The flower of Superb Blue is not so large, but it is wonderfully intensified in colour, and the eye shaded with a peculiar brown tint. An old strain is Alba magnifica that retains its characteristics well. The lobes are very numerous, giving the flower the appearance of depth; and the whole is suffused with a very delicate shade of blush, contrasting well with the rich orange eye. The foliage of this type is very good. Meteor is about the richest shade of red we have seen, and is of an intense crimson-carmine, and calculated to show off well by contrast with their own or the foliage of other plants. A delicately-coloured semi-double in the box was that named Empress, the flowers of which were smaller than any of the single kinds, but nevertheless of the average size for this type, and of a beautiful and delicate pink colour. As the name would indicate, Firefly is a richly-coloured variety, which, for want of a better term, we might describe as carmine. It does not possess the fiery intensity of Meteor, yet it belongs to that shade of colour and is semi-double.

Kirkstall Abbey Pleasure Grounds, Leeds.—We understand that of the thirty-seven plans submitted to the Leeds Corporation for the laying out of the grounds adjoining Kirkstall Abbey that of Messrs. J. Cheal & Sons, Crawley, Sussex, has been awarded the premium of £20. The design submitted by this firm has numerous fine features, and when carried out will render the Abbey and its grounds an attractive resort. The design shows a central promenade, lawns for tennis and cricket, etc., a broad avenue skirting the river, a small lake crossed by a rustic bridge near the south-western corner of the grounds, three summer-houses, and two ornamental shelters, and near the entrance gates two lodges. There is also a fountain in the cloister, and in the grounds will be planted trees and shrubs. Very few flower beds are shown in the plan, and the firm recommend only two or three. The carrying out of this design will involve an estimated expenditure of £3,000. The second premium of £10 was awarded to Mr. T. H. Mawson, of Windermere.

The Carnation: its History, Properties, and Management with a descriptive list of the best varieties in cultivation. By E. S. Dodwell. Third edition, with supplementary chapter on the Yellow Ground. London: Gardening World Office, 1, Clement's Inn, Strand, W.C. 1s. 6d; post free, 1s. 7d.—[Advt.

NEW FUCHSIAS.

Last season Mr. James Lye, the well-known Fuchsia raiser and exhibitor, of Clyffe Hall, Market Lavington, submitted to us some foliage and flowers of new Fuchsias of his own raising, after subjecting them to several seasons' trial. Among them was a fine double white corollad variety of great promise named Snowdrop, having a clear bright red tube and sepals, with a well-formed white corolla, promising to be valuable both for exhibition and decorative purposes. Clipper is a remarkably fine single flowered Fuchsia in the way of Charming, the tube and sepals brilliant red, the corolla rosy-magenta: a very fine exhibition and decorative variety. This was the only dark variety sent, the four following varieties coming into the light section, viz.: Louisa Balfour, creamy white tube and sepals, stout, well-formed bright rosy-carmine corolla, fine shape, habit excellent, short-jointed, and very free blooming. Mr. Lye exhibited a specimen of this variety at the Bath Show in September last, a specimen nine feet in height, perfect in shape, and loaded with flowers, and it proved the floral sensation of the show.

Wiltshire Favourite has white tube and sepals, corolla bright reddish-carmine, flowers stout and bold and very fine in shape; this also promises to make a grand exhibition variety. Lye's Advance has white tube and sepals and pale pinkish corolla, very pretty and attractive; a charming decorative variety. Lastly is Lye's Eclipse, waxy-white tube and sepals, deep bright carmine corolla; also a fine decorative and exhibition variety. Some specimens of Advance were sent at the same time, but, being crushed in the course of transit, we were unable to form a correct estimate of them, though Mr. Lye thinks it is one of the best varieties he has raised.

Mr. James Lye deserves great praise for his thorough trial of his new varieties before he puts them into commerce. An excellent illustration of this fact is found in the circumstance that he exhibited at Bath in September last, as above stated, a specimen of Louisa Balfour nine feet in height, which must have represented at least three years' growth. Habit and floriferousness Mr. Lye regards as indispensable to a good exhibition and decorative variety, and when he stages a collection of nine varieties of large and striking specimens, it not unfrequently happens they are all of his own raising.

WINTER BROCCOLI.

According to my own observation and experience, Veitch's Autumn self-protecting Broccoli is the best winter Broccoli extant, and especially for cold or low situations. I have no accommodation in the way of pits or frames for storing the mid-winter varieties, and I know from experience that such varieties have to be taken up and stored under glass as soon as they begin to fold in, especially in low, damp situations, in order to save them from destruction by frost. It is when both Broccoli and Cauliflowers are just beginning to "button" or form their heads that the plants are most tender, and therefore most liable to be injured from frost, and as the so-called early Broccoli begin to fold in during the last and first months of the year, I would ask, in how many places these can be relied upon to be of service when wanted unless they are protected under glass?

This winter we had a good patch of one of the early varieties, they began to fold in before Christmas, and when the severe frost came we had them protected by turning the leaves well in and covering them up with a good thickness of Sweet Pea haulm. They were in a sheltered spot too, but for all that we did not save one plant out of fifty, and this was only a repetition of previous experience. Requiring an unbroken supply of Broccoli until the Cauliflowers come in, we have, consequently, to resort to rough-and-ready measures for keeping up the supply as long as required.

For several years past we have planted a double quantity of Veitch's Autumn self-protecting Broccoli, which generally begins to come in after the Autumn Giant Cauliflower and lasts for a long period. When severe frost is coming on, I always have every plant that shows the least signs of heading in taken up, keeping the most forward ones apart from the later heads. They are lifted with as much root as possible and placed in a patch together. We take out a trench first and then dig them in, just touching each other, as though they were growing. When the plantation is completed they are protected with mats at first, and with long litter as the frost becomes intensified. On dry, fine days they are uncovered in the morning, the covering being replaced at night, and as the leaves show signs of decaying they are gone over and removed.

A patch protected in this way we kept free from injury, even from 26° of frost, and have been cutting good Broccoli ever since, at the rate of a dozen and a dozen and a half a week. One of the main things is to get a true stock, and this done, there is no better Broccoli in cultivation for supplying a private family through the winter months. Should the weather continue mild I am not without hope of being able to keep up an unbroken supply, a feat not easily accomplished.—*Con.*

NOTES FROM AMERICA.

Preparing for Easter Around New York.

With Easter comes a busy time for the florist trade in the States, as at this season there is a large demand for flowers and plants, and prices rule high. In consequence of this many large growers concentrate their efforts in the preparation of stock for Easter, and their year's work all tends in this direction. One of the principal growers among this class is Mr. James Dean, of Bay Ridge, N.Y., whose place I recently visited, and was much pleased with what I saw there. Mr. Dean is a splendid type of the

Mr. James Dean.

Scottish race, a man who by perseverance and hard work has risen to a very high position among his confrères. He received his early training from his father, who at that time was gardener at Kinmont Castle in Dumfriesshire. He came to America in 1850, before the greyhounds of the Atlantic were thought of, for, as he told me, his voyage out occupied eight weeks.

When the war broke out between the North and South our friend left the peaceful pursuits of gardening for the more exciting occupation of a warrior. He went through the Civil War, greatly distinguished himself, and rose to the rank of lieutenant. He now derives great pleasure from being numbered in the ranks of the grand army of veterans. Returning to his first profession a competence and further honours awaited him, for he was successful in business, and his wide knowledge and sterling integrity has won for him the respect and esteem of the whole florist community. He has been President of the Society of American Florists, and also of the New York Florists' Club, in which latter office he has lately been succeeded by Mr. W. A. Manda. He is now busy as Chief of Horticulture for the State of New York at the World's Fair, and is determined to make his State exhibit a success.

The "glass" at Bay Ridge consists of fifteen houses, each 150 ft. long, and each filled with a grand stock of Easter plants, and for neatness and good order Bay Ridge is matchless on this side of the Atlantic. Running through the houses I found them filled as follows:—1, Adiantums; 2, Azaleas; 3, Lilium Harrisii, or the Bermuda Lily; 4, Pandanus Veitchii and Nephrolepis exaltata, I also noticed in this house a huge plant some 12 ft. high of the Monstera deliciosa in fruit; 5 and 6, Kentias Belmoreana and Forsteriana, from 18 in. to 5 ft. high and splendidly furnished; 7, 5,000 Lilium Harrisii, a grand lot; 8, Azaleas and some huge Genistas, 9 ft. high and 5 ft. through; 9 and 10, Azaleas, chiefly the varieties Apollo, L'Empereur, Van Chryson, and Saccontella; 11, Ficus and Araucarias; 12, Pteris in variety; 13, Begonias; 14, Genistas and Cannas, chiefly Madame Crozi, for which Mr. May is famous; and 15, Hydrangeas, bulbs, and Lilium Harrisii. I send you a photo of Mr. Dean which may be of some interest to your many readers north of the Tweed.—*Am. Cor.*

Gleanings from the World of Science.

Average Production of Wheat in Europe.—For several months past the Division of Statistics of the United States Department of Agriculture has been engaged in gathering official statistics of the production and distribution of agricultural products throughout all the countries of the world, so far as they can be ascertained. The average production of Wheat in Europe, as far as it is officially reported, was 1,094,790,723 bushels for a period extending from 1881 to 1890. Adding to this the commercial estimates for Bulgaria, Servia, Greece, Spain, Switzerland, and Turkey during the same time, the average of 1,269,200,000 bushels is obtained. The average production of the United Kingdom during the same time was 77,676,551 bushels. The average imports for the same were 107,120,176 bushels; the exports average 1,592,528, so that the average net supply for a period of ten years was 183,204,199 bushels. This would show that the British Islands do not produce half so much Wheat as is necessary to supply the inhabitants with food.

Kangra Buckwheat.—The seeds of different species with their varieties of Fagopyrum are used in various parts of the world, but particularly in central Asia, as human food. In this country it is more or less extensively used as food for several of the lower and domesticated animals. The species named F. esculentum is perhaps most extensively used, but more recently it has been shown that another species is also cultivated in the Himalayas at least. This is F. tartaricum, and the Kangra Buckwheat is a variety of it. In nutritious value it is inferior to Wheat but superior to Rice. The Kangra variety has recently been analysed by Professor Church, who pronounces it to be considerably richer in flesh-forming constituents than any other cultivated form of Buckwheat in cultivation. The seed, says the professor, contains a smaller amount of fibre and a larger amount of oil than other varieties; but, on the contrary, he states that the proportion of albuminoids is lower. The Himalayan variety is also more easily removed from the husk, and taking all things together it looks as if the cultivation of this variety should receive more encouragement in the future than it has done.

Remedies for the Goat Moth.—The larva of this moth bores into the tissue not only of several of our fruit trees but also several forest trees. Some interesting experiments have been made by M. de Prune, chief surveyor of bridges and highways upon the plantations along the public roads of the estate of Hainault, Belgium, as related by the *Revue de l'Horticulture Belge.* He considers it easy to destroy the moth and cure the tree if taken in time. By means of a mallet and a carpenter's chisel, he lifts a portion of the bark in order to discover the whereabouts of the larvæ of the moth. This done, he injects into the holes an insecticide consisting of a mixture of naphtha and spirit of petroleum. The mixture was made on account of the great tendency of the naphtha to volatilise. It is very powerful in its effects, and serves not merely to dislodge the insect but to destroy it. The wound or exposed portion of the tree is afterwards painted over with mineral tar. The materials necessary are a syringe, two probes of india rubber, 20 in. of india rubber hose to allow of the placing of the probes, a vessel for the insecticide, a mallet and a carpenter's chisel. The Minister of Public Works has just decided that M. de Prune's method shall be adopted in all the plantations of the highways and canal banks of the country administered by the estate.

FLORICULTURE.

Auriculas.—Heat.

THE remarks of mine on Auriculas grown with the aid of artificial heat were based upon one made by Mr. James Douglas in one of the gardening papers, to the effect that Auriculas having begun to move, be had housed his plants, and that it would not be wise, now movement had set in, to allow the temperature of the house to fall below 40°. Seeing that during the first two weeks in February there were in the neighbourhood of London 10 or 12° of frost, I wondered how the temperature of a house was to be kept at 40° without the aid of artificial heat, and I find myself still wondering.

Mr. Douglas is candid in regard to his practice. He makes no secret of the fact that he employs artificial heat when he deems it necessary. I have never had an opportunity of seeing under what conditions Mr. Horner grows his flowers at Lonsdale, but when he was at Kirkby Malzeard he certainly employed artificial heat in the house in which he grew his Auriculas, and those were the days when he held his own at the London shows; and when the quality of his plants was equalled, it was only with others grown also with the aid of artificial heat. Of the Reading growers, Messrs. Henwood, Badcock and Walker have houses in which to grow their Auriculas that are heated either by a flue cr hot water pipes. I do not know under what conditions Mr. Wheelwright grows his plants, probably without the aid of artificial heat, but he appears to be somewhat perfunctory in putting an appearance on the exhibition table. Two other Reading growers—Messrs. Gibson and Fife—are excellent growers, but not having artificially heated frames, they are not early enough in bloom to compete with those who have heated houses, and they therefore stand aloof from the Auricula Society. These facts are enough to substantiate my point, that so long as all the classes in the Auricula Society's schedule are open to growers who have the command of artificial heat, so long are the growers who do not employ it placed at a disadvantage, and it is useless to look for encouragement for such, under the present management.

Mr. D'Ombrain, who has ample opportunity for orming an opinion, is evidently likeminded as myself, for Mr. Horner brackets us together as if we were a pair of heretics guilty of floral heterodoxy; and this fact gives us the spectacle of the chairman of the committee of the Auricula Society practically protesting against the practices of the leading growers on the committee, and he knows, quite as well as I know, that it is practically impossible for him to secure anything like fair play for growers under the cool system.

I can now, without any feeling of embarrassment, reely criticise the practices of the Auricula Society, as I have placed myself outside it as a protest against the practice that now prevails of violating the privacy of committee statements. In 1891 a paid judge staged certain plants in a class or two, in which I competed, and judged them afterwards. This appeared to me to be such a monstrous departure from the usual rules and observances governing floral competitions, that I objected—and I think rightly—to this person being employed as a judge, and I gave my reasons for doing so. My objections as stated appear to have been conveyed to him by a member of the committee, and he writes objecting to meet me on the occasion of the annual exhibition of the Oxford Carnation Union, on the ground that I had made "malicious insinuations." As he will neither justify nor withdraw this statement, I naturally enough strongly objected to this grower being engaged as a judge, holding that if invited by the members, they would be to all intents and purposes siding with my traducer against me, but he has been invited. It remains to be seen whether he will forego his two guinea fee by refusing to meet me as he did at Oxford, because I shall surely compete, though no longer a member. But my best and most effectual protest against such proceedings is by retiring from tbe membership of the society.

The method of appointing judges at the Auricula Show is most objectionable. At the annual meeting the person I have alluded to is invited, his fee being two guineas. He is the guest of the secretary, who is the principal exhibitor, drives with him to the show early in the morning, is present the whole of the time, assists as I have shown in staging, and afterwards judges. All this is decidedly contrary to the usual rules governing floral competitions. The other judges are appointed on the morning of the show day by the treasurer and secretary, both being large exhibitors No one knows who the judges are to be, and it not unfrequently happens round men painfully struggle in square holes, and all this pettifogging is in connection with a society that calls itself National! Is it to be wondered at that it never rises above the low level of comparative obscurity?—*R. Dean.*

ON MANURES.

AT the monthly meeting of the Preston and Fulwood Horticultural Society, held on the 4th inst., Mr. S. H. Stott, who presided, gave an address on Manures, from which we take the following:—Theoretical information is most useful, and especially so when given to those in a position to reduce it to practice. Farmyard manure is about the best fertiliser that can be secured, but it would be impossible without other means to secure the quantity that would be required for land under cultivation; its value may be greatly increased by mixing with it a very small percentage of sulphate of ammonia, kainit, and precipitated phosphate. I understand Mr. Bates held out a hope that shortly arrangements would be made in connection with the Harris Institute that samples of fertilisers would be analysed gratis. This will be very good, but I do not think it goes far enough; it is not only the fertiliser we require analysing, but the soil. Regarding fertilisers, no doubt a lot of rubbish has time after time been palmed off as genuine, and the sooner frauds of this description are exposed the better. Some time ago I was told tons upon tons of ground material were sent from Carnforth to mix with guano in Liverpool. Adulteration of this description not only handicaps the user, but is a national waste, the land being less productive than would have been the case had the article been genuine, resulting in loss of labour and money by the user. I stated it was the soil we required analysing as well as the fertilisers. County Councils throughout the kingdom make large grants for technical education. We all know certain corps in certain districts do much better than in others, climate and other circumstances being equal. Therefore, the importance to be attached to the analysis of the soil cannot be over-estimated.

The chemistry of the soil in each district should be well understood, and this can only be arrived at, say in practice by results, and in theory by analysis, and a report stating in what the soil is deficient, and what the essentials to insure full crops of varied fruits and vegetables. I have experimented with most of the fertilisers in trade, and with very varied results. In the "Rosarian Year Book, 1889," we have a very good article on artificial manures, by E. Tonks, Esq., B.C.L. In this article he asks the question what artificial manure is suitable for the Rose, and then asks a further question—what are the elements of which the Rose is composed? Then he gives tbe result of an analysis of the ashes of the Rose; he then pairs his formula, to give back in the in the same proportions, viz.: 12 parts superphosphate of lime, ten parts nitrate of potash, eight sulphate of lime, two sulphate of magnesia, one sulphate of iron. This a guide in using fertilisers in most cases; still the rule is not without its exceptions, as I have found by experimenting—(hear, hear). The depressed state of agriculture through which we are at present passing necessitates the most searcbing inquiry as to its cause and removal. The subject of our discussion this evening I think of vital importance to agriculturists, viz.: "The Use and Abuse of Fertilisers." It affects agriculturists more seriously than horticulturists. The farmer has to make a living and pay his rent, and has to compete with the produce grown from virgin soil, and in many cases a much more favourable climate.

The question of transit in times past in a measure protected him, but now this is reduced to a minimum the agriculturist is seriously handicapped. Still, as agriculturists, hortciulturists, and fruit growers, we have got to make the best of the circumstances. In the past we have been too easy, and gone too much by rule of thumb; in the future we shall have to treat all crops from a scientific point, if we are in any way to hold our own against increasing imports. I am so strongly convinced of this that I believe it will pay our large fruit and vegetable growers to first ascertain the nature of the soil they are working, and then either mix or purchase specific manures for the varied crops he intends to cultivate. Failing this, he prefers practice to theory, maps out plots of same size, and tests with varied fertilisers, say sulphate of ammonia, nitrate of soda, superphosphates, separately, and mixture of the same, and note the results in each case. Experiments in this system have been carried out in the Channel Isles, and tests have proved that by a judicious mixture of fertilisers crops of Royal Jersey Fluke Potatos planted 7th March, lifted 19th June, have been increased from nine tons to nearly seventeen tons per acre, and if results like this can be secured in one class of crop, so they can in others. The best results were secured by a mixture of blood manure, nitrate of soda, and phosphate. Still this mixture comes expensive, and a mixture giving near the same results at much less cost per acre seems to be all that could be desired, viz.: sulphate of ammonia and phosphate.

For other crops varied mixtures should be used, say as follows:—Vines, dried blood and raw bone meal; hops, dissolved guano, containing 20 per cent. phosphate and 10 per cent. ammonia; Beans and Peas, phosphate and kainit; Cauliflowers, Cabbages, Onions, Turnips, and Carrots, kainit, superphosphates, and sulphate of ammonia; fruit trees, muriate of potash, superphosphate, and sulphate of ammonia; for the bulk of flowers, ammonia, kainit, and superphosphate. On good, rich soil either nitrate of soda or sulphate of ammonia will prove satisfactory; if the soil be poor it will require the addition of kainit and superphosphate. On a clay sub-soil I think sulphate of ammonia preferable to nitrate of soda, and always so in a wet season or on damp land. It is a little more expensive per ton, but it is fully 20 per cent. stronger, and is not so quickly washed out of the soil. I used the words advisedly, the Use and Abuse of Fertilisers. A doctor gives you a bottle of medicine to be taken in certain quantities at certain times. A fatal mistake may be made by not following his instructions, so it is with fertilisers, either in solid or liquid form, and I say give rather under than over what you are told to use. The vendors wish you to use as much as you can, therefore prescribe the extreme limit of what is safe to use. If this be exceeded the roots are burnt, and then comes the abuse of fertilisers. In conclusion, the result of the small scope I have had for experimenting with varied products are that the most valuable for horticulturists are urine, dried blood, sulphate of ammonia, nitrate of soda, bones and bone products, basic slag, gypsum or sulphate of lime, the varied superphosphates, and nitrate of potash. This is most useful, but I have p aced it last, and I expect we can get as good result from kainit, which comes much cheaper.

A lengthy and exceedingly interesting discussion followed, in which a number of gardeners took part, and for which we regret our inability to find room.

COB-NUTS AND FILBERTS.

As there is every probability that we shall have a very abundant crop of small nuts, for the catkins have been as plentiful as beautiful, and the fertilising season is now past, I refer to the fact as having some prospective interest in that I have just been eating fine Cobs and Filberts given me last October, and which having been freed from their cups, were at once placed in a large jar, salted and so kept. Those I have been eating being the last, yet some five months after gathering, these nuts are apparently just as fresh and sweet to the taste as ever, and fully preserved. I see no reason why they may not have kept so in the salt for some time longer, if desired. It is worth knowing that really good small nuts can be thus well preserved. Of course, we are enabled to purchase excellent Barcelona nuts at almost any time of the winter, and these, it may be, largely discount our home-grown nuts. Still there seems to be few nuts so sweet and nice as are home-grown Filberts. How abundantly also they may be grown. It is not at all essential tnat cultivation should be elaborate or pruning severe to secure good crops. The bushes from whence the fine samples I had were taken grow in a shrubbery and merely get occasional thinnings, yet every year do they fruit profusely, probably because they are sheltered from the north and east by high trees. Small nuts of the best kinds might be grown much more commonly than they are. Whilst our wild nuts are relatively so poor in quality, the best sorts cultivated are so good. That fact should afford special reason why they should be much more widely cultivated.—*A. D.*

THE "STOTT" SPECIALTIES.

THE "Stott" specialties are, figuratively speaking, instruments of life and death, for under this comprehensive title are included the patented insecticide now widely known as "Killmright," the fertiliser equally as well known as "Feedmright," syringes and other sprayers used in distributing the insecticides in various ways, and for divers purposes, of a constructive and destructive character. They are the invention of a gentleman, Mr. S. H. Stott, who is a keen rosarian, who has been an ardent and successful "fancier" in other branches of natural history, and whose portrait we have much pleasure in giving in our pages this week, because his inventions have been, are now, and promise to be still more so in the future, of great practical utility to the horticultural community.

Our friend is the eldest son of Mr. S. Stott, a Justice of the Peace for Lancashire, was born in 1842, and from the time he left school has always been connected with the staple trade of the county palatine. He has taken a deep interest in everything connected with horticulture from his youth upwards, and has had other hobbies besides. He has been a breeder of prize poultry, geese, turkeys, and Rouen ducks, and has often been at the top of the prize lists at Birmingham, the Dairy Show, Crystal Palace, and other shows. When he had had enough of the poultry fancy, he went in for fox terriers, and met with equal succes as a breeder of these truly sporting "tykes," for many a crack came from his kennels. For the last few years his hobby has been Roses solely, and thereby hangs a tale in connection with the "Stott" specialties, which may interest some of our readers.

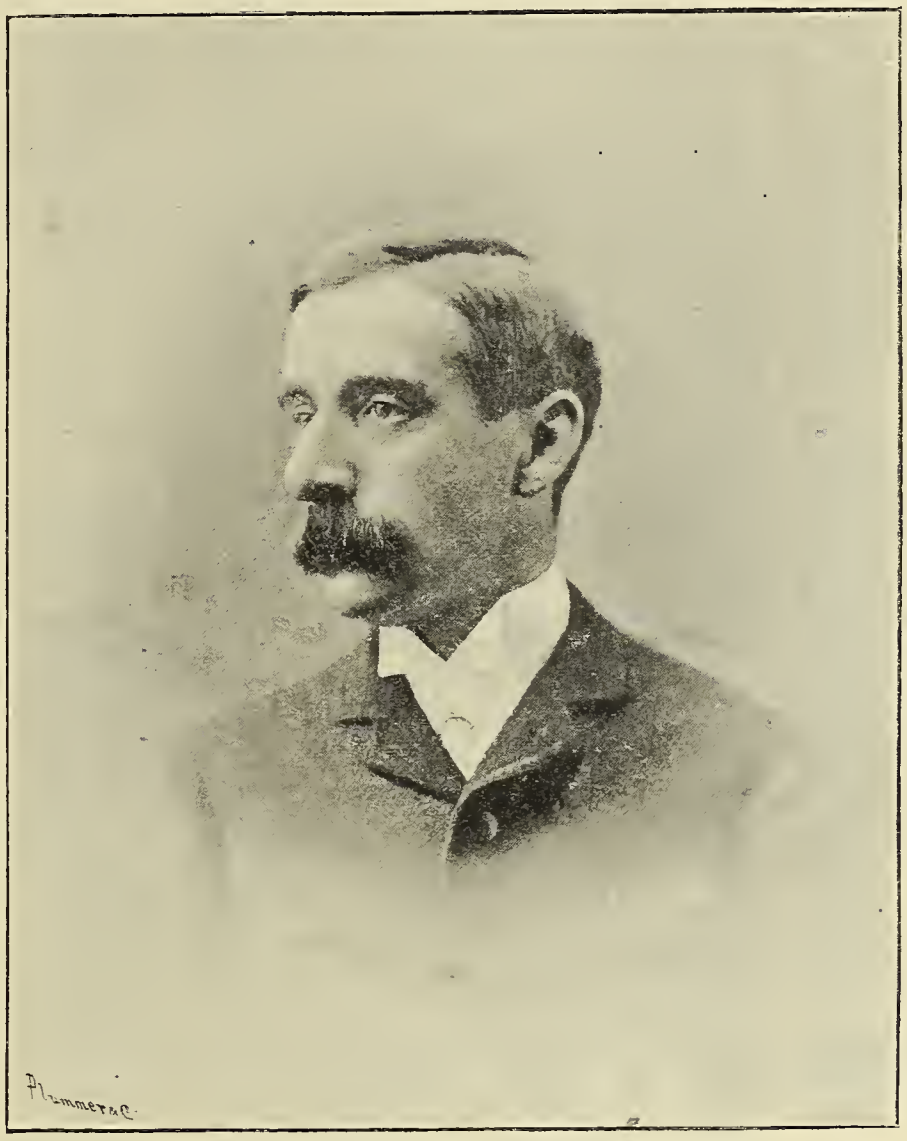
When Mr. Stott took seriously to Rose growing in his garden at Fulwood, near Preston, he was so much troubled with insect pests that it became a question of either giving up the Roses or becoming master of the insects, for growing about 800 Rose trees it took every spare moment to keep his plants clean, and no one, not even the greatest enthusiasts, could stand that long. His first determination was to try and find out if the work of cleansing the plants could not be accomplished in direct connection with the water supply, and the result of his experiments was the Patent Distributor which has often been commended in these columns for its simplicity and effective character. The invention was indeed of such a promising character that a friend offered £1,000 for a half share in it. The next thing was to find an insecticide that would be gradually soluble in cold water, that would be safe yet effective, and that could be manipulated in the distributor. This was a work of time and patience, but was eventually overcome, and now we have in "Killmright" an insecticide which is used in thousands of gardens, from the Queen's downwards.

Mr. Stott's next move was to experiment with sprayers in the hope of finding the best for his purpose, but failing to find anything exactly suitable, determined to adopt a very old principle, viz., that so well known to every gardener of creating a spray of more or less fineness by placing the tip of the forefinger at the delivery end of a nozzle, but wanting something more than this—a spray that would play on the underside of the leaves as well as upon the upper surface—in due time a perfect sprayer was forthcoming. This success lead up to another. The idea arose that a combination of sprayer and distributor would be valuable if it could be used in connection with syringes, and our inventive friend solved the problem when he introduced the new Chambered Syringe, which at the present time cannot be manufactured fast enough to meet the demand for it, and from this significant circumstance we are pleased to know that Mr. Stott's patience, perseverance, and inventive genius is bringing its due reward. But the insecticide, the sprayer, and the distributor having been duly evolved, the next move was to find a fertiliser that could be applied by the same aids to distribution, and the result is "Feedmright," of which more anon.

Mr. Stott's first patent was taken out in 1889, and a small limited company was formed, mainly of personal friends, with a capital of £10,000, to work the patents and put them on the market. They are now all patented in this country, the United States, Germany, France, Belgium, Spain, New South Wales, Victoria, and New Zealand, and so great is the demand becoming that the company, which has its headquarters at Barton House, Deansgate, Manchester, will soon have to increase its capital in order to extend its plant and so supply the demand. With regard to the United States it was found that the tariffs were so excessive that it was impracticable to ship the specialties from this country at a remunerative profit, and so arrangements have been made whereby all the specialties of the company are now made by the Stott Garden Implement Company of New York, and the firm intends to have a large exhibit at the World's Fair.

Thus, in brief, we put on record the rise and growth of a new business, which has been brought about mainly by an amateur's love for Roses, and of which the originator, Mr. Stott, can himself even have but little conception as to what successes it may yet lead to. His determination to send nothing out that does not answer the description given of it was undoubtedly the right policy to pursue, and we are pleased to be able to congratulate Mr. Stott on his well-earned laurels at the Crystal Palace, Earl's Court, Edinburgh, and other places in this country, as well as at Philadelphia in the United States.

We understand that the company will soon be introducing another valuable invention, but by Mr. Stott's brother, Mr. J. S. Stott. This is a new Plunger for Pumps and Syringes; and we hear also of a new Hop Washer, which is to be an eye opener, and which is to be publicly tested during the next few weeks in Kent, Herefordshire, and Worcestershire.



MR. S. H. STOTT.

PEACHES AND NECTARINES.

(*Concluded from p. 440.*)

ONE of the most essential points in the summer treatment is the watering, both as regards the roots and foliage. In wet, sunless seasons very little water is required, but, on the other hand, in a hot dry summer too much can hardly be given. If necessary the surface of the border should be broken to take in the water, and it is a good plan with heavily cropped trees to mulch with good manure and water on the top of it. Syringing the trees, and in fact the whole wall, is very beneficial, and is one of the chief aids in keeping the trees clean and healthy.

The pruning of established trees consists in the removal of all the shoots which have borne fruit except those which are leaders. If this can be done soon after the fruit is gathered, it will greatly benefit those left. I do not agree with shortening the intended bearing shoots at the winter pruning, but only those which are not sufficiently ripened; when any are shortened care should be taken to cut to a wood bud, if to a triple bud so much the better, as then you are sure of a growth from the centre bud.

Having travelled over a good deal of ground respecting the cultivation of Peaches in the open air, a short reference will now be made to the orchard house system of growing this most delicious fruit. There is much to be said in favour of the orchard house and growing Peaches in pots. With an orchard house the cultivator is not so much at the mercy of the elements as he would otherwise be, and the season over which ripe fruit can be obtained is considerably lengthened.

By a judicious selection of the varieties now in cultivation, there is no difficulty in obtaining ripe fruit for four months out of the twelve.

Pot culture is not very popular with some people, principally owing to the amount of labour it entails. Where a limited supply of fruit is wanted over the longest possible period it is to be strongly recommended. Growing naturally the Peach forms a low bush, therefore it is well suited for small trees in pots, 11-in. or 12-in. are the most suitable size to use; the soil should be the best loam procurable, and in potting it should be made as hard as possible. The success or failure of pot trees largely depends on the attention they get in watering—to let them get dry in the growing season is courting failure.

Re-potting of orchard trees must be attended to as soon as the fruit is all gathered; it is not necessary to re-pot every year, as the trees can be kept in perfect health by annual top-dressings with good soil for several years, a quantity of the top roots being removed each time to get the fresh soil into the pots.

If the trees can be plunged while growing in some good soil, the roots may be allowed to run out of the pots at their will. It is important that the orchard house be thoroughly ventilated, as abundance of air must be given when the trees are in flower, and when the fruit is ripening. A free circulation of air (provided it is not admitted in cold draughts) will do more to set the fruit than all the brushes and rabbits' tails in existence.

A good plan where the orchard house culture is gone into thoroughly is to have two sets of trees for each house, fruiting one in the house each year; the other set should be plunged in some good soil outside, and have all the fruit rubbed off as soon as set.

So great a resemblance exists between many kinds of Peaches and Nectarines, that sufficient marks of distinction would be difficult to fix upon so as to know the one from the other, had we no other characters to assist us except the form, size, colour, etc., of the fruit alone, as in the case of the Apple and Pear.

There are, however, other and more permanent characters, and these are made use of to form a classification. The late Mr. Thompson, of these gardens, divides the varieties of this fruit into two grand divisions, namely, Peaches and Nectarines; these again into two classes, Melters or Freestones and Pavies or Clingstones. The flowers again form two sub-divisions, large flowers as in the Noblesse Peach and small ones as in the Elruge Nectarine. The glands on the foot stalk of the leaf also help to distinguish the different varieties—some have kidney shaped glands on globose and some have none at all.

As with all other fruits the varieties in Peaches keep on increasing, many excellent varieties have issued of late years from the Sawbridgeworth Nursery. There are considerably over 200 varieties now in cultivation, we have fifty-five in the gardens here.

The following twenty are the best I am acquainted with :—Waterloo, Alexander, Early Rivers, Hale's Early, Acton Scott, Early Albert, Early Louise, Dr. Hogg, River's Early York, Alexandra Noblesse, Geo. the Fourth, Stirling Castle, Goshawk, Royal George, Bellegarde, Barrington, Princess of Wales, Walburton Admirable, Lord Palmerston, Sea Eagle.

They are arranged in their order of ripening as nearly as possible. But I may as well add that they will not always keep exactly in the same order, variations in the season and culture often influence varieties in their time of ripening considerably. A more select list of six varieties would include Waterloo, Hale's Early, Dr. Hogg, Stirling Castle, Royal George, Walburton Admirable.

The best six Nectarines are Lord Napier, Downton, Stanwick Elruge, Pitmaston Orange, Pineapple and Grosse Violette Hâtive.

THE VEGETABLE GARDEN.

General Work.

The season is now upon us when work in the kitchen garden seems to come on faster than we can get it done. The spell of fine dry weather we have had has helped to make the soil in a good dry state for seed sowing. One of the first things to do is to plant a few rows of Jerusalem Artichokes. This is a vegetable that may be planted in any corner, and as the tops grow to such a height they may often be planted so as to hide unsightly places. The covering should be taken from Globe Artichokes, as by this time it has become wet and cold, and a little dry light litter will be sufficient to protect it against the spring frosts.

Parsnips should be sown about the first among the seeds, and when the ground is in good order the Onion crops should be put in. Shallots, if not already planted should be attended to. See that any suitable crowns for forcing are covered, or as they begin to grow the points become of a dark colour which spoils the appearance for table. Any intended for blanching in the open ground, if not already earthed up, should be attended to at once. Keep the surface well hoed amongst the young Cabbages and autumn sown Onions, if they have survived the winter. I am sorry to say they are nearly all dead with me. It is time to sow the first lot of small seeds out of doors, such as Brussels Sprouts, summer and autumn Cauliflowers, early Broccoli, and some of the Kales, but as a rule, especially in early places, the later sowing made, say in the middle of April, gives the best plants for general use. A sowing of Lettuce should be put in now; also a few rows of Parsley and Radishes must not be forgotten, to keep up the supply. The young Cauliflower plants in small pots, if at all likely to become pot bound, should be potted on into 5 or 6 inch pots, as, unless they can be protected, it is early yet to plant them out in the open.—*G. H. S.*

THE ALBERT NURSERIES, PECKHAM RYE.

Since these nurseries were established at Peckham Rye, five years ago, they have developed rapidly, but particularly during the last two or three years. Three new houses, each 100 ft. long, and numerous heated frames are now nearing completion; while a set of cold frames will occupy most of the remaining ground available. Flowering and foliage plants are grown chiefly for the trade, but a certain amount of retail business is done, and a collection of Orchids has been got together chiefly for the sake of cut flowers. It may be interesting to our readers to note the sorts that are grown for cut flowers for market. In the warm division a considerable number of Cypripediums are grown, such as C. Lawrencianum, C. barbatum, C. bellatulum, and C. insigne, the latter being grown in quantity. Amongst Dendrobiums, D. nobile and D. Wardianum are the most popular. A very useful subject for cut flowers is Cœlogyne cristata with its varieties. Other subjects that might be mentioned, and which enjoy greater or less popularity, is Phaius grandifolius, Pilumna fragrans, Odontoglossum citrosmum, Cymbidium Lowianum, and Oncidium sarcodes, which are either in flower or fast approaching that stage. The yellow-flowered Vanda Kimballiana and the blue V. cœrulea are also favourites, the former not yet very common. Cattleyas could hardly be omitted, as their large and showy flowers always command respect. Cool house species include a considerable quantity of Odontoglossum crispum, which flowers in succession over a long period. O. grande is also grown in quantity and flowers well. O. Rossii and O. R. majus is still keeping time with the pretty Sophronites grandiflora.

Palms constitute one of the strongest features in the nursery, where they are grown by thousands; on the benches and under the benches the tiny seedlings may be seen everywhere in large boxes, also sown or planted in beds of soil upon the benches, and potted up in small pots of various sizes up to 60's and 48's. The large Palm-house and several other buildings contain large specimens for decorative and exhibition purposes. Some of the latter include perfect pictures of good culture and keeping of Kentia Belmoreana, with gracefully arching fronds of great length if they were straightened out. K. Forsteriana may also be seen in all sizes. Areca Lutescens and A. Baueri are the two marked species, the former being of all sizes, from seedlings in thumb pots up to 6ft. Amongst Fan Palms, Latania borbonica and Corypha Australis bear the palm for decorative work. Some of the species of Phœnix are grown, but P. rupicola is the favourite. The most common Rhaphis is R. flabelliformis, but the prettiest and most graceful is R. humilis, just as Cocos Weddeliana is amongst its kind; a large specimen of the latter is showing flower. Tiny little plants planted out in beds may also be seen in quantity. The leaves of C. plumosa are about 10 ft. long. Kentia Canterburyana ultimately rising up with a green stem must not be overlooked. Akin to the Palms, although in no way related, are the Cycads, of which a houseful of Cycas revoluta of various sizes, but small and easily accommodated, presents an attractive appearance. Some of them are newly imported and not yet in leaf, but the rest are of a rich dark green and handsome for decorative work, having splendidly furnished heads.

A large batch of Dracæna Lindeni is handsomely coloured, as is another of D. terminalis; D. lineata and D. Goldieana are grown in smaller quanties. Pandanus Veitchi is also a speciality here, as are the Crotons, the varieties of which are very numerous. Foliage Begonias, Cyperus alternifolius variegatus and Ardisias are all useful in their way for decorative work. Ferns of many kinds are grown in some quantity, but particularly Adiantum cuneatum, A. hispidulum and Davallias, with the popular species and varieties of Pteris. Some fine pieces of Adiantum cardiochlænum may be noted, but the most noteworthy of the single plants is a magnificent specimen of Blechnum brasiliense like a tree Fern with a stem 3½ ft. high, and leaves in proportion. In a cooler house were quantities of Araucaria excelsa, A. e. glauca, Marguerites, show and regal Pelgargoniums, Roses, Lapagerias and other subjects. The house was scented with Boronia megastigma. At the far end of the house are Heaths and Valotta purpurea. In a large house near the entrance and mostly filled with Palms, are four plants of Ficus elastica, 10 ft. high, with magnificent leaves.

A considerable amount of forcing is carried on with Lily of the Valley, Daffodils, Spiræa, Liliums, Hyacinths, Tulips, Tuberoses, Roman Hyacinths, and others of that class. Large and small plants of Gardenias in considerable quantity are now throwing up their buds. Eucharis and Caladiums of sorts occupy the same houses, and the latter are now pushing up their brilliantly coloured leaves. Batches of Hydrangea paniculata grandiflora are being pushed on in succession. A houseful of Azalea mollis, and another of Azalea indica of various sorts, show that they still enjoy a considerable amount of public favour. The Richardias or Trumpet Lilies were planted out last summer and lifted as large clumps with many crowns, and have been flowering freely for a long time past. The amateur and cottager are not forgotten, and to meet their wants Heliotropes, Lobelias, Coleus, Fuchsias, Aspidistras, Aralia Sieboldi, and A. S. variegata are grown for them. All except the Lobelias are popular window plants.

THE STARVED LAND.

Cultivators who are favourably situated may be inclined to ask where can there be any starved land? But alas! there is too much of it about, as those who move freely about the country are only too well convinced from the appearance of the crops. The poor growth and bad colour of the crops too often bear witness to the fact that the land is in a starving state. In the parish in which I reside, we have a forcible illustration of the value of high feeding, in the case of two fields of grass. Our field belongs to a cattle dealer who makes a point of giving his land a good dressing of stable or farmyard manure most seasons, or at least every other year. The other man allows his cattle to manure his field when feeding, or may only give a little dressing of good manure once in the course of five or six years. I am certain that the former gets double the quantity of feed from his land that the latter does, and what applies to the farm applies equally also to gardens of all types.

If proof of this is needed take a stroll into an allotment field and notice the vast difference that will be seen between one man's plot and another's. For years I have noticed such differences, and I could mention a number of gardens where the returns do not pay for the working, simply because no manure of any value is put into the land. I am quite aware that this is often not the fault of the gardener, but simply a question of the owner denying the supplies. In many instances I have known that all the manure that goes into the garden is such poor stuff as leaf soil. All the stable manure goes to the farm, and the garden is starved, yet most often does the owner expect to be served with the best of vegetables and fruit.

Leaf soil is a useful article in a garden, used in its proper place, but keep on applying it to the soil with nothing else, and it becomes of no value, in fact the land gets so tired of it that it would be better without it. I have this day been taking out some from a bed in a Vinery, where it has been for three or four years, and it is so thoroughly decomposed that I could only think of dressing a border with it on which we grow summer flowers for cutting. Fancy using such stuff where the land is poor for such things as Brussels Sprouts and Cauliflowers, and expect a crop worth having!

For many years I have been an advocate of high feeding for most crops, and during the past twenty years I have had to deal with three different gardens in widely different localities, and with equally diverse soils. In each case I have found that high culture paid. Some fifteen years ago I took charge of a garden in North Hants, where the soil was light, thin, and sandy, so much so that the farmers in the district dressed their grass land every year. The

garden had been used for marketing, and had to pay its way, consequently manure had to be considered as an item of expense. When I took charge the owner of the estate told me that he had reserved a large heap of good farmyard manure for the use of the garden. I did use it, and liberally, so much so in fact that my employer remarked one day that if I went on using it to the same extent in the following year I should poison the land. However, I did continue using it without stint, and during the eleven years I cultivated that land the crops continued to improve, and the weight of the produce thus raised was something astonishing. During the eleven years I seldom dug the ground more than once a year, no matter how often it was cropped, for if well dug once I considered any more a waste of labour.

I have a different soil to deal with now, but I find that this also pays for high feeding. Our garden is very small, and the demand on it continuous, consequently we have to practice very close cropping. But by trenching or thoroughly digging it every year, and liberal feeding, it never fails to yield good supplies. It make a great difference to many crops if liquid manure can be applied in their growing season, or if soot or artificial manures can be sown during showery weather. Fruit trees also would be greatly benefited by the liberal use of liquid manure when swelling off their crops. Some readers may ask themselves, How are we to get so much manure? Well, I would say to them that it can be got by always bearing the manure heap in mind, and wasting nothing that can be made available for increasing its bulk. In many gardens heaps of rubbish accumulate that would make valuable manure if properly prepared in winter; and by far too often we see the drainings of hot-beds in the frame ground running away into the drains that ought to be saved for the hungry land. If we are to get the most from the soil, we must put heart into it, and high feeding must be the order of the day.—*Con.*

THE UNITED HORTICULTURAL PROVIDENT AND BENEFIT SOCIETY.

The annual meeting of this society took place on Monday evening at the Caledonian Hotel, Adelphi, Mr. G. J. Ingram presiding. In their annual report the Committee had again to congratulate the members on the satisfactory progress made during the year, the membership roll having been increased by about 50 since the Committee last reported progress, the number on the books now being 474. The Sick Fund had been drawn upon to the extent of £88 12s. 8d., which was less by £30 than the sum paid in the previous year. Three death claims were paid during the year, and the benefit fund showed an increase of £700 for the year. The benevolent fund also showed an increase of nearly £170; and there was a larger balance in hand on account of the management fund than in any previous year, viz., £37 6s. 4d. The treasurer's statement was as follows:—

Dr.	£	s.	d.
Balance in hand, Jan. 11th, 1892	122	1	6½
Honorary and Life Members	63	0	0
Benefit Fund Subscriptions	695	1	7
Benevolent ,, ...	52	17	0
Management ,, ...	53	5	10
Arrears, 1891	21	3	2
Subscriptions to Convalescent Fund	34	16	10
Donation from Mr. and Mrs. H. J. Veitch ...	100	0	0
Dividends, less Income tax	207	10	5
Revocation Fees, &c.	0	2	9
	£1,350	9	1½

Cr.	£	s.	d.
Secretary's Salary	22	16	6
Expenses of Management	39	10	3
Sick Pay to Members	88	12	8
Paid to Nominees of Deceased Members ...	32	5	11
Payment to Lapsed Members	2	15	0
Grants from Benevolent and Convalescent Funds	8	10	0
Expenses of Convalescent Fund	1	2	6
Investment in West Bromwich Corporation 3 per cent. Stock	981	3	6
Balance	173	12	9½
	£1,350	9	1½

Investments—	£
Nottingham Corporation 3 per cent. Stock ...	5,500
Manchester ,, ,, ,, ...	1,200
West Bromwich ,, ,, ,, ...	1,000
Total	£7,700

The chairman moved the adoption of the report and statement of accounts, which was duly seconded and carried unanimously, as was also a resolution that 2,000 copies be printed for general circulation. Messrs. Cole, Peerless and Kelf were re-elected members of the committee, and Mr. A. Hemsley, Edmonton, was elected unanimously to the place vacated by the retirement of Mr. Dickens. Mr. Collins and Mr. Hudson were also again re-elected as secretary and treasurer. Votes of thanks were accorded to all the officers for their past services, to the Press for valued services rendered to the society, and to Mr. and Mrs. Veitch for their handsome donation to the convalescent fund. A cordial vote of thanks to the chairman brought a very harmonious meeting to a close.

GARDENING MISCELLANY.

WILLOWS IN WINTER AND SPRING.

When there is a lake, pond, or stream in the grounds of an estate, Willows are always appropriate on the margins or in the vicinity where the roots are within reach of water. Even on a dry bank, however, it is surprising how beautiful several of the Willows are at the present season. The Catkins by reason of the numerous anthers of various shades of lemon and yellow render the numerous twiggy shoots very conspicuous, indeed, far more so than the Hazel. Amongst the showy species at the present time Salix Caprea, S. cinerea, and other forms may be mentioned, but particularly the former. Then in the winter time, when leafless, several of them are notable for the rich colour of the bark, including S. purpurea, with purple shoots, S. fragilis decipiens, with pale coloured and varnished looking bark, and S. alba vitellina, with clear yellow twigs. A better effect is obtained by occasionally cutting them down so as to cause the production of vigorous young shoots, which are always the most highly coloured.

ANOPTERIS GLANDULOSA.

Less trouble attaches to the cultivation of this hard-wooded subject than in the case of many of the so-called New Holland plants. It is a native of Van Diemen's Land, and was introduced as long ago as 1823. No attempt must be made therefore to grow it in any but ordinary greenhouse temperature. The leathery leaves alone would show that plenty of exposure to sunlight and free ventilation are necessary to give them their wonted texture. They are spathulate, bluntly toothed, widest near the apex, and of a rich dark green hue, which sets off the beauty of the white flowers to advantage. The latter are borne in terminal, erect racemes, or sometimes several racemes arise in close proximity around the top of the shoots, thus showing how prolific the plant may be when grown under suitable conditions. It may be grown in pots, but when planted out in a bed of soil, in a well lighted position, it flowers far more profusely.

SMIDDY'S NURSERIES, NEWLANDS, HULL.

This flourishing business was started by Mr. John Foster something like twelve years ago. He began in a very modest way, having only one glass structure; his business increased rapidly, consequently, extensions in the glass department were made from time to time, so as to enable him to cope with the growing demand for his produce. At the present time he is contemplating putting up several more large houses. The houses for the most part are filled in winter with plants and bulbs suitable for forcing for cut bloom, and in summer a considerable amount of space is devoted to Tomato and Cucumber growing. The floral department in Prospect Street, under the able management of Miss Waterloo, is one of the sights of Hull, the window decoration being a marvel of skill and taste.—*J. McNab.*

PEACH TREES DROPPING THEIR BUDS.

The dropping of the buds is not unfrequently the result of the trees having been allowed to get too dry at the roots, and sometimes also want of proper ventilation will bring about the same result. Noblesse and Alexander are varieties very prone to drop their buds when forced early. My practice with the early house is to close about December 15, apply a little fire heat about January 1, maintaining a temperature of about 40° at night and 45° by day. When the fruits are set I advance the temperature 5°, syringe freely morning and afternoon, and ventilate according to the weather. Royal George, Grosse Mignonne, and Alexander yield splendid crops.—*Walter Grieve, Gardener, Helenslea, Broughty Ferry, N.B.*

THE CRIMEAN SNOWDROP.

The leading and distinguishing feature of this Snowdrop is the plaited character of the leaves, as implied in the name Galanthus plicatus. They are very broad, strongly reflexed or folded back at the edges, and of a deep glaucous green hue. The flowers, on the contrary, are small by comparison with the leaves and even when contrasted with several forms of the common G. nivalis. The three inner segments of the flower spread upwards and are somewhat revolute at the tips, showing the inner face, which is green, striated with white lines. The horse-shoe shaped green blotch on the outer face sometimes extends almost to the base. When planted in the open ground it flowers in March and April, but by growing it in pots in a cold frame the increased protection enables it to develop its flowers earlier, when it may be used in the conservatory or greenhouse.

CLIVIA NOBILIS.

For many years this fine species had no compeer or competitor of its kind in this country. It was introduced from the south-western provinces of Cape Colony in 1828, and was esteemed for the showiness of its flowers and the great number produced in an umbel, and which may vary from twenty to sixty, according to the treatment the plant receives. A moderate temperature and full exposure to light is also productive of deeper and richer colours. The red portion of the pendulous or drooping flowers is intensified and contrasts well with the green tips of the segments. The leaves are similar to those of the better known C. miniata, but the species may be recognised even when not in flower by the edges of the leaves being rough or almost serrulated like those of a Pink, and by the apex being blunt or very shortly pointed. The crossing of this species with C. miniata and *vice versa* should be productive of a greater amount of variation than has prevailed amongst Clivias hitherto.

CHAMÆDOREA DESMONCOIDES.

The habit of this peculiar Palm will always prevent it from being used as a decorative subject, inasmuch as it is by nature a climber. For warm or intermediate conservatories it might however, be used to advantage, for besides the curiously formed leaves, it also produces a great abundance of fruit, which adds considerably to the appearance of the whole. The stem is slender and reaches the height of about 6 ft. after which it fruits freely. The leaves are pinnate, sharply deflexed at the base, while all the pinnæ are reflexed in another direction. The object of this is that as the plant is scrambling up through other vegetation, the leaves support the stem by falling down over branches of other trees which may come in their way. The flowering panicles break through the sheaths of old leaves towards the base of the plant, and by the time the fruits attain some size the branches assume a red colour. The fruits themselves are produced in clusters, are about the size of Peas, at first green, then olive green, and finally black. A fruiting specimen may be seen in the temperate house at Kew.

CHAMÆDOREA GRACILIS.

There are several pretty Palms which seldom or never find their way into commerce, or at least not to any great extent, and this means that they do not get into private gardens generally. C. gracilis is one of them. The leaves are very short and deeply two-lobed or bifid, and not very long, consequently they lack the graceful elegance of those Palms having arching and finely pinnate leaves, such as those of Cocos Weddeliana. The stem is very slender, always comparatively dwarf for a Palm, and easily accommodated. The long, slender and drooping racemes of flowers are followed by red fruits that are highly attractive when mature. The best use to which the plant could be put would be as a decorative plant for the stove, where the plant in the fruiting stage at least would always be appreciated, particularly in winter. As the stem lengthens the plant can be moved from the front towards the back of the stages, where the leafy and fruiting portion could be seen over the heads of other plants. It may be seen in the Palm house at Kew.

CORNUS MAS.

The ordinary green form of this is not particularly ornamental in summer, but there are two variegated forms, namely, C. m. variegata and C. m. elegantissima which remain in good condition all the summer. The last-named is the prettiest, as in addition to a white variegation, the leaves are

beautifully margined with red. Any of the forms are beautiful in spring, commencing as a rule in the early days of March. The trees or bushes are of course perfectly leafless, but of close habit and twiggy growth and simply laden with small yellow blossoms in clusters which in the aggregate are very attractive even from a distance. By planting the variegated forms in the vicinity of the mansion, they would be objects of beauty while in flower in spring and again while in leaf. The ordinary form may be relegated to the shrubbery and clumps of trees and shrubs in the pleasure grounds.

HEPATICAS.

THESE beautiful spring-flowering plants are just now in perfection at the Old Hall, Southborough. Mr. Powell, the proprietor, takes great interest in hardy herbaceous and Alpine plants, as well as Orchids, and he has been most successful in hybridising many things. Just now he has his reward in some splendid hybrid Hepaticas, from the purest white to the deepest blues. Some delicate rose-coloured ones are also very beautiful. Mr. Powell seems to have increased the size of the flowers and introduced some new shades of colour. They are very free flowering also.—*Rusticus.*

PRIMULA ELATIOR CŒRULEA.

VERY few hardy plant growers evidently know of the existence of this old-fashioned but greatly neglected garden Primula. It is one of the Polyanthus type, bearing numerous flowers in an umbel, just rising clear above the leaves. The flowers are of a peculiar shade of blue, laced with white in the same manner as a gold-laced Polyanthus, but differing in colour. The centre is occupied with five yellow blotches. The leaves are spathulate, and taper to the base, like those of the garden Polyanthus. This pretty variety then bears the same relation to the ordinary type as the blue variety of the Chinese Primula bears to the other colours, or as Scott Wilson, Blue Gem and others bear to the common Primrose. Flowering pieces of it may be seen in the cold frames in the nursery of Messrs. J. Laing & Sons, Forest Hill.

THUNBERGIA HARRISII.

WHAT a gem this is! I was lately delighted to meet with the grand but much neglected old climber in splendid condition in one of the stoves in the Moat Gardens, Maidstone. It covers a space upon a back wall of about 15 ft. spread, and there are dozens of fine racemes of its pale blue flowers, having from two to three dozen flowers upon a raceme. A charming plant for such a position and flowering at this season of the year makes it doubly valuable.—*Rusticus.*

ANOIGANTHUS BREVIFLORUS.

THE bright yellow flowers of this bulbous plant remind one to some extent of those of a Hemerocallis, both in colour and general outline. Of course they are structurally different and the persistent portion of the plant is also quite different. The flower is regular, with a very short tube and six erect segments, and are produced in umbels of five to ten. The linear or strap-shaped leaves are of a slightly sea green hue and as long as the flower stalks which they accompany. As the species comes from the mountainous districts of Natal and the eastern parts of Cape Colony, it only requires a greenhouse temperature like most other Cape bulbs, and flowers during the winter months. At present it is comparatively little known, but appears to be of easy cultivation and may be seen in the temperate house at Kew.

SAXIFRAGA BOYERI ALBA.

THE habit of this plant is similar to that of Saxifraga Burseriana, being dwarf and densely tufted with large white flowers borne in small clusters on stems about 2 in. or 3 in. high. The anthers and ovary are yellow and the disc surrounding the latter of a golden hue. The leaves are subulate, more flattened and wider than those of S. Burseriana, with a white incrustation on the upper surface which the latter does not possess. It is no doubt as hardy as the better known plant, and equally well adapted for culture on the rockwork. It would appear to form a succession to S. Burseriana, to which it forms a complement. Some flowers may still be seen on the latter even on plants that have been kept in a cold frame all the winter, but the first flowers appeared many weeks ago, while S. Boyeri alba is just now in perfection in the nursery of Messrs. J. Laing & Sons, Forest Hill.

ORCHID NOTES AND GLEANINGS.

The Heaton Collection.

STEADY progress is being made in the well-appointed establishment of Messrs. Charlesworth, Shuttleworth & Co., Heaton, Bradford. During a recent visit I was shown a new system of shading, which seems to me to meet a long-felt want and eclipses anything I have seen before. The blinds are constructed of thin wooden laths 1 in. wide, fastened together with staples and rings in a most ingenious fashion; they roll up and down very easily, look neat and give a very good shade. Anyone in want of good durable blinds should go and see them; no doubt Messrs. Charlesworth will be very glad to give any information. There is an air of comfort and sturdy strength about the Orchid houses at Heaton. Observe the fine bank of Oncidium macranthum in the first house we enter; they are the acme of perfection, the plants with their long spikes giving abundant proof of the good culture and treatment they receive. Odontoglossum Halli is well represented with strong plants in flower, some of the spikes having up to eighteen and twenty-two flowers. Odontoglossum Edwardi with spikes over a yard long throw out a delicate perfume of sweet Violets. A well-grown batch of Odontoglossum polyxanthum, O. Harryanum, and miscellaneous lot of Odonts. are growing in this house together with a batch of specimen plants of Od. crispum.

The Cattleyas here are also grown to perfection, the houses devoted to them containing a large number of fine forms of C. Trianæ in bloom, together with some good C. amethystoglossa. Cattleya labiata is represented in good numbers, also the new C. Victoriæ Reginæ and C. Alexandræ. Lælia grandis tenebrosa seems to be a very kind grower, nearly every plant having shown a considerable improvement on last year's growth. We note a large number of Lælia purpurata exceedingly clean and well grown, amongst them a few specimen plants of unusual size full of sheaths. The importing of C. aurea has been a special feature with the firm, and some magnificent and valuable forms have flowered out of the consignments received. The plants are grown in shallow pans and baskets, and show signs of vigorous breaks. Cattleya Lawrenceanum, imported last year, has done well and the plants are now beginning to push flowers. Passing along we note a very good plant of C. intermedia alba, C. Wagneri, C. Skinneri alba, C. Schofeldeana, C. Schilleriana, and other good things.

Cypripediums are strongly represented, noticeable amongst them in flower were C. Elliottianum, a grand plant with two spikes: one of the best for hybridising purposes. C. Lathamianum, C. Argus, a very good form of C. barbatum Warneri, C. Niobe, C. Germinyanum superbum, C. Boxalli atratum, C. Galathea, C. Alice, pushing flowers, C. Pallas, C. pavoninum, and many choice hybrids too numerous to mention. The Cypripedium house contains also a well grown batch of O. Roezli, O. Phalænopsis, and a most interesting variety of seedlings.

The intermediate house is gay with flowers of the charming Maxillaria Sanderiana, a plant which seems to require special treatment to induce it to flower. Lælia harpophylla and Lælia cinnabarina, show their flowers to great advantage if staged with light coloured shades of Odontoglossum cirrosum blandum, &c., intermixed with Maidenhair Fern. Specially attractive are a good supply of Oncidium sarcodes and O. Weltoni. In another compartment we find a miscellaneous collection, chiefly Oncidium Rogersi, Lælia Dayana, Cœlogynes, amongst them the white form with twelve spikes. Dendrobium Ainsworthii, and Wardianum, beautifully flowered, and a strong plant of the rare and beautiful Cymbidium Lowianum concolor with three spikes.

In the small cool houses is the beginning of what will be a grand display of Odontoglossum crispum and its varieties. Many choice forms are represented here: Odontoglossum Hennisi, a unique plant with a nice spike, O. Ruckerianum insigne, O. Andersonianum, O. Wilkeanum nobilior, O. praenitens, and a healthy lot of Oncidium Marshallianum, pushing spikes. Sophronitis grandiflora and rosea are here represented in large number and just passing out of flower; they are grown in shallow pans and seem to be perfectly at home.—*Ebor.*

The Orchid Growers' Calendar.

GENERAL NOTES.—With the advent of bright weather everything has become active, so that all due care should be taken to see that each plant gets what it requires, whether it be fresh compost, moisture, or shading. Here on bright mornings the fires are drawn as soon as the sun gets on the houses, and when the temperature has risen by solar heat to the required height, the blinds are let down, and more air is admitted through the bottom ventilators; the syringe is used somewhat freely in the morning in each department amongst the pots and on the shingle, as our houses dry up rather quickly at night.

CATTLEYA HOUSE.—Cattleya gigas has commenced to grow, and will require careful treatment as regards moisture at the root for some time. An overdose of water causes the young growths to become black, a condition of things which this species is very much subject to. The best time to pot this (one of the best Cattleyas grown) is after it has done flowering, about August, as it makes plenty of roots just about that time. Still if there are any in an unsatisfactory state I should not hesitate to pot them at once, though it may check them and prevent their flowering. Cattleya labiata Warnerii may be re-potted now. This fine summer flowering Cattleya is becoming rather scarce, and an importation of it would, I am sure be very much welcomed by Orchid growers. After flowering ours rather heavily three or four years in succession, and allowing them to carry their flowers a long time for exhibition purposes, they dwindled away until they became but a shadow of their former selves, but with patience and careful treatment they have pulled together again, and are now, I am pleased to say, in vigorous health. They do best with us when grown in baskets, using as a compost good fibrous peat alone.

ODONTOGLOSSUM CITROSMUM will now be throwing up from the young growths its flower spikes, and a sharp look-out must be made for little shell snails, or they will clean them off wholesale Not much water must be given until the spikes are well up; at the same time the other extreme must not be reached, but just enough water be given to keep them from shrivelling too much.

COOL HOUSE.—Sophronitis grandiflora will now be rooting freely and should any require it may be re-potted, using peat and moss in equal parts intermixed with bits of broken pots. These beautiful little plants enjoy a little warmer house during winter, but there is no place that suits them so well as the cool house in summer. Any Odontoglossum crispum that were not repotted last autumn should now be seen to. It is a mistake to allow them to go more than two years without replacing the compost; ours are potted annually, and are recognised as some of the best grown around London. Our houses are just now gay with fine spikes of Od. Hallii, Od. luteo-purpureum, Od. Wilkeanum, Od. Rossii Majus, Od. Edwardii, Od. triumphans, Od. Andersonianum, and Od. crispum. Syringing the plants overhead on all bright days will be beneficial, being careful not to wet those in bloom. Thrips will sometimes attack the young growths, and if left to themselves will take the life out of the plant in no time besides disfiguring the foliage. It is therefore hardly necessary for me to point out the advisability of rigourous treatment, dipping them into a strong solution of tobacco water is generally effective.

Cœlogyne sparsa.

THERE is a quiet beauty about several of the smaller species of Cœlogyne that makes them desirable in collections, even of moderate extent. They occupy small space and may be grown in small pans or baskets and suspended from the roof on a level with the eye. Their intrinsic beauty may then be seen to the best advantage. The plant under notice is a native of the Philippines, from whence it was introduced in 1883. The ascending and short raceme bears from one to seven flowers according to the condition and vigour of the plant. The individual blooms are of medium size, with lanceolate sepals and linear petals, all of which are white. The lip is also of the same hue with a brownish-orange blotch on the disc, while the side lobes are speckled with brownish-orange on both surfaces. Flowers are produced in winter and early spring, when they are very acceptable.

Cœlogyne cristata

THIS grand Orchid, a native, I believe, of Nepaul, is grown to perfection at Broomhill, Tunbridge Wells

At this season of the year there is no Orchid so charming as this when well done. Some dozens of plants are wonderfully well flowered at Broomhill, many of the spikes having seven and eight flowers. There are upwards of a thousand spikes open at the present time, a most glorious sight, and one which reflects great credit upon Mr. Roberts' cultivation. —*Rusticus.*

SOCIETIES.

Royal Horticultural, *March 14th.*—The tables were well occupied at the meeting on Tuesday last, when the principal exhibits consisted of Orchids, Forced Daffodils, Roses, Heaths, Camellias and groups of stove and greenhouse plants, intermixed with Orchids. A Silver Banksian Medal was awarded to Messrs. B. S. Williams & Son, for a group of Orchids,including many fine pieces of Odontoglossum crispum, Cypripedium Elliottianum, Cymbidium eburneum, &c. They also had some Clivias and Anthuriums. An interesting little group was exhibited by Messrs. F. Sander & Co , in which were staged Spathoglottis Kimballiana, Dendrobium nobile Ballianum, Phaius amabilis, a pale, almost white variety of Vanda teres, and many others. A similar sized group was shown by Messrs. Hugh Low & Co., consisting of Dendrobiums, Cattleyas, Phalænopsis Stuartiana, P. amabilis and others. A Silver Banksian Medal was awarded to Sir Trevor Lawrence, Bart. (grower W. H. White), for a fine group of Orchids including such fine things as Cypridedium Rothschildianum, Dendrobium Findleyanum. Odontoglossum Ruckerianum splendens, and Phaius tuberculosus, all finely flowerred, A group of finely flowered plants of Odontoglossum crispum, O. triumphans, and several other species was shown by W. Thompson, Esq., (grower, Mr. W. Stevens), Walton Grange, Stone, Staffs. A Silver Flora Medal was awarded to W. Furze, Esq. (grower Mr. Coombs), Roselands, Teddington, for a showy group of Orchids, including well flowered pieces of Dendrobium nobile, D. Wardianum, D. Dalhousiæ and others, set up with Ferns and Palms. Three magnificently flowered plants of Cyrtopodium punctatum Saint Legerianum were shown by A. H. Smee, Esq. (gardener, Mr. G. W. Cummings), the Grange, Carshalton. A small group of Cypripediums and Odontoglossums was shown by G. R. le Doux, Esq., East Molesey. A Cultural Commendation was awarded to F. Wigan, Esq. (grower, Mr. W. H. Young), Clare Lawn, East Sheen, for a fine piece of Cœlogyne pandurata. He also had a well-flowered piece of the curious Megaclinium falcatum. Odontoglossum Rossii majus grown in a long box or basket of laths was exhibited by W. Soper, Esq. (gardener, Mr. J. N. Davies), Clapham Road. A Cultural Commendation was awarded to Thos. Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, Manchester, for a piece of Lycaste Skinneri alba, bearing ten open flowers. Phalænopsis amabilis Linden's var., was exhibited by Messrs. Linden (L'Horticulture Internationale), Brussels. A finely flowered piece of Dendrobium splendidissimum grandiflorum was exhibited by W. E. B. Farnham, Esq. (gardener, Mr. G. Cooke), Quorndon House, Loughborough. Cypripedium hybridum Bryan was exhibited by Norman C. Cookson, Esq. (gardener, Mr. W. Murray), Oakwood, Wylam-on-Tyne. Cattleya Trianæ Smithii was exhibited by Messrs. Pitcher & Manda, Hextable, Swanley. Some Cypripediums were also shown by J. Forster Alcock, Esq., Berkhamstead. Calanthe tricarinata, Epidendrum Endresio-Wallisii and others were shown by Messrs. J. Veitch & Sons, Chelsea.

A Silver Flora Medal was awarded to Messrs. Hugh Low & Co., for a group of finely flowered New Holland plants, including showy pieces of Acacia Drummondi, A. cordata, Boronia megastigma, B. heterophylla, B. elatior, Chorizema Leonii, Pimelea spectabilis, and other interesting plants of that class. A Silver Banksian Medal was awarded to Messrs. J. James & Son, Woodside, Farnham Royal, Slough, for a large group of very dwarf Cinerarias, with large and richly coloured flower head, including white, rose, magenta, purple, crimson, blue, and other shades, both selfs and zoned flowers. A Silver Banksian Medal was awarded to Messrs. E. D. Shuttleworth & Co., Peckham Rye, London, for a large group of forced Azaleas, Camellias, Trumpet Lilies, Lily of the Valley, finely coloured plants of Dracæna Lindeni, Caladiums, and Palms. A group of splendidly flowered Cyclamens in 48-size pots was shown by Mr. J. Odell, Goulds Green, Hillingdon, for which he received a Silver Flora Medal. A Silver Banksian Medal was awarded to Mr. W. R. Newport, Hillingdon, for a well-grown lot of Chinese Primulas, of the variety Model White. A Bronze Banksian Medal was awarded to Messrs. Barr & Sons, Covent Garden, for a group of Scillas, Lenten Roses, and Daffodils. A group of flowering shrubs was sent up from the Royal Gardens, Kew. A Silver Flora Medal was awarded to Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for a large group of forced Daffodils, Scillas, Primula Marginata, Chionodoxas, and others. A large basket of early flowering hardy subjects, such as Saxifragas and Hepaticas was staged by Messrs. Paul & Son, Cheshunt, who also had some Amaryllis. A Silver Banksian Medal was awarded to J. C. Fasher, Esq. (gardener, Mr. P. Perry), Middleton Hall, Brentwood, Essex, for a group of pot Roses in bloom. A Silver Flora Medal was awarded to Messrs. Wm. Paul & Sons, Waltham Cross, for an exhibit of twelve boxes of Camellia blooms. A Bronze Banksian Medal was awarded to Sir Trevor Lawrence, Bart., for a finely-flowered group of Begonias. A yellow Chrysanthemum frutescens named Alma Bruggemann was exhibited by M. C. Bruggemann, Villefranche-sur-Mer, France. A Silver Banksian Medal was awarded to S. G. Lutwyche, Esq. (gardener, Mr. J. A. May), Oakfield, Beckenham, for a group of Clivias. A Silver Flora Medal was awarded to Messrs. J. Laing & Sons, Forest Hill, for a group of stove and greenhouse plants, set off with Orchids in flower, and the Clivias were also fine. A Silver Flora Medal was awarded to Messrs. Wm. Cutbush & Son, Highgate, for a group of finely-flowered Ericas, Azaleas, and Pernettyas in fruit. A small but showy group of Amaryllis of a high standard of merit was exhibited by Messrs. J. Veitch & Sons. A Bronze Knightian Medal was awarded to Messrs. E. D. Shuttleworth & Co., for forced Daffodils, Iris reticulata purpurea, hardy Primulas, etc.

At a meeting of the Fruit Committee a Bronze Knightian Medal was awarded to Mr. S. Hardy, Asn House, Parson's Green, for a collection of Mushrooms packed as for market. Mushrooms were also shown by Mr. Wm. Johnson, Leeds.

Liverpool Horticultural Association, *March 9th.*—The tenth spring show held under the auspices of this association took place at St. George's Hall in splendid weather. The show had to be held a week earlier than was originally intended, the hall not being available for the selected dates, and it was made a one day instead of a two days show. The alteration of dates no doubt accounted for the reduced number of exhibits, for although the entries were fifteen in excess of last year, certainly fewer subjects were staged. The arrangements were similar in detail to previous years with the slight exception that the bulbs were placed on a side table, an innovation which did not enhance the beauty of the show. For a table of miscellaneous plants Mr. Jellicoe, gardener to F. H. Gossage, Esq., Woolton, was well to the fore with an arrangement of well-grown stuff, Adiantum cuneatum forming the groundwork. Mr. Moorhouse, gardener to R. Brocklehurst, Esq., West Derby, came in second. For ten pots of hardy herbaceous plants Mr. A. L. Jones, gardener to J. Bounds, Esq., was first with a varied and good selection. In the amateurs' section for eighteen distinct Hyacinths, Mr. O. H. Williams took the lead with good spikes; Mr. W. P. Sinclair had the best dozen; and W. Poulson the leading six. For six pots, three bulbs in each, Mr. O. H. Williams was to the fore. Mr. A. Earle had the finest six pots of Polyanthus Narcissus. For twelve pots of single Tulips, Col. Gaskell (gardener, Mr. W. Kneale), Roseleigh, Woolton, was first with superb blooms; for the six varieties Mr. J. Smith took the lead. For six pots of doubles Mr. C. McIver gained the first position. In the class for six pots of Daffodils F. H. Gossage, Esq., took the lead with well flowered specimens. For two Amaryllis, J. Grant Morris, Esq. (gardener,Mr. J.J.Craven), Allerton Priory, took the lead with Imperial and Virgin Queen. Mr.Gossage staged the premier lot of six stove or greenhouse plants, including two good Kentias, Croton Countess, Cypripedium Lowianum, Rhododendron Gibsonii, &c. The first prize for one stove plant in flower was well won by R. Brocklehurst, Esq., with a fine specimen of Clerodendron Balfourii densely flowered. For one greenhouse plant in flower R. Brocklebank, Esq., (gardener, Mr. T. Winkworth), took the lead with Imantophyllum miniatum, having twenty-five trusses. In the class for three Orchids F. H. Gossage, Esq., scored with good plants, and for the single specimen Col. Wilson took first with Cattleya Trianæ. R. Singlehurst Esq., (gardener Mr. J. Kelly), had the best six Dracenas. For four Exotic Ferns R. Brocklehurst, Esq., took the lead; for the single Fern Col. Wilson had the best. For three Azaleas H. Cunningham, Esq , (gardener, Mr. W. Wilson), Gateacre, was to the fore ; R. Singlehurst Esq., scoring for the single plant, staging Vrigin Queen. In the class for four Azaleas in 8-in. pots Col. Robinson (gardener, Mr. C. Osborne), Woolton, was first. Rhododendrons R. Singlehurst Esq., had the finest four; and R. Brocklehurst, Esq., had the best single greenhouse variety, Gibsoni taking the lead with a splendid ball-five feet in diameter staged, by Mr. A. L. Jones; the same exhibitor scoring for six forced hardy plants, including a fine Deutzia. Three Palms or Cycads were well represented by Col. Wilson, Cycas revoluta being grand; for the single the same exhibitor scored with Lantania borbonica 10 ft. in diameter. R. Brocklehurst, Esq., was first for Cinerarias, and J. Neal, Esq., (gardener, Mr. A. Lewis), Aigburth, for good Primulas. R. Brocklebank, Esq., had the best Mignonette. Mrs. Cope had a splendid lot of Lily of the Valley, For six Cyclamens J. Neal, Esq , scored best. R. Singlehurst, Esq., was adjudged first for six table plants. Mrs. Bateson had the best four Azalea Mollis and the best single plant. R. Brocklebank, Esq., staged the best three Callas; and R. Brocklehurst, Esq., had the best box of Roses. R. Brocklebank, Esq., won the prize for Grapes with Black Alicante. H. Tate, Jun., Esq., (gardener, Mr. J. Edwards), Allerton, was awarded a cultural certificate for Cypripedium Rothschildianum, a fine form with eight flowers on three spikes. Certificates of Merit were awarded to Messrs. Dicksons, Chester, for Daffodils; to Mr. T. Davies, Wavertree, for a general collection of plants; to Messrs. R. P. Ker & Sons, for new hybrid Imantophyllums—about 100 plants containing some promising varieties; to Messrs Fishlock, for wreaths, bouquets, &c. The arrangements were satisfactorily carried out by a sub-committee.

Aigburth Spring Show, *March 11th.*—The third spring show was held on Saturday, with a marked improvement in the exhibits, Orchids being especially strong. A. Garnett, Esq. (gardener, Mr. A. Bryan) took the lead for the pair with Cattleya Trianæ and Cœlogyne cristata, and for the single with a good variety of Cattleya Trianæ. For Hyacinths Mrs. Watts (gardener, Mr. J. Agnew), R. Singlehurst, Esq. (gardener, Mr. J. Kelly), and W. J. Davey, Esq. (gardener, Mr. G. Leadbetter), were first in the three classes with good spikes. For six pots of Narcissus, W. S. Gladstone, Esq. (gardener, Mr. J. Grant) was first with large pots of Daffodils. For Tulips Mrs. Watts was first for the single kinds, and W. S. Gladstone, Esq., had the double sorts. W. J. Davey, Esq., took the lead for two Amaryllis, as well as for two stove or greenhouse plants. For a single stove plant Mr. A. Garnett won with Dendrobium nobile; for the greenhouse specimen R. Singlehurst, Esq., scored with a plant of Clivia having twenty spikes. Mr. A. L. Jones was to the fore with two Ferns; and W. J. Davey, Esq., for the single specimen with Davallia Mooreana. Mr. A. L. Jones had the best two Azaleas; and for the single plant R. Singlehurst, Esq., was first. For two hardy Rhododendrons Mr. W. B. Bowring staged well. R. Singlehurst, Esq , got the honour for the single specimen. For a greenhouse variety W. J. Davey, Esq., scored with Gibsonii. Mr. A. Garnett was first for two Roses. Mr. A. L. Jones was first for three hardy forced plants. For a single Palm Mr. W. B. Bowring led with Cocos Weddeliana; and for the pair Mrs. Watts won with Kentia Fosteriana and K. Australis. Mr. W. C. Atkinson staged four pots of Lily of the Valley, a good lot. Mr. W. B. Bowring had well-flowered plants of two hardy Azaleas; Mr. L. H. Macintyre secured first for the single plant. The first prizes for the remaining classes were divided between those previously mentioned. The arrangements were good, and should prove most satisfactory from a financial point of view, the weather being all that could be desired.

Gardeners' Improvement Associations.

Exeter and District, *March 8th.*—At this meeting, at which the President, W. Lethbridge, Esq., Courtlands, took the chair, Dr. Dangar gave a lecture on "Insects Injurious to Fruit Crops." The lecturer, at the outset, dwelt on the very real necessity for knowledge, even though it be only of an elementary sort, on the subject of insect pests, and said that he felt sure that much as this remark applied to gardeners and agriculturists generally, it also applied to those of our children in rural Elementary Schools, who could search out for themselves the life history of many a beetle and fly, and find in so doing scope for amusement as well as instruction, and he thought that it ought not to be difficult to find lads who would make drawings of what they discovered, which could be hung on the school walls, and bear additional source of information to the youthful mind beyond the standard subject; in fact it would be easy to make this a case for a special scheme of work, on which the Education Department would be sure to allow a money grant to the school. Dr. Dangar then proceeded to comment on a series of very beautiful lantern slides, which had been specially photographed for this lecture by Dr. and Mr. Cheese, the latter of whom operated with the lantern. The insects displayed were:—The Raspberry beetle (Byturus tomentosus), the green chafer (Cetonia aurata), the Strawberry weevil (Otiorynchus sulcatus), the Raspberry weevil (Otiorynchus picipes), the Apple blossom weevil (Anthonomus pomorum), the Nut weevil (Balaninus nucum), the Pear sawfly (Selandria Cerasi), the Gooseberry and Currant sawfly (Nematus grossulariæ), the Currant clearwing (Egeria tipuliformis), the wood leopard moth (Zeuzera æsculi), the lackey moth (Clisiocampa Neustria), the common Napourer moth (Orgyia antiqua), the Magpie moth (Abraxas grossulariata), the winter moth (Cheimatobia brumata), the codlin moth (Carpocapsa pomonella), the small ermine moth (Hyponomeuta padella), the Strawberry moth (Peronea comparana), the Cherry aphis (Myzus cerasi), the Apple aphis (Aphis mali), the Plum aphis (Aphis pruni), the Currant aphis (Rhopalosiphum ribis), the American blight (Schizoneura lanigera). Particulars of the operations of these insects and a short account of their life history was given. At the close of the address a hearty vote of thanks was accorded to Dr. Dangar for his valuable and interesting paper.

WHAT TO DO IN THE GARDEN.

Crotons.—The time has now arrived for making an examination of the stock of Crotons to see whether there is sufficient to supply the requirements during the summer of plants of a suitable size for table decorative purposes. Where they are getting too tall and leggy the top may be cut off and inserted in a 60-size pot with the leaves close down to the soil without removing more than is necessary to get them into the soil. None of them should be shortened; because when properly rooted and established the plant will be fit for use. Place a stick to each, and plunge the pots containing them in a close propagating frame, keeping up a genial and moist atmosphere till the plants are rooted.

Calatheas and Marantas.—Where an increase of stock is required of this class of plants, they may now be divided and repotted. Shake away the soil from the rhizomes in order that a careful and economical division of the same may be made. Each crown will make a good plant provided it is fairly furnished with roots. Use a compost of peat, fibrous loam and leaf soil in about equal proportions, with plenty of sand to keep the whole in an open and porous condition, as a good supply of water is necessary during the summer months.

Torrenias.— When the seedlings of T. Fournieri and T. Bailloni have got fairly into the rough leaf they will grow away rapidly if properly attended to in the matter of potting and repotting as required. T. Fournieri, being an erect habited plant, should be grown in pots, but T. Bailloni is best grown in pans or baskets, so that it can be hung up to show off the drooping or trailing stems and golden yellow blossoms. In the early stages, however, the plants may be put singly into small pots.

Deciduous Ferns.—Several of the Adiantums, Davallias, and others grown in hothouses die down in winter, but are mostly commenced to push up now. It would be a mistake because they are now leafless to allow them to develop their young fronds in comparative shade, because they will come up weakly and comparatively unendurable even when fully developed. They should be placed therefore in a position where they will derive the greatest advantage from light.

Heaths and Epacris.—As these go out of bloom they should be hard cut back preparatory to their being placed in heat and moisture to urge them into fresh growth. Keep them moderately dry at the root for a time, and syringe the stems with water at the temperature of the house to encourage a vigorous fresh growth to start.

Peaches.—Disbudding should now be completed in the earliest house, started in November, as well as in the second early house, except, perhaps, in the case of trees of late varieties. Every advantage should now be taken of bright days to close the house early, so as to urge on growth by sun-heat, as it always gives the most satisfactory results. When this is done syringe the trees well and damp down every available surface in the house, so as to create a genial moisture, and no evil effects will then result from a high temperature. Never allow the trees to get unduly dry at the roots, otherwise evil results will follow, and which can never be remedied afterwards. Mulching the borders with farmyard manure will assist the trees in the early house through the period of stoning.

Oranges.—Where the trees are now in blossom the house should be kept dry and airy. In case there should only be a few trees in this stage they may be removed to a house where those conditions already prevail until the fruit is set. A temperature of 55° at night will be necessary. Utilise sun-heat by closing those houses early where the trees have set their fruit, and maintain a night temperature of 65°.

Tomatos.—Where these are being grown for indoor fruiting, they will require frequent attention in the matter of stopping lateral growths. No liquid manure should be given until the plants have set a bunch or two of fruit, otherwise they will grow too rampantly without developing and setting the flower buds. Maintain a dry atmosphere when the plants are in bloom, and occasionally shake the stems during the early part of the day to distribute the pollen.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay to address all communications to "The Editor," or "The Publisher," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa, London."*

Propagating Greenhouse Statices.—*J. C.*: You cannot commence too soon to put in the cuttings. Early spring is the best time to do it, just before fresh growth commences, as the crowns take some little time to root. They will yet be in sufficiently good time to make useful plants of small size for flowering during summer. Make up a compost of loam, a little leaf soil, and plenty of sand to keep the whole porous and open. Good fibrous loam and a little sand will be sufficient after the plants are rooted; and liquid manure may be given when they are throwing up their flower spikes. Take off the crowns of leaves with as firm a portion of the stem as you can; no portion of old and hard stem, however, is necessary nor advisable. Insert them singly and firmly in small pots, and afterwards cover them with a hand-light or bell-glass, after having watered down the soil by means of a rosed watering pot. A stake may be necessary to keep the leaves steady if they belong to the large leaved forms.

Early Flowers and Cedars.—*Flos*: You must refer to a previous number of the Gardening World, where we named for you a number of flowers that were noted for their earliness, fragrance, and colour. All the Cedars we know are evergreen and fragrant, but more especially in spring. All of them bend more or less before a gale of wind, and the leading shoots in most cases droop naturally in the young state. The Cedar of Lebanon is, perhaps, the stiffest, most erect as far as the principal or main axis is concerned, and, perhaps, lives longer than Cedrus Deodara or C. atlantica. It does so in this country, and may possibly do so in its native country. It certainly supports itself by its own strength till old age causes it to decay. Straight Withes are certainly better for basket making than crooked ones, and to that might be added pliability and toughness.

Position for a Thermometer.—*Omega*: There is no definite rule by which horticulturists abide when selecting a position for a thermometer. Convenience is one object. An open position, well exposed to all quarters, is generally selected, and a pole or some wooden erection made to support it at heights varying from 2 ft. to 4 ft. A good medium would be 3 ft, and in stating the temperature registered you should state such and such a degree at 3 ft. from the ground, stating also the latitude, the altitude and the locality in which the records were made, if you wish to be exact. The temperature is always lowest at the ground level, and higher as you rise above it.

Communications Received.—A.O.—J. A.—J.C. & Sons.—E. P.—J. H. N.—R. G.—J. S.—J. L.—Robur (No).—A. O.—T. W.—O. T.—S. H. S.

TRADE CATALOGUES RECEIVED.

John Watkins, Withington, near Hertford.—Seed Potatos.

W. P. Laird & Sinclair, 73, Nethergate, Dundee.—Price List of Agricultural Seeds.

Reid & Bornemann, Sydenham, and London, E.S.—Chrysanthemums and other Florists' Flowers.

J. C. Vaugham, 88, State Street, Chicago.—Seed Catalogue, World's Fair Edition.

Wm. Clibran & Sons, Market Street, Manchester.—Agricultural Seeds.

David W. Thomson, 24, Frederick Street, Edinburgh.—Agricultural Seeds.

Ed. Pynaert-van Geert, Ghent, Belgium.—General Plant Catalogue.

LONDON SEED TRADE.

March 14th.

Messrs. Hurst & Son, of 152, Houndsditch, and 39, Seed Market, Mark Lane, report short supplies of English Red Clover and Cowgrass, and a further advance in price of Italian Ryegrass and White Clover. Foreign Red Clover, Alsike, and Trefoil steady.

COVENT GARDEN MARKET.

March 15th, 1893.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Grapes..... per lb.	2 0	3 6	Pine apples.		
Kent Cobs...100 lb.			—St. Micbael's, each	2 6	6 0
Peaches ... per dozen			Apples...per ½ sieve	1 0	3 6
Melons ... . each			Plums...per ½ sieve		

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d
ArticbokesGlobe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, French, perlb.	1 6	3 0	Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng.dz.	3 0	5 0	Seakale .....per bkt	2 0	3 0
Celery.....per bundle	2 6		Smallsalading,punnet	0 4	
Cucumbers .....eacb	0 9	1 3	Spinacb ... per strike	1 6	
Endive, Frencb, doz.	2 6	3 0	Tomatos..... per lb.	1 6	2 0
Herbs .....per buncb	0 2	0 6	Turnips ..... per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

Potatos.—Kent Regents, 80s. to 100s. per ton; Kent Kidneys 80s to 100s. per ton; Champions, 70s. per ton.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d
Azaleas... per doz	24 0	42 0	Genesta .....per doz.	9 0	15 0
Cyclamen per doz ...	9 0	18 0	Hyacintbs, doz. pots	8 0	12 0
Cyperus .....per doz.	4 0	12 0	Lily of the Valley doz. pots	9 0	18 0
Cineraria ...per doz.	8 0	12 0	Margnerites, perdoz.	6 0	12 0
Dracæna term., doz.	24 0	36 0	Palms in variety,each	2 6	10 0
Dracæna viridis,doz.	9 0	18 0	Palms, Specimen ...	15 0	63 0
Deutzia .....per doz.	9 0	12 0	Primula Sinensis per doz.	4 0	6 0
Dielytra ..... per doz.	6 0	9 0	Solanums.....per doz.	9 0	12 0
Erica, various, doz.	12 0	18 0	Tulips—various— per doz. pots	8 0	12 0
Evergreens,invar.doz	6 0	24 0			
Ferns, invar.,per doz.	4 0	18 0			
Ferns, small, per 100	6 0	10 0			
Foliage Plants, doz.	12 0	60 0			

Cut Flowers.—Average Wholesale Prices.

	s. d.	s d		s. d.	s. d
Anemones, doz. bnch	2 0	4 0	Mignonette... 12 bun.	2 0	4 0
Azalea, doz sprays.....	0 6	1 0	Narcisse, various, doz. bnchs	2 0	4 0
Arum Lilies, 12 blms.	2 0	4 0	Pelargoniums, 12 sps.	0 9	1 0
Bouvardias, per bun.	0 6	1 0	—scarlet.....12 bchs.	6 0	9 0
Carnations, 12 blooms	2 0	4 0	Primula, double, bun.	0 6	1 0
Cbrysanthemum,dz bn3	0 9	0	Primroses doz. bchs	1 0	3 0
Camellias doz blooms	1 0	3 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Cyclamen doz bloomso	4 0	6	Roses, yellow, dozen	3 0	6 0
Daffodils, var. dz. bch.	2 0	9 0	— French, per bnch	1 6	4 0
Eucharis ...per doz.	3 0	6 0	— French, 100 blms	6 0	12 0
Euphorbia Jackminafolia, doz. sprays	1 0	4 0	— Red..... doz. blms.	3 0	9 0
Gardenias 12 blooms	3 0	6 0	— Saffrano...per doz.	2 0	3 0
Heliotropes,12 sprays	0 6	0 9	Snowdrops doz. bchs	1 0	2 0
Hyacinths, doz. spikes	3 0	6 0	— Tea ..... per dozen	1 0	3 0
Hyacinths Roman doz. sprays	0 6	1 0	Tuberoses, per doz	1 0	1 6
Lilac, Wbite, French, per bunch...	2 6	4 0	Tulips, red, per doz.	0 6	0 9
Lilium Harrisii, doz. blooms	4 0	6 0	— White, per doz. ...	1 0	2 0
Lily of the Valley dz.sps.	0 6	1 6	— Yellow, per doz....	1 0	2 0
Maidenhair Fern,12bs.	6 0	9 0	Violets,Parma,French per bunch ..	2 0	2 6
Marguerites, 12 bun.	4 0	6 6	—Czar, French, bun.	1 6	2 0
Mimosa (Frencb)p.bh.	1 0	1 6	Small ,, doz. bun.	1 0	2 0

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, March 27th.—Sale of Hardy Plants and Bulbs, &c., at Protheroe & Morris' Rooms.
TUESDAY, March 28th.—Royal Horticultural Society: Meeting of Committees at 12 o'clock.
Sale of Orchids, Lily Bulbs, &c., at Protheroe & Morris' Rooms.
WEDNESDAY, March 29th.—Sale of Lily Bulbs and Plants, at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, MARCH 25th, 1893.

PLANTS AND LIGHT.—Whatever is written or spoken by the Rev. Mr. Henslow in relation to plant life is always full of interest, and just so was it with his very able address at the Drill Hall the other day on the influence of certain colours on plant growth. The first thing which was admitted was that light is in few cases essential to seed germination. That such should be found true is very natural, having regard to the fact that most seeds are buried in the soil ere they germinate. Indeed, we have myriads of examples of seed that have germinated at considerable depths in the ground. Then, again, the action of dormant seed is more due to air, warmth and moisture than to light, as these three elements set life in motion, and light becomes essential to healthy growth when leafage is developed. Indeed without light there can be no robust growth or healthy leafage.

Then Mr. Henslow showed that no artificial colour, that is to say, any of the colours of the spectrum, are so good for developing robust plant growth as is pure white, or as we may well say, absolutely colourless light. Still farther, the best light of all is that which is in no way intercepted, as plants that are hardy enough to bear full exposure always have the most beautiful foliage as compared with similar plants kept in a frame where the glass is white and ever so clean. These facts are well to

know, because they serve to dissipate some foolish notions still extant as to the using of certain colours in promoting plant growth.

Mr. Henslow lent no encouragement even to the theory that artificial light, whether of gas or electricity, is at all helpful to plant life. Indeed, in showing that whilst in the pure light of day plants absorbed both oxygen and carbon largely, and at night largely respirated carbonic acid gas, he was probably but indicating that these are functions absolutely essential to the healthy life of plants, and that it would be folly to attempt to change them. After all Nature is our best guide in relation to plant life, and it is evident that whilst pure light serves great purposes, darkness also has its important functions.

ALLOTMENTS.—A very interesting sight was that we noticed the other day at Richmond, Surrey, where on the large area of ground recently tenanted by the corporation of that town, and let out in allotments to the workers, there were seen actively at work digging and cropping their plots, what seemed to be a small army of men. It was Saturday afternoon, and here we had very conclusive evidence of the excellent uses to which workers will put their spare time when hours of labour are shortened, and allotments are furnished.

The action of the Richmond Corporation should be followed by every similar local authority in the kingdom, and in many places not only is it so, but a long lead has been taken. Even the City of London Corporation has just agreed to let some vacant land at Islington for allotments, and though small the area, a mere speck in the great wilderness of bricks and mortar, yet is the example one to rejoice over. In all directions the allotment movement is spreading, and any parish, especially if in a rural locality, that is without these valuable social elements will soon be regarded as fossilised. No doubt so soon as parish and district councils are established, we shall see the movement indefinitely extended. Indeed it is a remarkable fact that whilst land of an agricultural nature seems so far as the farming interest is concerned to be going out of cultivation, for garden allotments it is being sought for with avidity.

The great trouble largely has been in the rental, which very often is high, for whilst land will not let for farming purposes at from 15s. to 20s. per acre, yet from £3 to £4 per acre is asked for allotments. That is manifestly extortionate. Of course there are cases where high rentals cannot well be avoided, as for instance at Hampton Wick, where a very rich pasture soil adjoining the Home Park has been let to the local board by the Board of Works for allotments, and the board to recoup itself has to charge £3 per acre, and that allottees object to pay. The land, however, is old virgin pasture, a deep alluvial soil, that is certain to produce very prolific crops.

GRAPE CURRANTS.—How few people relatively are there who consume what in the grocery trade are termed "Currants" yet have the least knowledge of their character. Currants are consumed literally all the world over, yet it seems that the bulk of the supply comes from Greece, but it may be that presently so highly-favoured a country as is California may take to the culture of the Currant Grape, and if it does then may Greece find that it has a very formidable competitor. What would perhaps in this country be regarded as a very arbitrary law has just been adopted in Greece, which henceforth absolutely restricts the exportation of Currants until after the 28th of July, and whilst the Greek growers may complain the Currant consumer will have much reason to rejoice.

Here at home too frequently do we see miserably immature fruit sent to market, which whilst bringing some little profit to the seller, only brings disgust and disappointment to the consumer. Still we should rebel at legislation which made a close time compulsory for home-grown produce, the health of the consumer and honour in trade being of small consequence. Now, in Greece competition or excessive haste to catch the London market has led to the gathering of the Grape Currants before fully ripe, hence we have had sent to us a great deal of very imperfect and very acid fruit. The new legislation is intended to prevent this sort of thing, and we, the consumers, should have ample cause to be glad that so far we shall be protected from the rapacity of unscrupulous exporters.

Henceforth it will answer no ones purpose to rush their fruits, indeed as they cannot export from Greece before a stipulated date, they would lose both in bulk and in quality if they gathered before the time which is essential to have fruit dried, packed, and put on board the steamers ready for exportation. Instead of giving fancy prices for the earliest imports, our buyers will now be able to secure the very best samples at moderate charges, for the simple reason that no one can export his produce one day prior to the bulk of the fruit being exported also.

The Crystal Palace Flower Shows.—Her Majesty the Queen having fixed May 10th for the opening of the Imperial Institute, the dates of the Crystal Palace Grand Summer Flower Show, are altered to Thursday and Friday, May 11th and 12th.

Rhododendron racemosum.—At the last meeting of the Edinburgh Botanical Society, Mr. Lindsay exhibited among several specimens from the Royal Botanic Garden, a new Rhododendron (Rhododendron racemosum), which, he said, was one of about thirty new species discovered about twelve years ago in Yunnan by the French missionary, the Abbé Delavay. This was probably the first one that had flowered in Britain.

Beckenham Horticultural Society.—The committee of this society have arranged for a course of half a dozen lectures at the Public Hall. The first of the course was given on Friday evening last, to about fifty members, by Mr. A. Dean, of Kingston, who kept his hearers closely attentive by an address of one and a half hours' duration on "The Potato." The rector of Beckenham presided. Mr. Dean will take for his subject "The Tomato," on the 24th.

The Brisbane Botanic Gardens.—We regret to learn from the Sydney *Daily Telegraph* of February 9th that, during the recent inundations which did so much damage to property in Queensland, the Botanical Gardens, which were the pride of Brisbane, were completely under water. The curator's house was washed off the blocks, the forcing houses, stables, and other buildings destroyed, and the beautiful gardens completely wrecked.

The High Railway Rates.—"I had a curious example given me this week," writes a correspondent of the *Birmingham Daily Mail*, "of how seriously Birmingham tradesmen suffer from the high railway rates from London to Birmingham. A florist in the town ordered 100 cases of Japanese Lily bulbs from Yokohama. The carriage from this port to the London Docks was £18, while the same goods cost £14 to bring from London to Birmingham. The bulbs were packed in soil and the whole weighed about seven tons, though the bulbs themselves only weighed one and a half tons. In future the bulbs will be sorted from the soil in London and sent of course at a much lower rate."

Freesias not starting into growth.—Mr. George Griffith, writing from The Gardens, Penywern, Aberystwith, remarks that our correspondent "Con.," p. 442, appears to have had the same experience as himself. "Two years ago," writes Mr. Griffith, "after my Freesias had done flowering, I placed them in a cold pit, and the rats eat off all the foliage. When the roots were re-potted they appeared all right, but not one of them started into growth, a circumstance which I attributed to the non-ripening of the corms. This year the same corms have done splendidly, and one of them produced upwards of fifty blossoms, the top spray having fifteen fully expanded flowers upon it, and there were eight others in the same 6 in. pot."

Plants Certificated in Ghent.—At the last meeting of the Syndical Chamber of Belgian Horticulturists, Certificates of Merit were awarded to Messrs. Edm. Vervaet & Co., for Dendrobium nobile Cooksoni, and Cypripedium hybrids, one, Boxalli x Spicerianum, and two, Boxalli x Chantini; to Mr. Jean de Kneef, for Azalea Jean de Kneef; to Mr. A. Van Imschoot for Brassavola glauca and Odontoglossum Rossi majus purpurescens; to Mr. L. de Smet for Aglaonema costata and Chorizema Lowi; to Mr. Schmitz for Chrysanthemum Reine d'Hiver; to Mr. Jules Hye for Cattleya Trianæ var. Orion, Od. species, and Od. triumphans maximum.

The Weather in the north of Scotland.—Writing under Monday's date, 20th inst, our Aberdeenshire correspondent says: The clear weather that prevailed after the snowstorm of Thursday last, was not of long duration. About midnight, on Friday night, snow began to fall heavily, and continued until about three o'clock on Saturday morning. In exposed places the snow lay on the ground to a depth of several inches, but in the city the streets were almost blown clear by the gale that during the night and morning raged with considerable violence. The weather on Saturday was bitterly cold, but all forenoon the sun shone brightly, and what snow there was lying about rapidly thawed. The weather in the north-eastern extremity of the country (Peterhead) has been very cold and stormy during the past few days, and the country round about presents a very wintry appearance. On Upper Deeside, March is making up for any arrears in stormy weather, and for several days past the weather has been of an intensely wintry type. The weather has quite put a stop to outdoor operations in almost every department, although it is anticipated that the cessation will be but temporary. In the far north, Ross-shire and Sutherlandshire, snow lies to a great depth, and a keen frost prevails.

Birmingham Flower Shows for 1893.—The season opens with the Spring Flower Show Society's Exhibition, and the Birmingham Botanical Society's Exhibition of Narcissi in the Edgbaston Gardens in April, and this is expected to afford an opportunity for witnessing a very fine display of this popular flower, and especially new varieties. The Moseley Botanical Gardens on the south side of the City of Birmingham will have four exhibitions, one in May for floral designs in various forms, a handsome Gold Medal being offered for the finest display in a given space. In June there will be an exhibition of Pelargoniums, Orchids, stove and greenhouse plants, and Pansies. In July a great exhibition of Roses and groups of Begonias; and at the end of August a great Dahlia show and exhibition of hardy fruits. We note in the schedule that collections of all kinds of Roses and all kinds of Dahlias have prizes set aside for them. Bank Holiday in August is a great day for the outlying districts of Birmingham, and from eight to ten horticultural exhibitions take place in the district on the Monday and Tuesday, and through August numerous exhibitions take place in the Black Country district, and the season winds up with the Chrysanthemum Show in the Town Hall, so that altogether Birmingham will do its fair share of horticultural exhibiting this year.

A Botanic Garden for New York.—A meeting of the Finance Committee of the corporators of the Botanic Garden of New York City was held in the office of J. Pierpont Morgan, 23, Wall Street, on the 21st ult. Mr. Morgan presided, and reported that he had practically completed the task of raising $250,000, which was necessary before anything definite would be done toward establishing a garden. In order to raise this sum, Mr. Morgan had adopted the plan of finding ten men who would give $25,000 each, and yesterday he reported that he had found seven contributors. He added that he had hopes of reporting three more men who would give $25,000 each in a few days

thus completing the sum. The raising of this $250,000 will secure 250 acres of land in Bronx Park for the exclusive use of the Botanic Garden. By a provision in the legislative act, the city is to issue $500,000 in bonds, to be applied to the purposes of the garden. This makes a total of $750,000 that was virtually secured at yesterday's meeting. The ground is valued at $250,000. The corporators of the Botanic Garden, however, are not satisfied with this handsome sum. In fact they say that the amount is entirely inadequate for a beginning, and that the cost of buildings, etc., will require much more money than has been secured. It is desired to increase the $250,000 which the act requires to be raised by private and popular subscription to a million.

Rhododrendron præcox.—Any flowering shrub almost is welcome in the early days of March, when shrubbery borders everywhere are rather bare of ornament. Rhododendron præcox is, however, both conspicuous and effective. Its worst fault perhaps is that the flowers are liable to be destroyed by late spring frosts; but we must remember that the same liability is applicable to most early-flowering subjects. The weather during March in some years leaves nothing to be desired, and out-door subjects are seen to advantage, including the subject of this note. The flowers are rosy-purple and intermediate in size between those of R. ponticum and R. dahuricum, which were the parents of the hybrid. The last-named species determines the earliness of R. præcox, as it often flowers in autumn if the weather is mild, and more freely again in March just about the time that R. præcox blooms. The latter may also be used as a pot plant for flowering under glass, where it requires little forcing to bring it into early bloom.

SPRING FLOWERS AT HOLLOWAY.

The houses annually devoted to the display of spring flowering bulbous and other plants in Messrs. B. S. Williams & Son's Nursery, at Upper Holloway, are just now very gay, and with the Amaryllis to follow on will be well worthy of a visit during the next few weeks. The Clivias are better than ever, the large examples for which the nursery is noted being in fine health and carrying superb heads of bloom. Of late years varieties of greatly improved form and substance have been introduced, and with these have come some amount of variation in the intensity or otherwise of the shade of orange or orange-red which constitutes the standing colour of the miniata section, and from which it seems well-nigh impossible to obtain a fresh departure. We still sigh for a pure white and a good blue Clivia, and are likely to continue doing so, especially for the latter. Of the stock varieties at Holloway the favourites are Aurantiaca, robusta, Van Houttei, Baroness Schroeder, Miniata splendens, Surprise, very fine; Ambroise Verschaffelt, Lindeni, Prince of Orange, extra fine; and Meteor, about the darkest in colour of them all—almost red.

The Amaryllis, a good house full, are coming along in grand form, but are designedly somewhat later than usual this season, with the object of lengthening the show season. In about a week hence there will be a fine lot of bloom. The collections of Hyacinths and Tulips are in very good order just now, and all the old well tried-sorts are to be seen in excellent form. Of novelties there are practically none, and we do not miss them, for seldom indeed does a really good one appear among them, and the days of fancy prices are passing away. The single reds, judging by the Messrs. Williams' collection, are unusually good this season, the foliage being short and the spikes well developed. The more conspicuous single reds are Général Pélissier, very dark; Vuurbaak, carmine-red; Roi des Belges, Von Schiller, deep red, and fine spike; Koh-i-noor, salmon-pink, a very fine semi-double, with grand spikes; and Fabiola, rose striped. Sir Henry Barkly, blue-black, is one of the darkest of all; and La grandesse, still one of the finest of whites. In the same section, Mina also holds its own. In single blues, King of the Blues still remains the best type of what a high-class Hyacinth should be, the spikes being long and massive, and the foliage dwarf. Charles Dickens and Lord Derby, as light blues, still remain At, and King of the Blacks has a fine dense spike. Of yellows, King of the Yellows, Ida, and Obelesque, are the cream, but Marchioness of Lorne is exceedingly distinct, a buff yellow striped with red.

In single Tulips, Joost van den Vondel remains the premier white, a grand Tulip; and in their way Keizerskroon, Proserpine, the Duc van Thols, and the Pottebakkers, remain unsurpassed. In the double section, Count of Leicester, an old gold coloured flower, is regarded as of great promise, but it evidently does not like forcing, and should be allowed to come on naturally. Velvet Gem, single, is a rich deep heliotrope, and very fine.

In the Orchid houses there is a good sprinkling of bloom, and in the cool houses, besides plenty of Odontoglossum crispum, there are some fine forms of O. c. virginale, and good types of O. triumphans, and O. prionopetalum, the latter giving one the impression that O. Andersonianum and O. Wilckeanum might be its parents.

Myosotis alpestris Victoria.

MYOSOTIS ALPESTRIS VICTORIA.

The wild type of this Forget-me-not is a native of the mountains of Europe, including Britain. The flowers are of a rich dark blue with a small yellowish eye, and highly deserving of cultivation. Much more can be said of the beautiful Alpine under notice, inasmuch as the flowers are larger and the central ones of each truss are double, the doubling often appearing as the result of two flowers grown together; and this in itself has the effect of making the flowers appear larger. The plant is suitable alike for borders, rockeries, or pot culture, and is very handsome when seen forming globular masses about 5 in. to 7 in. high. The plant is very neat in habit as the wild type is known to be, although it is less often seen in cultivation than it deserves. Flowering plants remain in beauty for a long time, appearing like globular masses of bloom, which remain in fine condition for weeks together. It can be propagated by seeds or cuttings of the young shoots. The accompanying illustration, which we owe to the kindness of Messrs. Veitch & Sons, Chelsea, will give an idea of the habit of the plant and its floriferous nature.

Gleanings from the World of Science.

Cockchafers.—These beetles are also known as May Bugs because they make their appearance in the perfect state about that time. There are many recorded instances of their destructive tendencies in former years; but for some time past they have been comparatively quiet. Now and again we hear instances of their depredations, or have specimens sent us from plantations of Scotch Pines; but the cases are mostly local, and of course do not cause much wide-spread public interest. Several correspondents in *Nature Notes* have also testified to the comparative absence of Cockchafers from neighbourhoods where they were formerly plentiful. Gardeners and horticulturists in general will no doubt be pleased to learn that their numbers are thus lessening, because the larvæ used to do much damage to the roots of grass, Roses, fruit and forest trees. The damage they do can be readily conceived when we take into consideration the large size of the larvæ, and the fact that they live for three years before reaching the perfect state, when they attack the foliage of trees. A few of them, both larvæ and beetle, are to be met with every year in the western suburbs of London, but they are only sufficiently numerous to furnish the collectors of beetles with specimens for their cabinets or cases. The large size of the beetle, and the closer cultivation of the soil and the destruction of the larvæ by cultivators may partly account for their disappearance, but not wholly.

The largest flower known.—Sometimes this is stated to be Amorphophallus Titanum, but botanists and some others well know that the so-called flower is a large bract or modified leaf called a spathe, and that it encloses a large number of flowers. The remarkable parasite Rafflesia Arnoldii, discovered in the interior of Sumatra in 1818, is, however, a true flower. The fully developed flower of the plant when originally discovered weighed fifteen pounds. Since then, other species have been discovered, but their flowers were smaller. It is reported that Dr. Schadenberg with a party of botanical and ethnographical explorers, recently discovered, a flower nearly a yard in diameter and weighing twenty-two pounds, on a volcanic mountain situated in Mindinas, one of the Philippine Islands. This certainly beats the record, but the name of the species producing the enormous flower is not stated. The description is evidently that of a Rafflesia, but it is questionable whether R. Arnoldii is to be found in the Philippines. It was found growing on a sort of vine creeping on the ground, and the unopened flower-buds resembled large cabbage heads. Photographs of the bloom were taken, and some portions were dried by the heat of the fire. If a more detailed account of this remarkable discovery does not come to hand it will have to be consigned to the regions of myth.

CAVENDISHIA ACUMINATA.

At the present day many of the species of the Heath family have fallen into great neglect, while others are amongst the most popular of cultivated plants. Cavendishia acuminata, sometimes included under the old name of Thibaudia, is one of the neglected plants, probably because it comes under the name of hard-wooded greenhouse plants which, for the greater part, are sadly neglected at the present day in spite of their beauty. The plant under notice is a native of Columbia and grows to a height of 3 ft. or 4 ft., but flowers while still in a much smaller state. The leathery dark green leaves are generally five-nerved. The flowers are tubular, of a shining red, with a five-lobed white mouth, and are produced in corymbs or short racemes at the ends of the shoots. They are surrounded with large white bracts which contrast beautifully with the waxy looking and highly coloured flowers.

PLANTS RECENTLY CERTIFICATED.

The undermentioned plants and cut flowers were exhibited at the meeting of the Royal Horticultural Society at the Drill Hall, Westminster, on the 14th inst., and were accorded certificates according to value. For Orchids certificated at the same time see under "Orchid Notes and Gleanings."

Corylopsis pauciflora.—The specific name of this shrub refers to the fact that only a few flowers are produced in a cluster, namely one to three; whereas some of the others produce a raceme of flowers. They are drooping, bell-shaped, and pale yellow, with darker stamens. The leaves and habit of the plant resemble a Hazel, but the species of Corylopsis belong to the Witch-Hazels, which are typical of an entirely different class of plants. The species is a native of Japan. A First-class Certificate was awarded it.

Hippeastrum Socrates.—The bulb shown had two scapes, bearing in the aggregate eight flowers, which were funnel-shaped, widely revolute at the mouth, and of a deep scarlet shaded with maroon-crimson in the throat. An Award of Merit was granted it.

Hippeastrum Eldorado.—The flowers of this variety are campanulate, with a very short tube, and are of a brilliant crimson-scarlet shaded with dark crimson in the throat. An Award of Merit was accorded it.

Hippeastrum Corinna.—One bulb of this bore four flowers on a scape. They were of beautiful form, nearly regular, and crimson, with a well-defined maroon-crimson shading, extending from near the middle of the flower well down in the tube. It received an Award of Merit.

Hippeastrum Excellent.—The most striking feature of this plant is the great breadth of the segments, which are roundly elliptic and bright scarlet, with a broad white band extending from the middle to the base of each segment. The flower as a whole is campanulate with a short tube. An Award of Merit was accorded the variety.

Hippeastrum Nimrod.—There were two scapes to this plant, bearing in the aggregate only four flowers, but every one of great size and much exceeding any of the above mentioned. But we do not consider mere size as a recommendation; on the contrary, we should prefer either of the above to it. The segments spread widely, form only a short tube at the base, and may be described as crimson-scarlet. This also received an Award of Merit. Six varieties in all were shown, and five out of the six received certificates. They as well as the Corylopsis were exhibited by Messrs. J. Veitch & Sons, Chelsea.

Caraguata cardinalis.—The leaves of this Bromeliad are strap-shaped, entire, sheathing at the base, deep green, and arranged in a dense vasiform tuft. The flower scape is relatively short and terminated by a dense rosette of reflexed scarlet bracts, with the yellowish flowers just appearing in the centre. The plant is certainly showy, and received a First-class Certificate.

Clivia Scarlet Gem.—Without counting them we should guess that about twenty or thirty flowers would be borne by a single scape. The flowers are of moderate size, shortly funnel-shaped, with revolute tips to the segments, and all of a bright orange-scarlet with a pale throat. An Award of Merit was accorded it when shown by Messrs. B. S. Williams & Son, Upper Holloway, who also staged the Caraguata.

Fritillaria aurea.—This might be described as one of the prettiest of the early flowering Fritillarias. The stems at this season of the year are only 3 in. to 4 in. high, furnished with linear, glaucous leaves, and solitary, drooping and bell-shaped flowers of a bright golden yellow plentifully spotted with brown or black on both surfaces. The flowers are relatively large to the size of the plant and very handsome. It is quite hardy, and received an Award of Merit when exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

Begonia Triomphe de Nancy.—The leaves of this Begonia, which is evidently a hybrid, are roundly cordate, toothed and of a light, shining green. The stems are 10 in. to 12 in. high, with cymes of flowers from the axils of almost every leaf, giving the plants a most floriferous appearance. The flowers are rosy carmine, rather small but very numerous, and consisting of two obovate and two spathulate sepals. A small group of it was exhibited by Sir Trevor Lawrence, Bart. (gardener, Mr. Bain), Burford Lodge, Dorking, and which created a considerable amount of interest amongst the visitors. An Award of Merit was accorded the variety.

Chrysanthemum frutescens Alma Bruggemann.—This handsome variety is a sport from the yellow Etoile d'Or, and bears larger heads in greater profusion, while the plant itself is dwarfer and more bushy. It is likely therefore to supersede several other of the Marguerites in cultivation. The rays are sulphur yellow at the base fading to white towards the tips, and the broad disc is golden yellow. An Award of Merit was accorded it when cut flowers were shown by M. Ch. Brüggemann, Villefranche-sur-mer (Alpes-Maritimes) France.

Hippeastrum Salvator Rosa.—The segments of the flowers of this variety are elliptic, wavy at the edges, with raised ribs along their surfaces, and crimson-red with a white band on the midribs. An Award of Merit was accorded the variety.

Scopolia Fladnichiana.—There are only three species of Scopolia, a genus of herbaceous plants belonging to the Solanum family. They flower early in spring, and are therefore interesting to cultivators of herbaceous plants when variety is not very plentiful. The stems are unbranched and form a tuft arising from the rootstock, and are only about a foot high while in flower. The leaves are elliptic, and mostly crowded towards the tops of the stems. The flowers arise singly in the axils of the leaves and are bell-shaped, drooping, five-lobed at the mouth and pale yellow. An Award of Merit was accorded when shown by Messrs. Paul & Son, who also showed the last named Hippeastrum.

CLIVIAS AT FOREST HILL.

March always serves to remind us of the improvements that have been effected in this now popular class of plants, and makes us hope that the march of progress will continue to advance. In a few years the improved forms will no doubt displace all the narrow petalled and washy flowers of the old type that were originally distributed in gardens. The growers will no doubt in many cases be indisposed to part with their bulky and old specimens of the species, but, beautiful as they are, they cannot be compared with the improved forms in their bold and showy trusses of flowers, whether rich in colour or pale. The foliage is massive and handsome so that well-grown plants are not without effect in the intermediate house, conservatory or greenhouse, whether in flower or not.

Many of the finest varieties were in bloom the other day, and many more were advancing to perfection, when we visited the nursery of Messrs. J. Laing & Sons, at Forest Hill. The most recent acquisition then in bloom was Purity—though why that name should be adopted is more than we can guess. It was raised from Mrs. Laing and Sulphurea. The segments, but especially the inner ones, are broad, and the openly funnel-shaped flowers are of a rich orange-red, with a white throat and a sulphur-coloured line running down each segment. It is a strong grower, with a large truss of flowers. Mrs. Laing has funnel-shaped flowers of a brilliant orange-scarlet with a yellow throat. The blooms of Sulphurea, on the contrary, are very widely expanded, almost bell-shaped, soft reddish pink and of a sulphur hue in the throat. The plant is dwarf and bears large trusses of flowers. The same may be said of Salmonea but the flowers are of a dark salmon red, with a white throat. An unnamed seedling we noted, has widely funnel-shaped flowers of a bright orange-scarlet.

Amongst the older kinds John Laing still holds a leading place amongst meritorious kinds; in fact it would be difficult to displace it. The flowers are borne in large and bold trusses, are long, funnel-shaped, and of a fiery red. It is also one of the most vigorous varieties in its vegetative growth. Lady Wolverton may well be compared with this, as the stem or neck just below the leaves, measures about 12 in. in girth. Each of the great leathery leaves would be about 2½ ft. long, so that one can judge of the vigour of the plant. The scape rises clear of the leaves, produces a truss of flowers that are remarkable for their width and the way in which the segments become rolled backwards or revolute; they are also of a bright orange-red with a sulphur yellow throat. The slowness of growth is the only thing that prevents this magnificent variety from getting widely disseminated in gardens. When allowed to grow away with a single crown, very few suckers are ever produced; and this is the only way by which named varieties of Clivia can be propagated. Another beautiful and first-class variety that must not be overlooked is Stanstead Beauty, having large and widely expanded flowers of a soft salmon red with a sulphur and white throat. The flowers of Vivid, on the contrary, are not very large but freely produced, and of a vivid or brilliant orange-red, and the plant is relatively dwarf. Somewhat similar to the last is Magnet, but the flowers are shorter in the tube, more widely spreading, and likewise of moderate size but produced in great numbers on a truss. The plant is relatively dwarf.

Some of the older varieties have been flowering all the winter, and as this is done in private establishments with the original types sent out, there seems no reason why a display should not be kept up in the same way with the showy improved forms now to be had. It is a matter of cultural treatment. No doubt if anything like forcing were attempted in the early part of the year the flowers would be somewhat smaller, but if the plants are encouraged to make an early growth they would naturally flower earlier than those not so treated.—*F.*

AMERICAN NOTES.

A Private Garden at Brooklyn.

It was my pleasure the other day when in Brooklyn to be introduced to a smart young Scotchman, Mr. W. Anderson, who is gardener to Mrs. Pratt, at 255, Vanderbilt Avenue, where he has nine large houses under his charge, and which, though situated right in the City of Brooklyn, contain many rare and valuable plants. The show house contains a fine lot of stove plants, besides Orchids, and I noticed some good Dracænas, Crotons, Dieffenbachias, especially D. imperialis, and some splendid examples of Sphærogyne latifolia. The Orchids include a good assortment of Cattleyas, a fine lot of Cypripediums, Lælia anceps, splendidly flowered, Oncidium splendens, Phalænopsis Schilleriana, etc. In a magnificent house, with a dome 45 ft. high, were some noble Palms and tree Ferns, most noticeable among the former being a huge specimen of Caryota 36 ft. high; Chamærops formosa, 25 ft. high; Phœnix sylvestris, 9 ft.; and a Latania borbonica with twenty-three leaves, each 5 ft. in diameter; also a beautiful Areca Verschaffeltii. Other noteworthy specimens were a huge Dracæna Cooperi, Cibotium Schiedei, and Cycas revoluta. The side walls are covered with Ferns, and at one end of the imposing structure there is a fine piece of rockwork covered with Begonias, Ficus repens, etc., and on it also are two fine pieces of Goniopblebium appendiculatum. In the greenhouses I noticed a well-grown lot of Cinerarias (Veitch's strain), the finest I have seen this season. Some Lopezias, pretty Mexican annuals, were also very attractive; and in other houses a great number of forcing plants were on view.

Mr. Anderson in Scotland served in the establishments of Sir G. H. Boswell and the Earl of Moray, Donibristle, in Fifeshire, and succeeded at Vanderbilt Avenue another noted Scot, Mr. David Rose, who is now making a name and dollars among the Chrysanthemum growers elsewhere.—*Am. Cor.*

TOMATO LADY BIRD.

Numerous varieties in cultivation have proved to be excellent for summer culture both under glass and out of doors. Suitable and useful varieties for winter culture, that is, for forcing purposes, are scarcer and do not as a rule set well. That under notice was raised by Mr. W. C. Leach, The Gardens, Albury Park, who has received three Cultural Commendations for it from the Royal Horticultural Society, as well as a First-class Certificate which was awarded on the 18th of October last. The fruits are of medium size, nearly globular but slightly angled, perfectly smooth, and of a deep scarlet or crimson, varying in this respect according to the season of the year. It also sets freely, producing large bunches as was testified by the fine samples which received the Cultural Commendations and the Certificate. It also fruits freely during the

winter and early spring months, and the flesh is of great depth and of good flavour. The accompanying illustration, for which we are indebted to Messrs. J. Veitch & Sons, Chelsea, will give an idea of the general aspect of the fruits and the size of an average bunch.

THE ROSERY.

Dark Velvety Roses.

The dark velvety-red Roses, with a deep shading of maroon, are probably the most popular colours of all among these favourite flowers. As it is not yet too late too plant, provided they be lifted at once and not allowed to remain out of the ground for any length of time, I will give a list of a few of our best varieties. All of these are much darker and intense than such generally well-known kinds as Général Jacqueminot, Duke of Edinburgh, etc. To take them as nearly as possible in alphabetical order, we must start with

Abel Carriere, a splendid grower, with large flowers, having a fiery amaranth centre with dark maroon shadings.

Duke of Connaught has particularly handsome foliage, grows well, and produces a fine-shaped bloom of fair size. A beautiful dark Rose of this colour.

Earl of Dufferin is a newer variety that has made a grand mark during the past three seasons. It is an extraordinary grower, and the blooms are of immense size and substance. Colour, dark velvety crimson and maroon, with deep scarlet upon the reflexed edges of petals, which reflex in a peculiar and regular manner, while the centre of the flower is well built up and very full.

Empereur de Maroc is an old garden favourite, and has been in commerce from 1859. I consider it the darkest Rose we have. It is small, but of perfect shape while young. A good grower and a free bloomer.

Eugene Furst is another grand garden variety of the colour running throughout the whole of this list.

Ferdinand des Lesseps has three or four synonyms; it is a grand Rose both for garden and exhibition, being large, splendidly shaped, and very full.

Fisher Holmes is one of our freest. The shape is good, of fair size, and a very valuable Rose. It is much eclipsed, however, by

Victor Hugo, a Rose introduced in 1885, and which has been exhibited in splendid form during the last two or three years. It may be briefly described as an improvement on the foregoing, both in size, form, and intensity of colour.

Gloire de Ducher has a most decided deep purple tint, is large, a good flower, but not very free flowering.

Grand Mogul and Jean Soupert are very similar. They are good in every respect, and well worthy to be included here.

Horace Vernet and Xavier Olibo are a couple of Roses that are of no use except from an exhibitor's point of view, and I would not advise their purchase with any other object. They are so constantly shown in such grand form that I feel this warning is necessary.

Jean Cherpin is a small Rose of good shape, very early and free. It is little grown, and I have not seen it in any Rose list for the past fifteen years.

La Rosiere and Prince C. de Rohan are synonymous. The name really belongs to the latter, as having been introduced first. It is the best all round Rose of the dark maroons, good shape and size, always well coloured and not very liable to burn in bright sunshine, as are so many of the almost black Roses.

Lord Macaulay, has a splendid dark velvety shading, is thoroughly distinct, but small and not of such robust constitution as might be desired.

Charles Lefebvre is one of the most perfect Roses of the cupped type, it is a grand flower in every way, and may be thoroughly relied upon.

Sir Roland Hill is a sport from this, and is the most distinct Rose grown. Its colour is dark port, with deeper purplish maroon shadings. It is not a fixed sport, and frequently reverts to the normal type.

Madame Victor Verdier can hardly be left out of this list, but it is not so dark in its shadings as the majority of those I name. It is certainly one of the most reliable Roses grown.

Charles Wood must not be confused with Mrs. C. Wood. The former is a grand grower, and produces a fine shaped deep purple crimson bloom.

Louis van Houtte does not transplant well, but when established it is one of our finest dark Roses. It is globular in form, of immense size, and occasionally peculiarly streaked with alternate red and maroon.

Marquise d'Hervey, has not found much favour, but it is a grand grower and possesses an amount of purple seldom found in Roses.

Countess of Oxford is the best of the smooth wooded Victor Verdier class of dark flowers. It is an excellent grower, and of beautiful cupped shape.

Pierre Notting is peculiar; it will grow and bloom splendidly in some localities and is a complete failure in others. Where it will thrive, it is one of the very best.

Souvenir de Charles Montault, one of the earliest Roses we have, is unfortunately but little known, notwithstanding it has been in commerce since 1862. It is very free, both in flower and growth, every flower comes perfect, and it makes a grand buttonhole variety.

Sultan of Zanzibar is much best when cultivated on the seedling Briar. It may be described in the same terms as

Reynolds Hole (Paul), both are grand Roses of the smooth wooded class, and have globular blooms, deep velvety crimson in the centre, with dark maroon shadings. I will conclude this list with

Prince Arthur, a Rose that although thin in petal and not of such upright and strong growth as many, is still one of the finest Roses in this collect. The flower is large, perfect in shape; having that quilled centre so much sought after by rosarians. It is a deep, rich crimson, with maroon shadings.

All of the above are good for the amateur to plant, except Horace Vernet, Xavier Olibo and Pierre Notting. These are not suitable unless the district is peculiarly favourable to them.—*Experience.*

Tomato Lady Bird.

Heliotropes.—Where Heliotropes are grown in pots for the sake of their sweet-scented flowers in the conservatory, a batch of autumn-struck cuttings may now be potted off for that purpose.

AMARYLLIS AT CHELSEA.

The garden varieties of Hippeastrum, better known to the public as Amaryllis, are finer than ever just now in the nursery of Messrs. J. Veitch & Sons, Chelsea. The central bed of the house devoted to them contains 1,050 bulbs and 2,150 are accommodated round the side benches, making a total of 3,200 bulbs in the house. Supposing half of them are flowering plants, we would have 1,600 spikes of bloom in various stages; but a large proportion of the bulbs have developed two spikes, so that an average of 2,500 spikes is under rather than over the estimate. Each carries two to four flowers, or an average of three, making a total of 7,500 flowers or buds in the house. The quantity in full bloom the other day produced a truly magnificent effect. No water was given the bulbs from the end of August till the latter end of February; they were potted in the last week of January in fairly moist soil, and the pots plunged in moist but spent tan. During winter they were allowed to rest in a perfectly dry state and merely syringed occasionally on bright days. Water had only been given during the twelve days previous to the time of our visit, and to this fact the success which has attended their culture is greatly due. The inference is that the bulbs should not be watered till they are fairly into growth, after which they enjoy a liberal supply. The dwarf, yet vigorous character of the flower stems shows that they have neither been unduly forced nor drawn in any way.

The undermentioned selection of a dozen and a half of the best does not exhaust the list of first-class types, but could easily be doubled without mentioning the leading favourites of former years. On the contrary the standard all round has been considerably raised, and the selections of ten years ago would not find much favour at Chelsea, with a few rare and exceptional instances perhaps. We make no mention of the five varieties which were certificated at the Drill Hall, Westminster, on the 14th inst., as they are all recorded on another page.

Talleyrand has widely funnel-shaped flowers of a very dark crimson, shaded with maroon in the throat. The flowers of Calabar are wide and bell-shaped with a short tube and brilliant crimson, shaded with maroon. Those of Princess May are beautifully netted with crimson and scarlet on a white ground, with a medium white band on each segment, and they are both large and handsome. The funnel-shaped flowers of Epirus are large, dark crimsom, and shaded with maroon in the throat. Two scapes from a bulb of Sylph bear in the aggregate eight bell-shaped, white flowers, shaded with scarlet lines on each side of the midrib. Something in the same way, but more striking and novel, is Carlina, which bears large funnel-shaped, white flowers, charmingly netted with claret in the throat and paler towards the margins. The novelty of the whole is the clearness of the tracery of colour on the white ground. The flowers of Hippocrates are deep crimson, with six white bands forming a star. Two scapes of Clytis bear in the aggregate eight flowers that appear orange-red or scarlet according to the amount of light falling upon them and the incidence of the rays.

The light-coloured varieties continue to improve in size, texture, and breath of petal. Bertha has widely bell-shaped white flowers, shaded and netted with scarlet towards the edges. The stems are only about 15 in. high. Somewhat taller is Scindia, bearing four widely bell-shaped flowers that are scarlet, shaded with maroon in the throat. Those of Rondo are scarlet with darker veins and rayed at the base. One of the finest of the highly-coloured flowers is Inimitable, having widely funnel-shaped flowers of enormous size, fiery scarlet, and rayed at the base only. Altogether it is a most conspicuous variety, even when surrounded with other meritorious or even selected kinds. The purest of the white ground varieties we noted was Ivanhoe with funnel-shaped, pure white flowers marked with a few claret lines on each side of the midrib, except of the lowest segment, which had no marking. Idomeneus bears the largest flowers of any of the white kinds. The flowers are funnel-shaped, but very wide at the mouth, and white with light scarlet reticulations on either side of the midrib. On the contrary, the darkest of the varieties with large flowers is Vedette. The blooms are funnel-shaped with broad segments of a uniform dark maroon, slightly rayed at the very base. As a contrast to the last-named, Cherub shows off to advantage. The flowers are white with crimson lines radiating from the midrib.

All of the above are new varieties and consequently unique, but Orion and Van Dyke are older ones to be put into commerce this season. Orion is of the same type as Champion, with large, widely campanulate flowers, having a very short tube, and of a brilliant crimson with a short green ray at the base. The flowers of Van Dyke, on the contrary, are of medium size, funnel-shaped, and of a brilliant vermilion hue, shaded with maroon in the throat; the tube externally is almost black at the base. The variety is relatively dwarf, the flower stem being only 15 in. high.

The new varieties put into commerce last year were likewise two in number, namely, Olivia, a large French-white flower, striated with rosy-scarlet lines on each side of the midrib; and Titania, with glowing carmine flowers, shaded with scarlet. Many others of comparatively recent origin are to be seen in the Amaryllis house; but they are the selections from many batches of seedlings extending over as many years, and have held their own simply because the best of their type. They in turn must give place to the most recent acquisitions of superior merit. The flowers of even ten years ago were small, and relatively poor in colour, compared with the average standard of to-day.

HOW PLANTS FEED.

Mr. R. Stewart M'Dougall, M.A., B.Sc., lecturer on agricultural botany at Minto House, Edinburgh, recently delivered an admirable lecture on this subject in Midlothian, from which we take the following abstracts:—Plants feed in two main ways—by their leaves and by their roots. For the proper understanding of how the plant took its food by means of its leaves, some knowledge of the structure of the leaf was necessary. The leaf as seen in a diagram of a transverse section, consisted of the following parts—(*a*) an upper epidermis; (*b*) a number of cells arranged like palings, and hence called pallisade cells, these being filled with green colouring matter; (*c*) loosely arranged cells, with large intercellular spaces; and (*d*) lower epidermis. The veins of the leaf were the channels continued into the stem by which the two kinds of sap passed, viz., elaborated sap from the leaves, and unelaborated sap from the roots. Scattered over the surface of the leaves, especially over the lower surface, little "mouths" or stomata were found. These "mouths" by means of guard cells, could be opened or closed, and thus, within limits, could control the water supply of the plant. The function of the epidermis was merely protective.

Functions of the Leaf.

By means of their leaves plants (1) feed (assimilate); (2) give off water in the form of vapour (transpire); (3) breathe (respire); and (4) assist in building up the food into the constituents of the plant (metabolism). In the matter of feeding, the plant had the power of utilising the carbon-dioxide of the air. The air passing through the cell walls reached the granules filled with green colouring matter, and by the action of sunlight an organic compound, viz., starch, was elaborated from two inorganic substances, carbon-dioxide and water. In the process oxygen was given off, and so there was a purifying effect on the air. This explained why a good area of trees always improved the climatic conditions of the district in which they grew, and it also explained why flowers in a room improved the atmosphere in that room from a health point of view. In regard to transpiration, the lecturer said water was evaporated from the leaves, the loss of water above being made good by water taken in by the roots. Experimental proof was given that transpiration did happen, and the stomata were mentioned as the great organs of transpiration. These stomata were, generally speaking, open by day and closed at night, but many factors assisted in modifying transpiration, such as the state of the surrounding air, dry or damp; the amount of water taken in by the roots; and the amount of exposed leaf surface. Attention, too, was drawn to the effect of mechanical disturbance, say, the violent shaking produced by high winds. It was pointed out that continued shaking induced an excess of evaporation, with a consequent drooping of the leaves, and the different views as to how this came about were discussed. If transpiration were checked the plant became unhealthy, while over-evaporation was equally harmful. Transpiration was very important to the plant, as by its means a good supply of water, so necessary for growth, was maintained; while a good supply of water was equally necessary, as in it the food compounds of the plant were dissolved. The surplus water was evaporated from the leaves. Equally with animals, plants breathed. Breathing went on day and night, the final process being a giving off of carbon dioxide and water. The different effects on the air of assimilation and respiration were compared, and an experiment was suggested to the audience, by which those present could prove the respiration of plants for themselves. The great importance of respiration was that it supplied the moving forces by which the accumulated stores of food in the plant could be utilised in building up the structure. Touching incidentally on the importance of light in the growth of most plants, the lecturer pointed out how, in practical forestry, it was very necessary to have a knowledge of the requirements of the different species. Trees were divided into two great branches, the light demanding and shade bearing, and suggestions were offered as to the principles which should guide the forester in planting a mixture, say, of Larch and Spruce or Larch and Beech, the Larch being a light demanding species. and the Spruce and Beech shade bearing.

Feeding by Roots.

The feeding of plants by roots was then dealt with. Excluding the insectivorous plants, all plants had to take their food up, not in a solid but in a dissolved condition. The root-hairs were the important organs in root absorption, these root-hairs absorbing by their whole surface. There was a very intimate connection between these root-hairs and the particles of the soil. Each soil particle was surrounded by a film of water, known as the hygroscopic water, in which the food to be taken in by the plant was dissolved. The other water, which was termed the "free water," was drained off, its presence having a baneful effect, as it filled up the interspaces between the soil particles, and so prevented the free access of air. After pointing out the solvent action of the acid sap of the root-hairs—this being so solvent as to dissolve rock which resisted water even when it was stimulated by carbon-dioxide—the lecturer showed how the water containing dissolved salts, the food of the plant, passed into the root-hairs. This was by means of what was known as Osmosis, a physical law which governed the process of plant absorption. The movements of water in the plant were next discussed, and the channels pointed out by which the nutrient solution was conveyed upwards, these being the vessels of the wood or the walls of the wood cells and vessels. In the lower plants which had no vessels, the movement was, in the main, from a part well supplied with water to parts less well supplied. The "bleeding" of plants was next touched on, and the causes suggested. The differences pointed out between this and the ordinary transpiration currents were also pointed out with evident appreciation. In illustration of these points specimens of sections of trees were handed round, these showing the structure, as well as the growth of the wood. Special attention was directed to the "vessels" which were seen, just like a system of tubes cut across. In the matter of food, different kind of plants require different kinds of food. Leguminous plants, for instance, were very fond of silica, whereas Cereals or Potatos chose very different substances. The principles which underlay the rotation of crops were based on what might be termed the selective power of plants—one variety taking most of one kind of food and another of another kinds. These different feeding crops following in succession did not exhaust the land to the extent that the same kind of crop grown continuously for a certain number of years would.

WINTER ACONITES.

The first gold gift has come to bless the year
From Earth's abundant bosom, where the snow
Seemed, with its silent folds, a month ago,
To still all pulsings of the heart that, here,
Asserts a deathless love by symbol clear
To wistful eyes, long watching. Now we know
Asleep, she dreams of waking—heating low,
That faithful heart reminds her Spring is near.
Death-like she wore her garments—we were sad;
In solemn dirge, snow-laden winds her fate
Bewailed, while ran the year's remaining sands.
Birds carol her awaking—we are glad,
But sing *our* songs in silence; longing, wait
Her gifts, like children, and extend our hands.

Richard F. Towndrow, in "Nature Notes."

GARDENING MISCELLANY.

RDENERS' ROYAL BENEVOLENT INSTITUTION.

WILL you kindly give publicity in your widely read journal to the following communication which I have received from a gentleman who has long been a subscriber to the institution :—" Sincerely sympathising with the cases of John Butler and Jane E. Nichols, who have been unsuccessful candidates for the pension of the institution at the last five annual elections, it is my intention to place at the disposal of the committee—and I hand you a cheque for £36 herewith—the amount necessary to provide for the present year the allowances to which they would respectively have been entitled had they been elected in January last; at the same time I earnestly hope that special efforts will be made to secure their election on the next occasion." I need hardly say how gratefully this anonymous gift has been received, nor how glad the hearts of the two candidates mentioned have been made by the good news that I have conveyed to them. Will you also allow me to say that another gentleman, who desires his name to be withheld, has handed me £5 5s. for an exceptional case of suffering and distress which has been recently brought under the notice of the committee.—*George J. Ingram, Secretary*, 50, *Parliament Street, S.W.*

BLUE PRIMROSES.

MOST people are interested in Primroses, and those who saw the interesting exhibit of G. F. Wilson, Esq., F.R.S., Heatherbank, Weybridge, at the Drill Hall, Westminster, on the 14th inst., could not fail to admire the strain which he has succeeded in raising from the deep blue or violet blue variety Scott Wilson within the last two years. He had a basket of flowers showing fifty shades of colour, all of which were remarkable for their richness. Some of them were of an intense blue, while others were more decidedly of a rich violet purple, but all interesting and beautiful for the sake of the great variety which they afford. It is to be hoped that this magnificent strain will find its way into commerce at no distant date, so that it may get distributed throughout the length and breadth of the land. There appears to be a difficulty in cultivating the blue varieties in the neighbourhood of London, and possibly other large cities, but in the open country this should not be the case.

CHRYSANTHEMUM CHARLES DAVIS.

THIS is a sport from the universally popular Viviand Morel, and those who have seen it in its prime declare that it will be more popular than the type, because there is nothing amongst the choicer exhibition varieties approaching it in colour. The bloom in autumn is variously described as clear rosy bronze, rich bronze, almost scarlet, and variable according to season and treatment. Many of the autumn and early spring struck cuttings have been kept in warmth in order to flower them as a test to determine the constancy of the sport. Some of them flowered last month, and a small plant 11 in. high, in a 2½ in. pot, was sent us the other day. It was branched at the top and bore half-a-dozen heads and buds, of which the expanded ones were about 4 in. in diameter, flattened or spreading, with strap-shaped florets and clear yellow, flushed with bronze on the upper surface, but especially in the centre of the bloom. The pale colour is easily accounted for by being out of season, and by being kept in warmth. There is every reason to suppose that the variety will be handsome, and a popular exhibition plant considering its parentage. It turned up in the collection of Mr. Norman Davis, Chrysanthemum Nurseries, Lilford Road, Camberwell, who sent us the plant above mentioned.

PENTAPETES BUXIFOLIA.

THOUGH a hard-wooded plant, this is easily cultivated, and most floriferous even in quite a small state. In this respect it may be compared to a Heath which may be flowered in a very small state, particularly if raised from cuttings. The small evergreen leaves have been compared to those of the Box, chiefly owing to their shape, size, and leathery character. The flowers are tubular, tapering to the base, with five sharply reflexed segments at the apex, they are also of appreciable size, being an inch long and produced with great freedom from the numerous short branches. The plant is naturally bushy, and therefore has not the objectionable features which belong to slow growing plants that produce only a few stumpy branches. It is therefore a well-furnished and easily accommodated plant, and looks neat at all seasons of the year, whether in flower or not.

HÆMANTHUS MAGNIFICUS INSIGNIS.

THE best known ally of this plant is H. natalensis, which is precisely of the same habit of growth. The scape is produced in winter or early spring from the leafless bulb, emerging from the scales towards one side of the same. Leaves are not produced till later on when a leafy stem 1 ft. or 2 ft. high is developed, according to the strength of the plant, and bears six to eight oblong, bright green leaves. The spathes surrounding the umbel of flowers are brownish-crimson, and being longer than the flowers themselves serve to distinguish the variety H. m. insignis from the type. The umbel is very dense, consisting of a great number of moderate sized flowers, forming a mass sometimes 5 in. or 6 in. across. Both the segments and the long filaments are of a soft rosy-scarlet while the anthers are golden yellow. The combination of colours is very effective even in the absence of leaves, and flowering as it does in winter and spring it is highly deserving of a more extended cultivation.

CHORIZEMA FLAVUM.

THE Chorizemas are amongst the few plants of the hard-wooded subjects that have outlived the neglect into which a large proportion of them have fallen. This is to be accounted for, perhaps, by their intrinsic merits and beauty, and the facility with which they may be made amenable to ordinary culture and the wants of modern cultivators. C. flavum flowers in winter and early spring, keeping up a succession of bloom for a long period, after which the straggling branches may be cut back to maintain the plant in a bushy condition. The latter may then be encouraged to develop a vigorous, fresh growth by a closer atmosphere and a higher temperature for a time, after which the plants may be inured to a drier atmosphere in order that the tissues may get properly consolidated before winter, without which New Holland subjects cannot give satisfaction to the cultivator. It readily conforms to good culture, however, producing a wealth of flowers with golden standards, and sulphur-yellow wings.

THE VEGETABLE GARDEN.

Dwarf Beans.

FOR forcing, another lot may be put in pots, or if a heated pit is to spare it is preferable to plant them out at this season, as they do not require so much water. About this time it is a good plan to make a sowing in 48-size pots, and put in a cold frame until the weather is fit to plant them on a warm border in May. The middle or the end of April will be soon enough to sow in the open.—*G. H. S.*

Peas.

As soon as the Peas are an inch high draw a little soil gently towards them with a hoe, this helps to break the force of the cold winds so prevalent just at this season. If the sparrows are not troublesome, it is as well to stick them at once. But in this neighbourhood we have to keep them under wire netting until they are about four inches high, or the sparrows would completely ruin them. Succession sowings should be made every fortnight to keep up a regular supply.—*G. H. S.*

About Tomatos.

A SIMPLE but certain mode of ensuring a good crop of Tomatos, I have found to be as follows:—About the beginning of May place an ordinary garden frame in a sunny position on a hard bottom or otherwise. This done, select as many plants as are required, viz., two for each light and put them in 8 or 10 in. pots, training with a single stem. Stand the pots in the frame at the lower part or front, and place a piece of slate under each pot to prevent the roots from penetrating below. The front of the frame will shade the pots from the drying effects of strong sun. Train each stem towards the back of the frame on rods supported by forked sticks. Encourage the plants to grow firm by giving abundance of air on all favourable occasions. As soon as there is a fair crop of fruit set, and when the leading shoot has reached the back of the frame, it must be stopped, and weak manure water may be applied as required. Be careful to pick off side shoots as they appear. By this mode fruit of first-rate quality may be had for a long season. The sort I have found most useful for this is "Earliest of All."—*A. J. D.*

Parsley in Winter.

A SUPPLY of Parsley during winter can easily be obtained by sowing seed in an open situation about the middle of June, and when large enough pricking out the plants on a south border in rows 12 in. asunder, and 6 in. from plant to plant. Shade and water as required until established, afterwards hoe and keep the ground thoroughly clean. Before frost sets in prepare a few forked sticks and some rods, and with these make a rough support for a piece of thick canvas or tarpauline, or any rough material sufficient to prevent severe frost from getting hold of the plants. By this mode Parsley can be safely wintered and a daily supply kept up from an ordinary sized bed.—*A. J. D.*

INSECTS INJURIOUS TO HARDY FRUITS.*

WITH the increased interest that is now manifested in fruit culture, it is but natural that a closer attention should be paid to the many insect pests which prey upon fruits and fruit trees. It is an old adage that "prevention is better than cure," and in no case is the saying more true than in this one. Good husbandry is a powerful remedy for all insect pests which prey upon our fruit trees. By pursuing a liberal course of treatment, combined with careful manipulation of the branches, many of the worst pests can be kept at bay. For it is generally those trees which are in a weak, sickly state that first fall a prey to the ravages of insect pests, just as a weak constitution in the human frame often gives way to disease. And the great injury inflicted on some trees by careless individuals under the disguise of pruning has much to account for. Climbing on the trees or otherwise injuring the bark should be avoided, as it is in places of this sort that these little creatures first find a lodgment. Therefore it should be the aim of every cultivator to keep his trees in a clean, healthy, growing condition, carefully removing from the orchard, and burning all rubbish which is likely to form a hiding place for the insects. The microscopical size of many, and the protective coat with which Nature has furnished several of them, makes it very difficult for us to work their destruction, but any of the recognised remedies applied with perseverance is sure to be successful. It is essential that the gardener should know something of the life-history of (I was going to say his daily companions) those insects which are commonly most injurious to fruit crops; he would then be in a better position to wage war against them should they threaten an invasion. But how few gardeners do we find with any knowledge at all of entomology? There are exceptions to this rule, I know, but speaking generally, very few know anything at all about the subject. When writing these lines I could not call to mind one instance of having seen entomology recommended to young gardeners as a study by our authorities who give us so much good advice. Probably, they know young gardeners have too much in hand already with the several other branches of science in which they are expected to be well versed. But I consider entomology should be given a more prominent place in the education of a gardener than it receives at present.

In the following paper it is not my intention to enumerate the whole of the insects which are included under this heading, but simply to call attention to those which are most injurious to our hardy fruits, and give a brief sketch of their life history together with such remedies as have been found serviceable in preventing their attacks.

Taking the fruits in the order of their importance, the Apple of course comes first. It is rather a strange coincidence that it being the national fruit should be attacked by so many different insects, for I believe there are more which prey upon it than all our other orchard trees put together.

AMERICAN BLIGHT.

The insect with which gardeners are most familar is, I think, the American blight or woolly aphis (Schizoneura lanigera). This, like so many other good things, is credited with coming to us from

* A paper read by Mr. T. WAUGH before the Chiswick Gardeners' Mutual Improvement Association.

America, but whether this is a fact or not we are not in a position to say. Several of the leading American entomologists dispute the point, and would fain place its introduction in the reverse direction from that generally admitted. But it matters little to us from whence it came; we know too well of its presence, and that it is one of the most troublesome pests with which our Apple trees have to contend. The first record of its appearance in Europe was, I believe, in 1787. In England it was first discovered in a nursery near London, in which were some Apple trees imported from North America.

Its presence is easily detected by the white cottony growth on the insects; where they are plentiful they have the appearance of a piece of cotton wool sticking to the bough. It is also from this woolly growth with which the insect is more or less covered that it takes the name of the woolly aphis. It is also known as the Apple-bark plant-louse. It is mostly found on neglected trees, in the crevices of the bark or where a branch has been cut or broken off; in fact, anywhere that the bark has been injured it takes advantage of and sets up its abode, hence the necessity of careful pruning and the removal of any loose and dead bark. It may however be found on any part of the tree where the bark is not too hard for the insect to pierce with its sucker; it lives on the sap of its host, but this is not its worst point, for it is the diseased growth which it causes that is most injurious. Nature, anxious to repair the damage of one season, forms fresh tissue round the cankerous wound the next; but this only makes matters worse, for the new growth is attacked by the insects in like manner, and in time the branch is destroyed and the tree rendered useless.

If the branches of the tree do not afford a convenient hiding place during winter, the insect hibernates in the soil, returning to the attack with the warmer days of spring.

It also infests the roots, doing very serious damage, for the mischief is often far advanced before you are aware of it. In this immediate neighbourhood it does not seem to trouble the roots much, but I have seen it very bad in other places. In a nursery in which I once worked we lifted many a score of young Apples with the roots literally covered with this pest, and dipped them in a mixture of sulphur, soot and paraffin, replanting in a fresh piece of ground. This is why the Colonial nurserymen have selected Apples for stocks which they know to be proof against American blight, and by working them well above ground they can insure the roots and part of the stem being clean. The insect which does all this damage is a very insignificant little creature, when taken individually; it is about a twelfth of an inch long, and about a twentieth broad. The wingless females are oval in shape and of a reddish brown colour, and they produce multitudes of living larvæ like themselves, on a smaller scale. From about the end of July onwards winged viviparous females are produced. The males are winged and much smaller than the females.

There are many well known remedies for American Blight. Removing the surface soil from under the trees in winter is sure to take away a number of the insects, and various mixtures of soft-soap, sulphur, Gishurst's Compound, Fir tree oil, paraffin, and in fact any substance that is of an oily, greasy or sticky nature, will effect a cure if applied to the insects. One of the best and surest is paraffin, applied with a painter's brush, but care must be exercised in its use as it will kill the young wood if applied to it. It is a good plan, where the insects cannot be got at in the holes in old trees, to fill up the holes with soap or some other like substance, which will kill the Aphides by choking up their pores.

The Codlin Moth.

The Apple-grub (Carpocapsa pomonella), more commonly known as the codlin moth, is the ifisect which causes the grubby Apples with which we are all so familiar. In June or July the moth lays an egg in the eye of the young growing Apple, from which the caterpillar or maggot is hatched and gnaws its way into the Apple, avoiding the core. As it grows it continues its course through the Apple until the opposite side or stem end of the Apple is reached, when it pierces the skin to form an outlet for its excreta, and then turns back to the centre of the Apple, piercing the core and sometimes feeding on the pips. This is what causes the Apples to fall before ripening. The larvæ is about half an inch long, and slightly hairy, with a brown or black head; the body is a yellowish or pinkish white colour, with a dark line down the back and two rows of spots on each side. It soon quits the fruit after it falls, and seeks a convenient hiding place on the tree or anything that is handy. It then spins itself into a cocoon and passes the winter in the pupa state. With the increasing warmth of the season the moths are hatched in June, and soon after pair, and egg-laying is soon commenced.

As it is well known the caterpillars crawl up the stems of the trees to find a hiding-place in which to change to the chrysalis form; they, however, avail themselves of any convenient shelter, and straw or hay bands tied round the trunk of the tree will trap great numbers of them. Traps should also be set in the forks of the trees, to catch any that have remained in the branches, and in the autumn both these and the bands should be burnt. And many grubs can be destroyed by collecting and using or destroying all fallen Apples before they get time to escape. Spraying the trees with a liquid mixture of Paris green is strongly recommended by several people. Prof. F. W. Webster, of Purdue University, U.S.A., recommends one pound of the powder to 140 or 150 gallons of water, to be applied in the form of a spray after the bloom has fallen, and before the calyx end of the fruit has turned downwards. The same authority recommends three sprayings in the season at intervals of ten days to a fortnight. Only enough of the mixture should be used to wet the foliage without drenching it, as it has been found that with this amount enough of the poison will become lodged in the calyx of the Apple to destroy the young grub as soon as it hatches and starts on its work of destruction. Some eight years ago there was a great scare in the South of New Zealand regarding the codlin moth, and a quantity of Australian Apples were not permitted to be landed, but sent out to be buried at sea. And the government intend bringing in a bill next session of Parliament called the "Codlin Moth Bill," dealing with it and other pests.

(*To be continued.*)

FROZEN FLOWERS FROM NEW ZEALAND.

A large company assembled on the afternoon of the 24th ult. at the gallery of the Ipswich Fine Art Club, to inspect the frozen flowers from New Zealand, which Mr. E. Herbert Fison had kindly placed at the disposal of the Scientific Society. Notwithstanding a notice which was issued to the effect that, owing chiefly to exposure and rough treatment during the Customs House examination in London, the specimens were defective, we are informed that a larger number of persons paid for admission to the gallery than on any previous occasion. The flowers were all gathered last November within twelve miles of Wellington, New Zealand. In every case they were perfect in form, and in several perfect in colour, though obscured to a certain extent by the air bubbles which had formed around their petals and leaves. This, however, in some cases added to their beauty and gave a silvery lining to the leaves and flowers which otherwise appeared to be discoloured by contact with the ice. It was explained that this discolouration was not caused by the ice, but by the air bubbles themselves, which form immediately the ice begins to thaw. It appears that when well-frozen the ice is perfectly clear, and the flowers inside are as perfect in form and colour as when freshly gathered. They are seen in this condition when the ice is first exposed after its long journey, but after exposure they quickly deteriorate.

The most beautiful specimens were undoubtedly the varieties of Erica (Heaths). These retained their colour perfectly. Especially noticeable was a bright yellow variety. Generally the flowers, and these Heaths in particular, were larger than English specimens. It should be said that they were mostly not New Zealand or Australian native flowers, but garden-grown. None of them were grown under glass. After the Ericas the Boronia pinnata was most admired. This specimen seemed to have suffered no harm whatever from its entombment in its icy prison, its bunch of pink flowers being strikingly beautiful. Milla laxa also was very pretty, though somewhat obscured, and it was a common remark that one would like to see the ice thaw, so that its exquisite blue flowers could be more closely examined. This remark, indeed, was often heard of many of the flowers, and as certain delicate leaves and petals gradually appeared through the thawing ice they were regarded with increased interest. We must say that their appearance did not generally bear out Mr. Fison's statement, that exposure to the air meant immediate decay.

The Roses naturally attracted great attention, and it was considered that these and the Lilies, of which there were several specimens, were the least successful. In both cases the colour was destroyed, though the magnificent size and forms of the flowers were evident. The Roses were a dark dull red or purple, and some of the Lilies had lost their colour altogether, so that it was with difficulty their shapely forms could be traced through the ice. There was a remarkably fine specimen of the Marquise de Castellane Rose, which seemed to spread out over the whole of a large block of ice. The colour was spoiled, but the form was perfect, and the specimen was the object of much interest to several experts present. Then a group of three apparently dark red seedling Roses was very striking, though the colour was a dark purple, approaching black. Strange to say, the scent of these Roses was distinctly noticeable through the apparently solid ice, and we were told that when first opened this was observed to a most remarkable degree, and that it was by no means the scent of decay, but that of a freshly-gathered Rose. It is impossible to describe all the other specimens, many of which were well worthy of notice; but we must mention the Andromeda pulverulenta, with its white and wax-like flowers, and its leaves covered with a mealy glaucescence, all of which were seen in great perfection. The "bottle brush," a well-known Australian Evergreen shrub, was also there, the large flower looking very striking and true to its name. The specimens of Rhododendron and Gladiolus were fairly perfect, and attracted a good deal of attention, as also did the Carnations.

ORCHID NOTES AND GLEANINGS.

The undermentioned Orchids were exhibited at the meeting of the Royal Horticultural Society on the 14th inst., and were accorded certificates according to merit.

Lælia vitellina

In this we have a very distinct hybrid which appeals to the Orchid lover on account of its beautiful yet peculiar colour. The whole flower, with exception of a crimson blotch in the throat of the lip, being of a uniform yolk-of-egg colour. This hue it owes to Lælia cinnabarina or its variety L. c. harpophylla, which was one of the parents. The form of the lip, which has the edges of its terminal lobe incurved and slightly crisped, would also point to the same origin. The sepals are lanceolate, much drawn out to a point, the petals lanceolate-elliptic, and the lip three-lobed. The small pseudo-bulbs are club-shaped and terminated by a solitary, lanceolate, leathery leaf. A First-class Certificate was awarded the hybrid when exhibited by Baron Schroder (gardener, Mr. H. Ballantine), The Dell, Egham.

Dendrobium nobile Ballianum

This is the second very distinct and pretty variety of the popular, old-fashioned and useful D. nobile which has been brought before the public within the last few weeks. The sepals and petals in this case are pure white, while the lip is of the palest lemon yellow with a white tip and a pink blotch in the throat, but which does not extend to the base. The habit and vigour of the plant is similar to that of the ordinary D. nobile.

Cœlogyne Sanderæ.

This may be described as a neat habited, interesting and pretty Cœlogyne, with medium sized flowers. The sepals are narrowly lanceolate, the petals narrowly linear and all creamy white. The lip is white, three-lobed, with slightly fringed side lobes, and the terminal one more deeply fringed and decidedly crimped. There are three fringed lamellæ on the disc, which are brown on an orange ground on the upper portion and pale yellow towards the base. Both this and the Dendrobium received First-class Certificates when shown by Messrs. F. Sander & Co., St. Albans.

Odontoglossum Ruckerianum splendens.

O. Ruckerianum is itself merely a variety of O. crispum, which is subject to an infinite amount of

variation. The variety under notice is a great improvement upon the original O. Ruckerianum, and certainly very choice. The sepals are lanceolate and marked all over with circular reddish-brown spots on a rose ground. The petals are similar but more shaded with white along the centre, and the spotting might be more irregular. The lip is pale yellow with an irregular crimson blotch in front of the crest. There were fourteen flowers on the spike, making an effective appearance. An Award of Merit was accorded it.

Maxillaria sanguinea.

THE leaves of this species are linear, 12 in. to 18 in. long, and very forcibly remind one of a grass. The flowers are small, but plentiful and pretty. The sepals are oblong, dull yellow, suffused with bronze externally, and spotted with purple internally. The petals are much narrower but similar. The lip is purple in the throat, white upwards, with a black crest. It was accorded an Award of Merit.

Triphia orthocerus.

THE habit of this Orchid is similar to that of a Spiranthes or Goodyera. The leaves are all radical, about two to each crown, ovate, dark green, and beautifully reticulated with grey lines following the course of the venation. The scape is 6 in. to 8 in. high, bearing a spike of flowers, arranged more or less regularly in two ranks. The sepals are green and inconspicuous, the petals linear and white. The lip is wedge-shaped, toothed at the upper end, and white, with a few purple spots. The flowers are very small, but the leaves help to make the plant pretty and interesting. It was accorded a Botanical Certificate, and was exhibited along with the Odontoglossum and the Maxillaria, by Sir Trevor Lawrence, Bart., (grower, Mr. W. White), Burford Lodge, Dorking.

Lycaste Skinneri Hettie.

THE sepals of this pretty variety are broadly oblong and white with a flush of rose at the base. The petals are of a rich rosy-purple internally, with a white tip and white externally, irregularly splashed with purple. The lip is white with purple side lobes and a yellow crest. The combination of colours is curious, but certainly pretty, and when a plant was exhibited by Messrs Fred. Horsman & Co., Colchester, an Award of Merit was accorded it.

A Purple Cypripedium.

UNDER the name of Cypripedium Memoria Moensii, a coloured illustration has been given in *Lindenia, pl.* 361, of what is practically a purple Leeanum. The numerous forms of C. Leeanum now in cultivation have been obtained by hybridising the various forms of C. insigne with C. Spicerianum. By the use of the various fine forms as seed-parents some remarkably fine improvements have been made. The form under notice may be considered one of the extremes, and is remarkable for its rich colouring. The exact parentage is not exactly known beyond the fact that C. Spicerianum is one of them. The leaves are lightly tessellated, which would lead us to suspect that C. insigne was not the other parent, but some species or hybrid having the leaves tessellated to some slight extent. The dorsal sepal is of a rich purple, intensified towards the base and along the midrib, while the upper margin only is white. The dark midrib points to C. Spicerianum, as well as the undulated upper edge of the petals, the form of the lip and the staminode. The edges of the petals are yellowish, while the rest is purple, almost as rich as that of the upper sepal. The lip on the other hand is shaded with a brownish-purple, and that over the greater part of it. The staminode is of a paler purple. The two scapes on the plant figured are each twin-flowered, thus showing that the new comer is of vigorous constitution.

Cattleya citrina at Lowfield.

ONE rarely sees such a fine batch of these as is grown by the Rev. F. D. Horner, at Lowfield, Kirby Lonsdale, and it is a pity that this fine Orchid is so seldom seen in a flourishing condition. The plants at Lowfield are very robust, and some are showing twin flowers Mr. Horner told me that he had had this batch from 10 to 12 years and has never had any difficulty with them. They are grown on rafts—with plenty of sphagnum—in an ordinary Cattleya house and are never allowed to get anything like dry. I noted several other finely grown Cattleyas, such as C. aurea, C. gigas, C. Mendelii, &c., also a nice plant and fine form of C. speciosissima in flower. Among lots of good Orchids in flower were to be seen select varieties of Dendrobium Wardianum, D. nobile, D. Ainsworthii, D. Leechianum, D. crassinode Barberianum—an extra fine variety, and a nice plant of D. Harveyanum in bud.

Those interested in the cultivation of the Auricula can see two houses here, full of fine sturdy plants of the choicest kinds, without spot or blemish, and showing well for an abundance of flower.—*A. I.*

SOCIETIES.

Manchester Botanical and Horticultural.—The first of the spring flower shows promoted by the Botanical and Horticultural Society for the current season was held on the 14th and 15th inst., and the wealth of gay blossom was such as left nothing to be desired. The grand feature of the exhibition as a whole was found in the profusion of Orchids, two collections of which incomparable flowers received each the Society's Gold Medal. Mr. George Hardy's lot was exceptionally meritorious in regard to the diversity of the forms, and so also was Mr. E. Wrigley's beautiful exhibit from Dunkinfield. Mr. G. B. Ball, of Bowden, had a charming group of Dendrobes, and Mrs. J. M. Bennett, Buile Hall, Pendleton, had a most pleasing collection of Cœlogynes. Mr. W. R. Lees, Audenshaw, also sent Dendrobes, and a select but very brilliant collection of Orchids also came from Messrs. Charlesworth, Shuttleworth & Co., Clapham and Bradford. In respect of overwhelming luxury of colour it would be difficult to imagine anything that could surpass Messrs. R. P. Ker & Sons' Amaryllis (another Gold Medal) raised by themselves at Aigburth. In delightful contrast to the scarlet of the Amaryllis, and confronting them, were Messrs Dickson's Daffodils and other Narcissi from Chester, arranged, as heretofore, fanwise. Messrs. Dickson, Brown, and Tait showed their skill as growers of Hyacinths, and Messrs. Clibran & Son, of Altrincham, sent a fine group of all the greenhouse delicacies of the season. Another group, occupying the entire space below the organ, came from the gardens at Old Trafford, a splendid display of Cliveas conferring emphasis. Mr. Samuel Barlow sent an astonishing series of seedling varieties of the Chinese Primula, illustrating his belief that by perseverance with cross-fertilising he will succeed at last in obtaining that great desideratum with florists, a pure sky-blue, a colour many times met with in the Primulaceæ, though never yet seen in Primula sinensis. Mr. R. P. Gill sent a beautiful set of Primula marginata; Mr. Samuel Allan, of Sale, Orchids and Ferns; Mr. Brownhill, of Sale, a white Carnation, very pretty; and Mr. Joseph Broome some forty posies of hardy flowers from Llandudno, a miracle of vernal beauty. Cultural certificates were awarded by the Committee to Messrs. Ker and Messrs. Dickson.

Preston and Fulwood Horticultural.—The fifteenth spring show of this society was opened in the Preston Public Hall on Wednesday, the 15th inst., by the president, Mr. Councillor Humber, who afterwards entertained the committee, the members of the Town Council, and other gentlemen at a luncheon in one of the crush rooms. On the whole the standard of cultivation was in advance of previous years, the large plants which have appeared on former occasions being, if anything, in better form than ever. These were arranged in front of the orchestra, and the smaller ones and the groups under the galleries; the bulbs and other dwarf plants on tables in the body of the hall, many of the cottagers' exhibits being, for want of space, packed round the approaches to the galleries and on the stairs, as well as at the back of some of the larger plants, making it difficult to inspect or judge them.

The entries this year were 363, showing an increase of fifty-six over any previous year, and the exhibitors numbered ten more. From these figures some idea may be formed of the extent of the show. The leading exhibitors in the amateurs' classes were J. B. Dixon, Esq., who took thirty firsts, ten seconds, and five thirds. He was first in most of the bulb classes, also for fine foliage plants, for the group, and for Deutzias, the latter of which were remarkably fine.

Mr. Dixon is really his own gardener, and his Palms, bulbs, and Crotons would do credit to any professional, and his Cycas revoluta is perhaps the finest specimen in the country. He was beaten in some of the classes, and closely followed in others, by Mr. Frisby, gardener to Miss ffarington, Worden Hall, who this time was a good first in the class for twenty 6-in. pots of bulbs, corms, tubers, and rhizomes, not mentioned in the schedule. He had Zephyranthes corinata, Amaryllis, Lilium Harrisii, Lachenalia, Tropæolum tricolorum, Gesneria, Dogstooth Violet, Fritillarias, and Scillas, twenty distinct kinds, and the best lot ever staged at the Preston Show. As so much interest is directed to this class it is to be regretted that neither of the exhibitors had their plants named. Mr. Frisby carried away in all fourteen firsts, seven seconds, and seven thirds, with fine foliage, flowering stove and greenhouse plants, Lily of the Valley, bulbs, and vegetables. Mr. Williams, gardener to J. Whitehead, Esq., a young exhibitor who is creeping steadily to the front, showed Azaleas, bulbs, Roses, vegetables, and a group of plants, securing nine firsts, seventeen seconds, and six thirds. Mr. Lamb, gardener to R. Smith, Esq., Longridge, was successful with Spiræas, dinner table plants, bulbs, Musk, Exotic Ferns, etc., which brought him seven firsts, twelve seconds, thirteen thirds. Next to him came Mr. Rigby, gardener to J. Smith, Esq., Whittingham House, who carried away five firsts, four seconds, three thirds, for bulbs, Cinerarias, Dielytras, pot Roses, etc. A fresh exhibitor in Cinerarias, Primulas, bouquets, and buttonholes, was Mr. W. Gillet, gardener to B. Copland, Esq, Farington Lodge, who got three firsts, three seconds, and one third.

In the nurserymen's classes, Mr. Payne, Fulwood, took the lion's share of the awards for bulbs and for a group, whilst Mr. Troughton, of Walton-le-Dale, who always took the lead with Hyacinths and groups only exhibited floral devices such as bouquets, wreaths and crosses, being a good first in each case, the bouquet composed of Catherine Mermet Roses, white Lilac and Lily of the Valley was much admired by the ladies, as were all the other devices for their extreme lightness, each flower being quite free from its neighbour. This is a welcome departure from the usual method of cramming together as many flowers as possible, as seen at provincial shows.

Gardeners' Improvement Associations.

Kingston and Surbiton.—The fortnightly meeting of this new society was held at St. James's Hall on Wednesday evening of last week, when the first paper for the season was read by Mr. Cushon, of Norbiton Park Gardens, on "The Amaryllis," illustrated by several fine specimens of this beautiful flower. The paper was a very practical one, and the reader was cordially thanked. Messrs. Tate, G. C. Sherrard, Mundy, Trower, and C. R. Bond, were elected Vice-Presidents. An invitation from Mr. J. Walker, of Ham, to view his display of Narcissi next month, was very warmly accepted. Several new honorary and ordinary members were elected. The next meeting will be held in Miss Greatorex's Schoolroom, Eden-street, on Tuesday evening, the 28th, when Mr. Hawkes will read a paper on the "Culture of the Violet."

Birmingham.—At the last meeting of the association, Mr. C. E. Pearson gave a most interesting and instructive lecture on "The Insect Friends and Foes of the Garden," illustrated by lantern-slides, describing the habits and history of each, from the egg to its full development into the moth, butterfly, or congenera; also the vegetable or animal foods requisite for their subsistence. Instructions were also given as to methods commonly adopted for the extirpation of these foes, not all of which, however, should be regarded as such, as there are certain species of grubs and insects which prey upon each other. Mr. Pearson entered very fully into the subject, giving lantern illustrations of each, and as well as giving a great amount of practical information, also answered many questions. He strongly advocated a study of entomology for practical purposes as well as a pleasant recreation. An interesting exhibit was made by Mr. Deans, Messrs. Pope & Sons, of Resurrection plants, especially in specimens of Anastatica hierochuntina, the Rose of Jericho, and dried specimens of the Resurrection Mosses or Selaginellas.

Woolton.—The final meeting of the session was held in the Mechanics' Institution on the 16th inst., the event being of special importance from the fact that the members arranged for an open night in the form of a complimentary concert and exhibition of

Spring flowers. The room was crowded, the arrangements being most successful. Certificates were granted as follows—Cultural certificates to J. Grant Morris, Esq. (Mr. J. J. Craven, gardener), for a fine plant of Dendrohium nobile, three feet through. To Holhrook Gaskell, Esq. (Mr. R. Todd, gardener), for Dendrobium sauvissimum, a good type freely flowered. To J. D. Johns, Esq., for Standard Mignonette. To H. Cunningham, Esq. (Mr. W. Wilson, gardener), for heavily flowered spikes of Dendrobium nohile. Certificates of Merit were awarded to Messrs. R. P. Ker & Sons, for Amaryillis, Clivias, &c. To Messrs. Dicksons, Limited, Chester, for Daffodils, &c. To Mrs. Cope (Mr. T. Carling, gardener), for stove and greenhouse plants. To T. S. Timmis, Esq. (Mr. B. Cromwell, gardener), for spikes of Cœlogyne cristata of great merit ; to Holbrook Gaskell, Esq., for a group of plants including Lælia Trianæ Schroderæ, carrying ahout a dozen flowers, and two baskets of Alpine Primulas, &c.; to Sir Thomas Earle, Bart. (Mr. J. Stoney, gardener), for specimen Azalea. Other exhihits included Rhododendrons, Cinerarias, cut branches of flowering Eucalyptus, &c. The arrangements were in the hands of the capable secretary, Mr. W. Disley.

Brighton.—At a meeting of the memhers of the Brighton and Sussex New Horticultural and Mutual Improvement Society, held on the 16th inst., at the Imperial Hotel, Brighton, and largely attended, an interesting paper on "Apricots and their Culture," was read hy Mr. Wythes, a desultory discussion following. The Chairman (Mr. W. Balchin, jun.) presented illuminated testimonials to all the officers and the Committee of the Old Brighton and Hove Cbrysanthemum Society, which has been amalgamated with the new Society.

WHAT TO DO IN THE GARDEN.

Caladiums, Crotons, etc.—The sun is now gaining considerahly in strength and will make itself felt on bright days. It will therefore be necessary to put the hlinds up so as to have them in readiness to run down at any moment. Crotons, Ixoras, and all other suhjects with leathery leaves should he arranged by themselves as much as possible so that they may be left unshaded and fully exposed to the sun. Caladiums, Calatheas, Begonias, and other soft or tender-leaved subjects should also be placed by themselves wbere they can be shaded when necessary.

Bougainvilleas and Allamandas.—These are now growing rapidly and if it is desired to have them in full bloom by a given time, the shoots must all he stopped eleven or twelve weeks before that time, by pinching out the tip of each. The secondary shoots will then have an equal start, and all will come into bloom ahout the same time.

Epiphyllums.—When the plants have finished flowering they may be taken into tbe stove to make fresh growth, particularly if they are desired to flower early. The sooner the young shoots are developed and ripened the sooner they will set their flower buds and may be hrought into bloom. Cuttings may he taken at any time, hut tbe spring is the best season to graft Epiphyllums with the object of making standards. Wedge or cleft grafting is the mode generally adopted, and succeeds very well wbere the inner bark of graft and stock is brought into contact so that a proper union can be formed.

Double Chinese Primulas.—The old plants from which the flowers have now been mostly cut may be kept somewhat drier and in a semi-resting condition till the time arrives for top-dressing or mossing, according to the method of propagation adopted hy different growers. If small plants only are desired the operation may be done in May or June, hut if done earlier it gives the cultivator longer time to grow his young plants to some size. After heing top-dressed with a light, rich material or mossed, the plants should he placed in a propagating pit or stove where they can be accorded a genial temperature and moist atmosphere till roots are well developed in the fresh material, after which the crowns with their young roots may be severed from the parent stock.

Petunias.—Seeds of the various single and double strains of Petunias should now be sown if not already accomplished, as the seedlings take a considerable time to attain the flowering stage and grow very slowly at first. The striped varieties are also very popular either for pot work or for planting out in heds or borders. Cuttings should also he taken of the named kinds and others that are worthy of extended cultivation. They root readily in a little bottom heat.

The Orchard House.—No artificial heat will he required during the day in this house as long as the weather outside continues so mild as it has been during the early and middle part of the montb. The trees may he gently shaken or tapped smartly in such a way as to encourage the dispersal of the pollen, this may he done ahout the middle of the day or a little later. Attend regularly to the watering of tbe trees in pots, hut he careful not to spill water ahout the paths or borders, for upon the maintenance of a dry atmospbere will depend the proper setting of the flowers. The night temperature should be kept up to 60°. Disbudding also calls for attention. Commence at the upper part first and stop the leading shoots at the fifth leaf. Ventilate freely during the day.

Cherry House.—Both green and black fly are often troublesome to tbe opening buds of Cherries causing the young leaves to curl. The insects may be kept in check by the use of tobacco powder, dusting the young leaves while they are still moist. Others use a decoction of quassia chips to render the leaves as nauseous as possihle to the enemy.

Seakale.—If the ground for Seakale bas not yet been prepared, no time should be lost in getting it ready for making the plantation. If the soil is naturally of a heavy nature, a good coating of road scrapings spread over it and dug in would improve it greatly. Cuttings of tbe roots 3 in. or 4 in. long should be taken and dibbled into lines 18 in. or 2 ft. apart, and 12 in. to 18 in. in the line.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay to address all communications to "THE EDITOR," or "THE PUBLISHER," and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed "Bambusa, London."*

NAMES OF PLANTS.—*H. D.*: The Fern is Pellæa cordata flexuosa; the greenhouse plant seems to he Strobilanthes is ophylla, hut the leaf was shrivelled up ; why do you not send flowers as well ?—*W. A. B.*: Cypripedium harhatum superhum.—*A. L.* : 1, Hellehorus colchicus ; 2, Arabis albida ; 3, Pyrus japonica; 4, Draba azoides ; 5, Scilla sibirica ; 6, Narcissus Pseudo-narcissus pumilus.—*J. Allen*: 1, Berheris Aquifolium ; 2, Forsythia suspensa ; 3, Daphne Mezereum.—*David Rymer*: 1, Cœlogyne sp., which we do not recognise ; 2, large flowered form of Dendrohium nobile ; 3, Odontoglossum Andersonianum virginale apparently ; 4, Odontoglossum Pescatorei ; 5, Dendrobium speciosum Hillii ; 6, Dendrobium speciosum.

VINE SHOOTS BROKEN.—*W. J.*: If they had heen grown out of doors they would have heen far less liable to hreak off in the way mentioned. When forced under glass they grow as rapidly that they are always tender and liable to he hroken off. You have left them too long untied. Careful cultivators hegin to tie down the shoots when they are 6 in. or 8 in. long. Being as you say 15 in. long, they may have come into contact with the glass or sometbing else ; at all events you should have tied them to the wires when at least half the length they now are.

VIOLETS IN SUMMER AND WINTER.—*A. G.*: We are of opinion that your soil is of a dry nature, and that in addition to the southern exposure would encourage the increase of red spider. You might try them on a north aspect horder, not too much shaded. Previous to planting them out dig up the soil and enrich it with some good hot-bed manure. A good watering given occasionally in dry weather would assist them greatly. If you do not require the frame for other purposes, you might turn it round to face the north and plant the Violets in it. Then in winter, the frame should be turned round to face the south, leaving the Violets undisturbed, or you may pot up some of them if so required. You cannot have a too sunny position in winter ; and the plants should not he far from the glass.

MOSSY TENNIS GROUND.—*Young Amateur*: It is late in the season to lift the turf now to get rid of the inequalities of the ground you mention, hut the worst parts might have the turf lifted and levelled. To correct the Moss you might give it a good raking so as to pull up as much of the Moss as possible. Then top dress the ground with some rich sifted soil mixed with a quantity of slaked lime. Sow some grass seeds over the surface if the grass be rather patchy, and then give the whole a good rolling. A thin sprinkling of nitrate of soda a little later on would help the grass greatly and that, together with the lime, would he detrimental to the Moss. Water the grass frequently in dry weather. If the ground is naturally wet it should he drained in autumn or winter. For cricket the places for the wickets should be marked off at a distance of 22 yards. We have not the rules for the other games you mention.

COMMUNICATIONS RECEIVED.—J. W.—A. I.—G. J. I.—R. E.—J. S.—R. G.—N. D.—H. L.—L. Y.—N. S.—A. T.—A. P.—W. K.

TRADE CATALOGUES RECEIVED.

E. H. KRELAGE & SON, Haarlem, Holland.—Bulhs for spring planting.

VILMORIN ANDRIEUX & Co., 4, Quai de la Megisserie, Paris.—Seeds of Hardy Trees and Shrubs, &c.

WILLIAM PAUL & Co., Bridge-of-Weir, N.B.—Select list of Pansies, &c.

FRED. W. KELSEY, 145, Broadway, New York.—Choice Hardy Trees and Sbrubs.

LONDON SEED TRADE.

March 21st.

MESSRS. HURST & SON, of 152, Houndsditch, and 39. Seed Market, Mark Lane, report a scarcity of English Red Clover and Cowgrass ; and Wbite Clover, owing to short supplies and increased demand, is higher. Trefoil and Alsike steady. Ryegrasses unchanged.

COVENT GARDEN MARKET.

March 22nd, 1893.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d	s. d.		s. d.	s. d.
Grapes..... per lb.	2 0	4 0	Pine apples.		
Kent Cobs...100 lb.			—St. Michael's, eacb	2 6	6 0
Peaches ... per dozen			Apples...per ½ sieve	1 0	3 6
Melons ... . each			Plums...per ½ sieve		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, French, perlb.	1 6	3 0	Mushrooms, p. hasket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabhages ... per doz.	1 6	2 6	Parsley ... per huncb	0 6	
Carrots ... per bunch	0 6		Radisbes... per dozen	1 6	
Cauliflowers, Eng.dz.	3 0	5 0	Seakale .....per bkt	2 0	3 0
Celery.....per bundle	2 6		Smallsalading,punnet	0 4	
Cucumhers .....each	0 6	1 0	Spinach ... per strike	1 6	
Endive, Frencb, doz.	2 6	3 0	Strawberries...per lh.	8 0	12 0
Herbs .....per hunch	0 2	0 6	Tomatos..... per lb.	1 6	2 0
Horse Radish, hundle	2 0	4 0	Turnips .....per bun.	0 6	

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s d
Azaleas... per doz	24 0	42 0	Genesta .....per doz.	9 0	15 0
Cyclamen per doz ...	9 0	18 0	Hyacinthbs, doz. pots	8 0	12 0
Cyperus .....per doz.	4 0	12 0	Lily of tbeValley doz. pots	9 0	18 0
Cineraria ...per doz.	8 0	12 0	Marguerites, perdoz.	6 0	12 0
Dracæna term., doz.	24 0	36 0	Palms in variety,each	2 6	10 0
Dracæna viridis,doz.	9 0	18 0	Palms, Specimen ...	15 0	63 0
Deutzia .....per doz.	9 0	12 0	Primula Sinensis per doz.	4 0	6 0
Dielytra ..... per doz.	6 0	9 0	Solanums.....per doz.	9 0	12 0
Erica, various, doz.	12 0	18 0	Tulips—various— per doz. pots	8 0	12 0
Evergreens,invar.doz	6 0	24 0			
Ferns, invar.,per doz.	4 0	18 0			
Ferns, small, per 100	6 0	10 0			
Foliage Plants, doz.	12 0	60 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s d		s. d.	s. d
Anemones, doz. hncb	2 0	4 0	Mignonette... 12 hun.	2 0	4 0
Azalea, doz sprays.....o	6	1 0	Narcisse, various, doz. bnchs	2 0	4 0
Arum Lilies, 12 hlms.	2 0	4 0	Pelargoniums, 12 sps.	0 9	1 0
Bouvardias, per hun.	0 6	1 0	—scarlet.....12 hchs.	6 0	9 0
Carnations, 12 hlooms	2 0	4 0	Primula, double, hun.	0 6	1 0
Chrysanthemum,dz hn	3 0	9 0	Primroses doz. bchs	1 0	3 0
Camellias doz blooms	1 0	3 0	Orcbid Bloom in var. per hloom, from	0 3	1 0
Cyclamen doz hloomso	4 0	6	Roses, yellow, dozen	3 0	6 0
Daffodils, var. dz. bch.	2 0	9 0	— Frencb, per bnch	1 6	4 0
Eucharis ...per doz.	3 0	6 0	— French, 100 hlms	6 0	12 0
Euphorhia Jackminafolia, doz. sprays	1 0	4 0	— Red..... doz. blms.	3 0	9 0
Gardenias 12 hlooms	3 0	6 0	— Saffrano...per doz.	2 0	3 0
Heliotropes, 12 sprays	0 6	0 9	Snowdrops doz. hchs	1 0	2 0
Hyacinths. doz. spikes	3 0	6 0	— Tea ..... per dozen	1 0	3 0
Hyacinths Roman doz. sprays	0 6	1 0	Tuheroses, per doz	1 0	1 6
Lilac, Wbite, Frencb, per bunch...	2 6	0	Tulips, red, per doz.	0 6	0 9
Lilium Harrisii, doz. hlooms	4 0	6 0	— White, per doz. ...	1 0	2 0
LilyoftbeValleydz.sps.	0 6	1 6	— Yellow, per doz....	1 0	2 0
MaidenhairFern, 12hs.	6 0	9 0	Violets, Parma, French per buncb ..	2 0	2 6
Marguerites, 12 hun.	4 0	6 6	—Czar, French, bun.	1 6	2 0
Mimosa (French)p.hh.	1 0	1 6	Small ,, doz. bun.	1 0	2 0

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, April 4th.—National Amateur Gardeners' Association: Meeting at 7 p.m.
WEDNESDAY, April 5th.—Royal Caledonian Horticultural Society's Spring Show (2 days).
THURSDAY, April 6th.—Sale of Stove and Greenhouse Plants at Protheroe & Morris' Rooms.
FRIDAY, April 7th.—Sale of Orchids, at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, APRIL 1st, 1893.

THE FROST AND THE FRUIT BLOOM.—If we are to credit all we have heard with respect to the intensity of the frosts that prevailed last week, we might expect that not only have all wall tree blossoms been entirely destroyed, but also that much of the undeveloped bloom on standards and bushes in the open have been killed also. Certainly from 14° to 16° of frost at night following upon days of brilliant sunshine and summer-like warmth might be expected to work ruin amongst the bloom. Our hope is that the figures given are not only greatly exaggerated, but also that the very dry weather which has prevailed has minimised the effects of the frost, and that after all no very great harm has been done.

It is hard to complain of such magnificent weather as we have recently experienced, and which has served to make the month of March of the present year a memorable one in history. What splendid opportunities have been afforded for the sowing of seeds and the planting of various crops, the doing of so much that a wet February had compelled to be deferred. What a glorious time it has been for all who love the open air and to revel in the beauty of the country. The climate of England has been well rescued from discredit, for hardly another country in the world has had such a splendid March time. Only the night frosts have been our bane, and these have naturally created much uneasiness.

We have had a very fine opportunity to test the relative values of diverse forms of protection for the bloom of wall trees. Also of the relative hardiness or otherwise of the bloom of certain varieties or kinds of wall fruits. Also of seeing how far bloom unprotected may have come off, as well or worse than what has been protected. A very short time will suffice to tell how the fruit crops on walls has passed through the ordeal. Let us hope that it has suffered little and left plenty for our delectation.

FURNISHING.—Our readers will not fail to understand that this heading applies only in a horticultural sense, and even thus limited it is of wide application. All the various uses to which plants are put in our houses come under this designation, and a very wide one it is even thus far. The busy season for the trade furnisher in towns is at hand. The season for the gardener is always with him. It is one of the striking features of our domestic life, now that it seems to be closely identified with plants, and whilst the palace or the mansion must have its elaborate ornamentation, the poorest cottage rejoices in but two or three plants in a window; and humble as these are they are yet regarded with admiration and even with affection, would that our cottages could be much more beautified with plants than they are.

But furnishing is for the trade at this time of year a serious and important vocation. It affords abundant employment to thousands all over the kingdom. It encourages plant culture in market establishments in a remarkable degree. It calls forth the highest artistic skill of the designer, and enables combinations and dispositions of plants to be made that evoke the warmest admiration. Too fleeting as is the furnisher's work, because needed chiefly only for temporary occasions, it yet, because of the conditions under which required, commands the highest ability, for only an artist quick to determine could satisfactorily discharge the duties of a skilled furnisher.

In the case of common or ordinary furnishing the work is usually somewhat stereotyped and simple. Even that however might in the hands of a trained taste be greatly enhanced, both in interest and in beauty. Young men now have to devote unusual attention to study of the furnishing art, and here some art knowledge and training, especially in the proper grouping of colour, is found valuable. Still it is but one feature of the varied requirements of a good gardener.

IMPORTED FRUITS.—Most of our readers will no doubt agree with us in wishing that the discussion on Imported Fruits as affecting British Fruit Growing, opened recently by such eminent authorities on the subject as Mr. James Webber and Mr. George Monro, of Covent Garden, at the Horticultural Club, could have been held in a more public place, where it would have been open to the fullest pub-

licity and shared in by all desirous of so doing. The Horticultural Club is a very worthy and respectable social institution, but its doors are only open to members, who are not very numerous, and it may be a few invited guests, and its social gatherings are usually described as being of the "deadly dull" order, whilst the subject referred to is one of the greatest national importance. As to the line taken by these eminent salesmen, that was naturally determined by their vocation. Messrs. Webber and Monro are Covent Garden Agents for the whole world, literally—men of the highest reputation, and, we have no doubt, could tell very wholesome truths to home growers as to some of the methods of the foreigner who is so formidable a competitor, and whose productions apart from quality (which of course is always open to question) are always so beautifully packed, so gracefully decorated, so admirably sorted or sized, and always are so reliable. No matter has, on the whole, given more of market value to the imported fruit than has the assured certainty of samples coming out from the bottom of the packages as good as that which is at the top, and that is a point the importance of which the average consignor of English fruits has not yet learnt to appreciate.

As to the proposed branding of imported fruit as of foreign production, that is absurd. No salesman, no purchaser, no consumer troubles about the place or country where fruit is grown. It is with these a question of sample, of value, and suitability for requirements. But then, how much of imported fruit comes to us at times when we have little of own, or is of a kind that we cannot grow ourselves? The St. Michael Pine Apple growers have very largely killed the home culture of these fruits; but then we can grow them here only at a cost which is in excess of the price of imported fruits, so that their culture neither pays nor satisfies in any way the requirements of the public for these grand fruits.

Death of Mr. A. McKenzie.—We regret to learn as we go to press of the death of Mr. Alexander McKenzie, Superintendent of Epping Forest, who passed away at his residence, The Warren, Loughton, on Monday last, in his sixty-fourth year. The deceased, who held the rank of Major in the Honourable Artillery Company, was a native of Scotland, and came south in early life. Some thirty years ago he was a gardener in the neighbourhood of Brighton, and subsequently became associated with the late Mr. J. J. Meston and others in the laying out and planting of the gardens on the Thames Embankment, and in carrying out public works of a similar character for the defunct Metropolitan Board of Works. He was appointed Superintendent of Epping Forest when this magnificent lung of London was acquired by the City Corporation.

Accident to Mr. Richard Dean.—We regret to learn that an unfortunate accident befel Mr. R. Dean on the 18th ult. On the 17th ult., at the invitation of the Nottingham Garden Holders' Association, he delivered in that town a lecture on "Fruit Culture for Cottage and Allotment Gardens," there being a large attendance on the occasion. On the following day Mr. Dean paid a visit to Mr. Ingram, at Belvoir Castle, and in the afternoon whilst he was being driven to a station to catch the London train, the horse bolted, throwing him and the driver violently into the roadway, disfiguring their faces and injuring their limbs. The injuries sustained by Mr. Dean were, happily, not of a serious character beyond a severe shaking and a sprained wrist, but the unfortunate driver has a dislocated collar bone.

Shropshire Horticultural Society.—The annual spring show of this society was held in the Music Hall, Shrewsbury, on the 23rd ult. The exhibits were remarkably fine, and compared most favourably with previous years. They were most effectively arranged, and the hall was transformed into a floral paradise. The whole of the arrangements were carried out under the directions of the able secretaries, Messrs. Adnitt & Naunton, The Square, Shrewsbury.

The Weather in the North.—An Inverness correspondent, "Nemo," writes:—In last week's issue your Aberdeenshire correspondent says that "in the far north Ross-shire and Sutherlandshire snow lies to a great depth, and a keen frost prevails." It may have been that on the hills of these counties that was the case, but certainly not in the low districts of Ross-shire, which, for soil and climate, are not excelled by any in Scotland. In several gardens in Ross-shire Peaches ripen on the open wall, though of course they are poor specimens compared with those grown under similar conditions in England. In Inverness and the neighbourhood the depth of snow on the date given was under one inch. The climate of Aberdeenshire is colder than Ross or Sutherland shires, and, as is well known, the north-east coast of Aberdeenshire is the coldest place in Scotland. The weather in the north on the whole has been exceptionally good this spring, and work in the garden and on farms has not been so far advanced at this date for several years past.

Orchids at the Manchester Show.—Mr. W. Holmes, gardener to George Hardy, Esq., Pickering Lodge, Timperley, asks us to correct an error into which we fell in our report of the recent Spring Show at Manchester in attributing the exhibition of a fine group of Orchids there to his employer, the actual exhibitor being Fred. Hardy, Esq., Tyntersfield, Ashton-on-Mersey.

Allotments at Hampton Wick.—Through an unfortunate misprint it was last week represented that the allotments furnished by the Board of Works at Hampton Wick, adjoining the Home Park, for the cottagers of that place through the Local Board were but £3 per acre. The figure should have been £8 or 1s. per rod. That was manifestly a very high price which the Local Board felt bound to charge to cover expenses incidental to lease, fencing, marking out, etc. However, as a result of the rebellion on the part of the proposed allotment holders, we are pleased to note that the Local Board has agreed to reduce the rental for the first year to 6d. per rod, to see how far, if regularly paid, such rent may suffice to cover expenses. All allotment holders therefore took possession of their plots on Saturday last. It was objected that the site was occasionally flooded by the rising of the Thames, but that is a very rare occurrence after all, and does very little harm.

Proposed Presentation to Mr. M'Hattie.—The removal of Mr. J. W. M'Hattie from the gardens at Newbattle Abbey to an important position in the south of England has been considered by a number of his brother horticulturists and personal friends a fitting opportunity to express in a tangible form the high esteem in which he is held. A committee has been formed to receive subscriptions for the purpose of presenting Mr. M'Hattie with a testimonial previous to his leaving Scotland, and the time available being very limited, all who wish to subscribe are invited to intimate their contributions to the secretary, Mr. Geo. M'Kinnon, Melville Castle, or treasurer, Mr. A. MacKenzie, Warriston Nurseries, Edinburgh, not later than Saturday, the 1st April.

Fruit Trees in Cornwall are looking very well, and judging from the condition of the blossoms, Gooseberries will be ready for picking in about four weeks time. Lent Lilies are in abundance—in fact, they have never been known so plentiful, especially in the Cornwood and Plympton and South Hams districts, to say nothing of the condition of things west of the Tamar. Prices, in consequence, are not of a very paying nature, although quantity must, in part, make up this deficiency.

Rothamsted Experiments.—This year witnesses the completion of fifty years of experiments in agricultural research that have been carried on at Rothamsted, Herts, by Sir John Bennett Lawes and Dr. Gilbert. These researches have long been acknowledged as of national importance, and in view of this fact it was resolved at a meeting recently held under the presidency of H.R.H. the Prince of Wales, that the jubilee of the establishment of these experiments should be commemorated in some way by the public in "recognition of the invaluable services rendered to agriculture by Sir John B. Lawes and Dr. Gilbert." The proposal is to raise a "Rothamsted Jubilee Fund," the proceeds of which are to be devoted to the placing of a granite memorial bearing a suitable inscription, at the head of the field in which the experiments have been carried on; also the furnishing of addresses to Sir John Lawes and Dr. Gilbert, accompanied by a commemorative piece of plate if the fund is sufficient for the purpose. Subscriptions are solicited, and with the view of increasing their number the maximum is limited to two guineas. The honorary secretary is Mr. Ernest Clarke, 12, Hanover Square, London, W.

Wholesale Fruit and Potato Trades.—The inaugural dinner of the London Wholesale Fruit and Potato Trades and Growers' Benevolent Society was held at the Holborn Restaurant on the 22nd ult., the Lord Mayor presiding. About 150 gentlemen sat down, the company being generally representative of the body in question. The vice-chair was taken by Mr. G. Coleman. The toast of the evening was proposed by the Lord Mayor, who congratulated them on having decided to start a society of this character, and urged upon the necessity of unity, in order that it might be placed on a satisfactory and useful basis. He stated that he understood that there were about 725 salesmen or growers attending the markets, and if such a large number chose to unite themselves in this work, they would be able to assist their unfortunate brethren who might require the help of a benevolent association such as the one which has just been formed. They had already twenty-one life governors, seven vice-presidents, and about 160 annual subscribers, which was a very good beginning, and on which he congratulated them. They had also received £600 as a nucleus of their funds, and he hoped that the result of their dinner would be to increase it to a considerable extent. This toast was acknowledged by Mr. G. Coleman. The first general meeting of the society is announced to be held at the Mona Hotel, Henrietta Street, Covent Garden, on Thursday, April 6th, at 6.30 p.m., to confirm the proposed rules and elect officers.

Lee, Blackheath, and Lewisham Horticultural Society.—A paper entitled "Begonias and their culture," by Mr. J. Laing, was read at the monthly meeting o- Friday evening of last week; there was a good atten dance. Mr. Judge obtained a First-class Certificate for a seedling Clivia of a deep orange colour.

Nitrogen for Nothing.—We seem (says the *Morning Post*) as yet to be only on the threshold of discovery as regards the power of assimilation of free atmospheric nitrogen by plants. That leguminous species, such as Beans, Peas, Lupins, Clover, Trefoil, Sainfoin, Lucerne, and Vetches, possess this property, in virtue of the nodules upon their roots, is now generally acknowledged. That other plants, outside the leguminous alliance, possess the same nitrogen, acquiring capacity, is, however, more than suspected. There is a Willow-like shrub, known as the Sea Buckthorn, with slender leaves, dull greenish above and shining silvery beneath, which grows on our sandy coasts, particularly in the southern parts of Britain. A very close ally of this shrub, but not a native of Britain, is the plant known to botanists as Elæagnus angustifolia, the balsamic flowers of which called Bohemian Olive on the Continent, are prescribed in parts of South Europe for malignant fevers. According to the *Landwirtschaftliche Versuchs-Stationer*, a band of investigators have succeeded in attaining some very decisive results with this Elæagnus. Two flower pots, containing sterilised nitrogen-free sand, were each planted on June 16th with four seedlings, and a week later one of the pots was inoculated from the top with an extract of earth in which Elæagnus was growing. During the summer there was no apparent effect, but as autumn advanced the inoculated plants were seen to be greener, and in the following spring they developed branches and grew vigorously, whilst an inspection of their roots revealed the presence of well developed nodules. Measurements of two representative plants from each pot showed the inoculated specimens to be 21 in. high, with abundant branches and leaves, whilst the uninoculated plant was only 5½ in. high, free from branches, and in a famished condition.

Early Vegetation in Cornwall.—As showing the remarkably early condition of things this year, it may be noted that already several of the growers of early Potatos in the more sheltered positions will next week commence to "draw" and send to market. Given the absence of anything approaching severe frosts, the growers believe there will be a splendid yield this season. Other vegetables appear to be equally as forward. It is seldom that Cornish Potatos are put into the market before Easter, and more frequently a week or two later, so that vegetation is about a month earlier than at least for the

last few years. Everything, so far, seems to have favoured the market gardener less the unfortunate increase in railway rates, which, however, have at last been somewhat moderated.

PLANTS RECENTLY CERTIFICATED.

THE undermentioned plants were exhibited at the first spring show of the Royal Botanic Society, on the 22nd ult.

PANDANUS BAPTISTI.—The species of Pandanus have as a rule sharp prickly serratures or even spines at the edges of the leaves, and in some cases very troublesome spines on the midrib beneath. That under notice has no spines whatever, but gracefully arching, channelled deep green leaves 1½ ft. to 3 ft. long. A white band of variable breadth runs along the centre. A Botanical Certificate was awarded it.

HIPPEASTRUM VEDEITE.—The flowers of this variety are funnel-shaped, but widely spreading at the mouth, with broadly elliptic and overlapping segments of a rich dark crimson shaded with maroon in the throat. It received a Floricultural Certificate.

HIPPEASTRUM RENOWN. — There is scarcely any tube to this flower, owing to its widely expanded condition and widely bell-shaped form. The three outer segments are broadly elliptic, and the inner ones similar but considerably narrower. All are of a clear scarlet on the upper half, with a white band running from the base three parts down them. The base of the three lower ones are white. A Floricultural Certificate was awarded the variety. Both of the Hippeastrums and the Pandanus were exhibited by Messrs. J. Veitch & Sons, Chelsea.

CARAGUATA CARDINALIS. — For description of this noble Bromeliad, see p. 468. It received a Botanical Certificate when shown by Messrs. B. S. Williams & Son, Upper Holloway.

AURICULA OLD GOLD.—This may be described as a self-coloured show variety. The flowers are of moderate size, but when we say that there were twelve or fourteen flowers or buds on a scape, of which there were two on a small plant, it may readily be taken for granted that the individual blooms would come much larger if half their number were removed. The segments of the flower are slightly crisped at the margin, and of a dusky or old gold colour, with a slight indication of a bronzy tint at the edge of the paste. The latter is pure white, but has a scolloped though well defined outline, the number of rounded lobes corresponding to the number of segments. The colour is novel in its way, and though certain peculiarities may be looked upon as blemishes in a show flower, the variety is nevertheless novel and interesting for the sake of the variety it affords. A Floricultural Certificate was awarded it when shown by Mr. J. Douglas, gardener to Mrs. Whitbourn, Great Gearies, Ilford.

HYACINTH ROI DES BELGES.—It is seldom that certificates are awarded to Hyacinths, no doubt because little or nothing has been done in the way of new varieties for some years. The plant shown was grown in a 24-size pot and bore a dense spike of dark shining red flowers. A Floricultural Certificate was awarded it when exhibited by Mr. Robert Sydenham, Tenby Street, Birmingham.

FRITILLARIA AUREA.—For description of this hardy Fritillary, see p. 468. A Botanical Certificate was awarded it when exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

LILAC LEON SIMON.—The double varieties of Lilac seem as amenable to forcing as the single ones. The flowers in this case are large, soft uniform lilac, double, fragrant and produced in close pyramidal panicles. A Floricultural Certificate was awarded it when exhibited by Messrs. Paul & Son.

ROSE CHRISTINE DE NOUE.—For a Tea Rose the flowers of this variety are very rich in colour. The blooms when forced at least are moderate in size, of a warm deep rose, and compact in the centre with the outer petals loosely revolute. The leaves are large and richly coloured. A Floricultural Certificate was accorded it when shown by Messrs. Wm. Paul & Son.

RHODODENDRON RACEMOSUM.

THE species of the above name is one of about thirty discovered in Central China some twelve years ago by the Abbé Delavary, who has also sent home many other new plants belonging to different families. A pan of small plants in flower was exhibited by Messrs. J. Veitch & Sons, at the Drill Hall on the 19th April last year, and from this exhibit the accompanying illustration was taken. At a recent meeting of the Edinburgh Botanical Society, the curator, Mr. Lindsay, exhibited a new Rhododendron under the name of R. racemosum, and it was looked upon as flowering probably for the first time in Britain. It would be interesting to know whether it corresponds with the illustration here given. Some dispute has been raised as to the correctness of the name, as the plant in question does not correspond to the author's description nor with the specimens in the Kew Herbarium.

RHODODENDRON RACEMOSUM.

TOMATOS.

How considerable is the interest which attaches to Tomatos, has been evidenced by the fact that horticultural lecturers have invariably found reference to Tomatos and their culture the most popular of subjects. Last Friday evening Mr. A. Dean, of Kingston, lectured on the Tomato to a very large audience at the Public Hall, Beckenham, on behalf of the local horticultural society, describing the nature, development, culture, variety, and almost everything useful in relation to it. The chairman, Dr. Kirby, in commenting upon the lecture, said that so far as the production of winter fruits were concerned, his gardener, Mr. Webster, had been very successful, having kept him well supplied up to February.

The lecturer, in reply, stated that the great difficulty to encounter in relation to the winter production of Tomatos was getting the flowers fertilised, especially during very dull or damp weather, and whilst some sorts were described as good winter setters, their fruit produce seemed to be of the poorest. The chairman's gardener seemed to have raised some plants in the summer, have grown them on in warmth, and induced them to set several trusses of bloom in the autumn, and these had during the winter slowly and gradually ripened—hence the good results to which reference had been made. It was not at all difficult to have Tomatos in the winter in that way, but setting bloom in the winter and getting the fruits to swell freely was very difficult. A hearty vote of thanks to the lecturer and the chairman closed the proceedings.

Gleanings from the World of Science.

Apple Scab.—It appears, according to the testimony of Mr. Fairchild of the Division of Pathology, at Washington, as recorded in *Bulletin* 48 of the Cornell University Agricultural Experiment Station, that the fungus of Apple Scab (Fusicladium dendriticum) attacks the young Apples at a much earlier stage of their growth than was at one time supposed. He even states that the young fruits may be attacked before the petals fall. When the spraying of the trees is intended the first application should be given before the unexpanded buds open. The surface of the fruit then gets coated with the fungicide and thereby prevents the spores from germinating there. When once the fungus has got into the interior, the most that can be done is to prevent it from spreading. It is now pretty well known that fruits attacked thus early, like the young shoots and leaves, never attain any size and at the best are very badly malformed. Later attacks are not so harmful.

The Codlin Moth.—The spring brood of this lays its eggs in the eye of the young Apple, and while the latter is still erect on its pedicel. This is then the best time to spray the trees, because the young grubs can only get killed by eating some of the poison while attempting to make an entrance into the interior. Spraying must therefore be commenced at an early stage to make sure that the eye of the Apple gets sprayed before the grubs commence their work. After they get into the interior, spraying is all in vain.

Pruning in relation to spraying.—Nowhere do the evil effects of neglected trees appear with greater force than when the cultivator commences to spray them, particularly if he has an eye to see, and an understanding to comprehend the situation of affairs. Spraying, to be effectual, must be thorough, so as to ensure every part of the tree being reached where a spore could grow, or an insect attack a leaf or fruit. When pruning has been neglected there is a thicket of branches which prevents the liquid spray from reaching the interior of the tree. The density of the branches and leaves also serves to retain moisture till a later period of the day, and this moisture alone is favourable to the growth of fungi.

Combined spraying.—Owing to the fact that Apple scab and the Codlin Moth commence their attack upon the Apple nearly at the same time, it has been considered by the professors at the Cornell University Agricultural Experiment station that both the spraying with the fungicide and the insecticide could be economically accomplished at one and the same time. Seeing that the Apple scab commences its attack at an earlier period than the Codlin Moth, it would only be necessary to apply the fungicide before the blossoms open. Then in the next stage of the Apple while the fruits are still erect, both the fungicide and the insecticide might be given together, thus effecting a saving of time and labour, which are matters of no small importance to those who grow fruit for profit. As the Apples attain some size and hang down, the insecticide may be discontinued, while the fungicide may be repeated as it continues its mischief all through the season. Then the amount of rain that falls after any given spraying must be taken into consideration, as, when heavy, it washes off the poisons used in spraying.

TEA ROSES.

UNDER the head of "Symposium of Tea Roses," a series of papers appears in the *Rose Annual* contributed by growers of the Tea Rose in different parts of the country, dealing with the general management of this popular flower. The Rev. A. H. Berners, writing from Ipswich, states in reference to the most suitable stock, that in his garden where the subsoil is gravel, he finds out of the many stocks he has tried "only two which will do justice to the Queen of Flowers, viz., standards and Briar cuttings." By the former I presume he means the ordinary Briar stems from the hedgerows employed for standard Roses. Mr. Berners states the seedling Briar is useless; "year after year it makes little or no growth, and for the future it must know no place in the home of Roses. On standards and half standards the Tea Rose thrives most luxuriantly." I may add that the form of the half standard is now being much employed for Tea Roses; it serves to keep the blossoms of the more pendant growing varieties from being splashed by rain. I was particularly struck with this fact when inspecting the garden of Mr. W. Herbert Fowler, of Taunton, in August last, where Tea Roses do splendidly as low standards on Briar stocks. Mr. Berners holds that a warm, porous soil is the best for Tea Roses, "provided a plentiful supply of manure is dug into the ground when the beds are made." As the Tea Roses at Harkstead are grown in a gravelly soil, when planting is done the top spit is taken off, the subsoil thoroughly broken up, a dressing of well decomposed manure placed upon the gravel, the surface soil removed being returned. "In early spring all the beds are mulched with stable manure, and twice every week during the flowering season they are fed with liquid cow manure, which from its cooling nature is far the best manure for a hot gravelly soil." Mr. Berners names the following varieties as growing vigorously on Briar cuttings:—Amazone, Anna Olivier, Comtesse de Nadaillac, Francesca Kruger, Jean Ducher, Marie Van Houtte, and Souvenir de S. A. Prince. His favourite aspect for Tea Roses is a west one, protected from north and east winds. In regard to winter protection, though the Rose garden at Harkstead is situated on high ground and exposed to the cruel east wind which blows straight from the North Sea, Mr. Berners states his losses are few owing to his precautions in the matter of protection. He says, "The first week in December every plant is covered with long straw litter from the stable yard; round the standards and half standards this is placed, covering the union of the bud and stock, and is not removed until the end of March or the first week in April. It is tied together with strong pieces of raffia. The dwarfs are treated in a similar manner, the litter being shaken into the centre of the plants."

Mr. John Harkness, who lives as far north as Bedale, alludes to the damage caused by the frost of last Whitsuntide—"Black Whitsuntide" as he terms it—when not only the Teas, but H. Ps., mosses, and hardy Scotch Roses were blackened to the core. At Bedale the soil is moderately heavy, naturally well drained, and resting on yellow clay. Manure from the farmyard is used in preference to any other, though occasionally spent hops, pig manure, half inch bones, fish manure, and nitrates are used; the soil, though used for twelve years for Roses, shows no sign of being played out. At Bedale the stocks used for Tea Roses are the seedling and cutting Briars, and Mr. Harkness states the blooms from half standards are later than those from dwarfs.

At Hereford resides the Rev. T. R. Burnside, a highly successful grower of Tea Roses, and though the Teas will grow in most soils where there is good drainage, Mr. Burnside's favourite soil is a sandy loam of fair depth. In his garden he has some very stiff loamy clay, and he finds such sorts as Catherine Mermet, the Bride, Innocenta Pirola, and Souvenir d'Elise Vardon, do very well on the stiff soil, probably because these four varieties like moisture better than some of the other Teas. Mr. Burnside favours the before-mentioned stocks, but the seedling Briar also, and he adds, "if you want fine exhibition blooms the dwarf seedling Briar is *facile princeps*. The best height for these standards is is from 3 to 4 ft." Mr. Burnside thinks that stocks obtained by cuttings of Rosa polyantha may become useful for Teas in the future. The cuttings strike very easily, and make quite a network of roots.

In regard to protection, Mr. Burnside says the simplest way to protect the dwarfs is to earth them up like Potatos, and tie a good quantity of bracken in the centre of the tree, as this serves to keep out a great deal of frost, and he prefers bracken to dung as a winter protection to the surface soil of the beds.

Mr. E. Mawley, Berkhampstead, Mr. W. H. Williams, Salisbury, the Rev. J. A. Williams, Worcester, and Mr. George Paul, Cheshunt, all contribute papers, and they are in general agreement with the authorities I have named.—*R. D.*

ROSES AND THEIR CULTURE.*

THE country that has done most for our national emblem is France, more than all other countries in the world. English nurserymen are under great disadvantages compared with the French, as it is only in very fine seasons that our Roses bear seed, and even then they are not all good, very few germinate. Therefore we cannot raise many. But I think we ought to do more than we do in the way of getting new Roses, and a gratifying reward we should very likely find by skilful cross-breeding. It would give English people a chance of purchasing new English Roses without being compelled to get nearly all from France. In the first place, to get new Roses find out good seed-bearing varieties with a strong constitution, but which may be improved. Roses like General Jacqueminot, Duke of Edinburgh, Homer, Madame Berard, Madame G. Luizet, Jean Ducher, Anna Ollivier; those sorts are generally good seed-bearing varieties, having something good in them. But if you have a desire to improve upon them these may be hybridised by any other good sort. Sometimes it is to improve shape and colour. To know when the pollen is ripe you will have to watch them opening the petals. Crossing Roses should be done by a camel-hair brush, conveying the pollen carefully to the flower to be hybridised. If the Roses are against the wall nail the shoots you have done, or, if in the open, support them with a stick, and protect from wind and rain or insects until the pod is formed. The pips should remain on the stem till October; then gather and place them in dry sand till February or March. The seed must then be rubbed out from the husk, and, if from tea-scented varieties, should be sown in sand, loam, and leaf mould, and covered about half an inch in depth. Hybrid perpetuals and Bourbons germinate better and the plants come stronger. They should be sown in the open ground They are best sown in drills in light soil, raked over and patted down with the spade. Some come the first year and some take two or three years in coming. When they get into the second pair of rough leaves transplant into good soil; but you must try and look after the mildew, for it is almost sure to prove fatal to them if they get it. A dusting with sulphur is a good thing. And if you think there is something in the leaf and no flower, bud it as soon as you can; but if you do not bud them do not prune them. They will flower as seedlings, but not as good as when budded. I think nearly the first English-raised Rose was sent out from the Exeter Nurseries, and that is the old Devoniensis. This fine variety was raised by George Foster, Esq., of Oatlands, near Devonport, produced from the old yellow China fertilised by yellow noisette. It flowered the first year, but it was small and weak. But when budded on a strong stock it proved a fine variety.

HYBRID PERPETUALS.

This is a very beautiful class of Rose, and very hardy. They thrive best in a deep rich soil. The first hybrid perpetual was obtained by crossing the hybrid China and Bourbon with the China, Bourbon, and tea-scented varieties. It has, perhaps, done more in the last twenty-five years than before. They are well adapted for any kind of purpose, and for pot-culture there is nothing to surpass them. For standards only the strong and vigorous sorts should be worked. These poor growers and a good many of them are the best exhibition Roses. They do not make head enough, and they always look sickly and soon die. But if people, when they wanted standard Roses, would have nothing but strong-growing varieties I am sure they would be pleased with them. I don't think anything looks better than than standard Roses, with their free-branching graceful heads. But if people will go into the exhibition sort they will never get good standards. Dwarf hybrid perpetuals are best on the manetti stock, which has been in cultivation upwards of thirty years, having been introduced by Mr. Thomas Rivers. They do best on light soil, but do well on any soil. They do well on the seedling Briar, and thive best in cold, stiff clay soil; but on light loams or peaty soil they do not do so well. I would always recommend the manetti on the seedling Briar; they flower later. They also do well on the cultivated Briar for heavy soil. On their own roots they do not flower nearly so free as when worked on the manetti. Planting from October until the middle of April, great care should be taken not to plant too deeply. The union of the bud with the stock should be two inches below the surface. Do not put the manure on the bare roots, but first shake some fine mould over them, put plenty of manure with the remaing soil, fill it in, tread firmly, if the shoots are very long cut off twelve or eighteen inches. In manuring the Roses, cow manue is the best. It is a good thing to apply a little dressing in the autumn for protection against frost. Pruning should be done during March. There is no art in the whole practice of gardening which requires so much knowledge and tact. A man may be able to use a knife, but he should forsee the effects which each cut will produce. In shortening the shoots of the majority of hybrid perpetuals, five or six eyes should be left, but when of a very strong growth shorten the branches to about 12 in., keeping the centre of the head well thinned, for if you cut back Roses too hard they make wood and not much flower.

TEAS.

This beautiful class of Roses is distinguished from all other by their fragrance and delicate colour. They are suitable for planting out in houses or cultivating in pots, and when planted out of doors the chief thing for their successful cultivation is a soil well drained, for, if it is not, it must be made so. A light, rich soil is best for them. And as a light protection against frost dried ferns is a good thing—it does not exclude the circulation of air. It must be removed in mild weather. For pot culture the soil should be half loam and half leaf mould, dung, and sand. Pot firm. Gardeners should never buy Tea Roses worked on the manetti stock, for they soon die; they do very well the first year, or when grafted in great heat they grow and make good plants. But if you knock them out you will find very little root. Therefore Roses which you want as climbers will not do. They must be on the Briar or La Griffiere. The old blush Tea was introduced from China in 1810; this and the old yellow Tea, introduced about the same time, became the parents of all the beautiful varieties in this class. Some of the most vigorous can be grown as standards. Moderate, and not close, pruning is best; the weak and unripe cut out. You should not cut back until first week in April, as the early growth is often killed by the spring frost.

(*To be continued.*)

* A paper read at the last meeting of the Devon and Exeter Gardeners' Association by Mr. W. CONNETT, Rose grower to Messrs. R. Veitch & Son

DENDROBIUM INFUNDIBULUM JAMESIANUM.

DURING the spring months, when the popular species of Dendrobium are engrossing the attention of cultivators, the subject of this note with the allied species, is liable to be overlooked or neglected. A smaller number of cultivators, however, treat it with more consideration, and are amply repaid by the results. The variety which we illustrate is a native of the hills that separate Burmah from Siam, where it grows upon rocks exposed to the sun. We therefore find that the stems are shorter and stouter than those of the typical D. infundibulum. Another distinction is that the interior of the side lobes of the lip is covered with short roughish points, and the large blotch in the throat is cinnabar red. Both the type and the variety are by some considered as alpine forms of D. formosum, and we cannot therefore be surprised to find that they thrive in a cooler atmosphere than that species. D. i. Jamesianum may therefore be grown and flowered successfully in the cool end of the Cattleya house or even amongst the Odontoglossums, where it is sometimes placed. Plenty of moisture must be given the plant while making its growth, and the atmospheric moisture should also be abundant.

THE HERBACEOUS BORDER.*

So much has been written on this subject, and it has been so exhaustively treated by many able and distinguished writers on horticulture, that it may seem superfluous to write another paper on the subject, unless one has something new to bring forward, which I must confess at the outset is not my case. Still, the subject is a large one, comprehending something over two thousand species of hardy plants, not to mention the cultivation of them.

Some objection has already been taken to bulbs being included, on the ground that they are not herbaceous plants, but it was thought better to include them in this paper, as in the majority of, if not in all, borders they are not only to be found, but in the spring and early summer, at least, they contribute more than half the beauty and attractiveness that is attached to a well-arranged and tidily-kept border. What plants, indeed, would fill the place of the sweet little Snowdrop, or the bright bold colours of large clumps of Crocuses? Or, again, what would the border be worth in early summer without the Narcissi or the Tulips, or in the autumn without the Liliums?

Before alluding to the plants it will perhaps be appropriate at this stage to offer a few remarks about the preparation of the borders, their planting, and subsequent management. Regarding the choice of situation, in the first place, it is generally most convenient--if the herbaceous border is to be in the kitchen garden—to have it along the sides of the main walks or along a narrow border under shelter of a wall preferably with a southern exposure. Another way is to have a space 8 ft. or 10 ft. wide in front of shrubberies between the shrubs and the turf or box-edging prepared for their reception, and this plan has a good deal to recommend it, as plants in such a position are generally in keeping with their surroundings, and when planted in such a way that they gradually rise upward in a bank-like form, from the dwarf edges, such as the Golden Thyme or the dwarf Saxifrages, to the tall Sunflowers at the back intermingling with the dark green foliage of the shrubs behind, the effect is very striking indeed.

Having chosen the position of the border, whether inside the kitchen garden or in front of the shrubbery, whichever is most convenient or suitable, the next operation is the preparation of the soil. If the soil of the chosen position be good, nothing else is required than to trench it two feet or so, adding some opening material, such as lime rubbish if the soil be stiff, or if too loose a good barrowful of turfy loam to every four square yards will generally speaking put a good heart into it. If on the other hand, the soil be bad, it is better to entirely remove it and replace it with some good soil, or the success of the plants in the border will be very problematical if not wholly unsatisfactory. This operation is best performed in winter and the soil thrown up rough till April or May when the plants may be put in.

Before beginning to plant, a plan of the border should first be drawn out, and the position of each plant noted down on the plan, care being taken in arranging them that the colours of any two plants that are to stand side by side and that bloom at the same time should harmonise with each other, and it is also advisable to so arrange them that neither the early flowering ones nor the late flowering ones shall be all together, but all skilfully mixed among each other so that a good show of flowers may be all over the border throughout the whole season of blooming, bearing in mind at the same time of course to always have the dwarf ones in front, and the taller they are the further back is their allotted position in the border.

If all these details are carefully wrought out beforehand and marked down in the plan, when the actual operation of planting begins it is possible to begin at one end of the border and finish at the other, thus saving a great amount of trouble and time. How often do we see a gardener when commencing to plant the border take up say half-a-dozen or so plants of the same variety and divide them over the ground, then starting at the beginning again with another half-dozen of another variety go over the ground again dividing them as before, and so on till all the plants are laid down. All this walking backward and forward might easily be saved by simply arranging and dividing the available plants on the plan beforehand.

It may also be said that the arrangement of the plants in the border at the time of planting is the most important operation in connection with the formation of the herbaceous border, for upon skilful grouping depends in a great measure the beauty of the border during the summer. It is very distasteful to see the plants so arranged that the colours are not in an agreeable harmony with each other, or to see tall growing ones near the front completely shutting out of sight the dwarf ones behind.

As regards the management of the border when once established, the strong growing sorts will require to be kept in check; when the clumps get too large they should be taken up and divided, and a piece from the outside selected, as they are generally the strongest and best pieces. Before planting this selected piece again, it is a good plan

DENDROBIUM INFUNDIBULUM JAMESIANUM.

* A paper read by Mr. DAVID TANNER, at the Harewood House, Leeds, Gardeners' Mutual Improvement Association.

to add some fresh soil as the old is pretty well exhausted by the time the clumps get too large for their places. Every spring the borders will require overhauling and any large clumps to be reduced, and the surface of the soil stirred up with a fork. If Mushrooms are grown about the place the exhausted beds make an excellent top-dressing for the border. It may be spread over the ground any time in winter, and be forked in about March, when most of the bulbs are beginning to peep up and show their whereabouts, though it is always the better way to have a short stake marking where each clump of bulbs is situated, so that you always know where to find them. How often do we see a good bulb or clump of bulbs cut through and turned up when working in a border, when it might be averted by this simple precaution.

Assuming then that the border is gone over in March and any large clump reduced, and the ground neatly forked over, all that is required is to stake the plants as they require it and keep down weeds. In staking a very good plan is to put in two stakes, one on each side of the plant, and tie the matting or string round the stakes gathering the plant inside the tying. The stakes too should be put in whenever the plants show the least signs of falling, for when the plants are allowed to fall to the ground, then gathered up and tied to a stake, perhaps, with the flowers at right angles or hanging head downwards, their beauty is spoiled for the whole season. While staking the plants, any that are too thick or crowded should be thinned out to a dozen stems or so, as such plants as Phloxes, Delphiniums, etc., will be found to produce better heads of flower when thinned out.

The planting of bulbs may be taken in hand at the back end of the year. Such things as Snowdrops, Crocuses, Tulips, &c., may be put in in October or November, but Liliums and Gladioli are better planted in spring. Some lift these bulbs every year when the foliage has died down, but this plan is not to be recommended, as they succeed well when undisturbed. They should be taken up occasionally, however, and replanted, as they have a tendency to grow to the surface. When the plants have died down to the ground they should be cut over, and when there is a danger of the crowns suffering from frost, a little sifted ashes spread over them will provide sufficient protection during the winter.

If a few tufts of grass are left over the winter a few ornamental shrubs planted here and there to relieve the dulness of it during the winter, and a little judgment and taste is exercised in arranging the shrubs, the herbaceous border if not a thing of beauty at all times, may be at least pleasant to look at throughout the whole year.

INSECTS INJURIOUS TO HARDY FRUITS.

(*Conclued from p.* 472.)

The Winter Moth.

The winter moth (Cheimatobia brumata) is the most destructive of all orchard caterpillars, which prey upon the leaves, flowers, buds, and young fruit of many of our hardy fruits – they do not seem at all fastidious as to which. The destructiveness of this caterpillar cannot be over-estimated, and the desolation of a place after an invasion in which everything eatable is cleared can well be imagined. The male moths are from an inch to an inch and a quarter in the spread of their wings, the fore wings are of a brownish-grey colour, distinctly marked with several transverse bars of a darker colour near the posterior angle, and the hind wings are of a greyish colour. The female moths are brown, and furnished with four small wings, which are of no service to them for flight. The pupa is also brown, and hibernates in the soil near the surface. The caterpillars are green with a dark stripe down the back and three lighter ones on each side, and when full grown they are about one inch in length.

A brief study of the life-history of the winter moth suggests to us the usefulness of many remedies. As the pupa hibernates near the surface, many could be destroyed in cultivated orchards, by removing the surface soil around the trees. About October the female moths come out of the chrysalis cases and proceed to ascend the trees to lay their eggs on the buds, shoots, or more particularly on the end of a branch where a portion has been cut off. Hence the usefulness of grease bands, to prevent the female moths getting up the tree. Grease proof paper should be used to prevent the grease soaking into the bark, and the grease should be laid on about four inches wide. This has been found to effectually check the ascent of the female moth. It is very important to have good grease so as not to damage the trees, and which will remain sticky for some time. There is sometimes a spring brood (probably of Hybernia defoliaria) therefore the grease bands must be kept in order until the end of March. It is essential to apply the bands early in the autumn.

Small Ermine Moth.

The caterpillars of the Small Ermine Moth are most destructive to the leafage of many trees. They are commonly known as social caterpillars on account of their living together in great numbers. Of late this pest has been very troublesome in some districts; many trees have been completely stripped of their leaves as if they had gone through a fire. This caterpillar seems to have a particular liking for the leaves of the common Hawthorn. Many hedges have been entirely stripped of leaves in a very short space of time, and all that is left is the dirty remains of the webs. The eggs are laid in round patches on the small twigs, and very ingeniously covered with a gummy substance. The caterpillars are hatched in the autumn, but remain under the protection of the gum during winter, and come out when the young leaves begin to expand in spring. They feed on the leaves and spin webs in which they live in companies. When full grown each caterpillar spins itself into a cocoon inside the web, or elsewhere. The moths are usually hatched about the end of June, and are about three-quarters of an inch in the spread of their wings.

The fore wings are whitish dotted with dark spots, and the wings are darker. The most effectual remedy is hand picking the webs; but on a large scale this would be impossible, and where a good supply of water can be had they can be washed down with a hose, or any good insecticide syringed into the nests of caterpillars would kill numbers.

The Lackey Moth.

Bombyx Neustria, in the caterpillar state is injurious to many forest trees as well as the Apple. It is not at all difficult to recognise the caterpillars of this moth, as they are very highly and distinctly coloured, and when full grown (which is about midsummer) they are about 1½ inches long, very hairy, and decidedly ornamental in appearance. The eggs are laid in clusters or bands round the small shoots late in summer; the caterpillars are hatched and cover themselves with a web. At this period they live socially, as many as 100 to 200 sometimes being found together; they go out from these nests to feed on the leaves, returning at night or in wet weather. At the least sign of danger they let themselves down by a silken thread to the ground, or sometimes hang suspended in the air until all danger is past. When full grown they separate, and each spins a cocoon in any convenient hiding place, and do not seek protection in the soil like so many others. Towards the end of summer the moths come out, and vary considerably in colour, but are usually of a brownish tinge and from 1⅛ to 1½ in. across with the wings expanded. It is reported that this pest has done very serious damage on the Continent. The first remedy which suggests itself is cutting off the shoots bearing the eggs, and destroying any cocoons which can be found. But this is not always practicable, therefore the webs must be destroyed as soon as they appear, by cutting off the small twigs containing them.

Spraying, as recommended for the winter moth, is of service in preventing the destruction caused by the lackey moth.

The Apple-blossom Weevil.

Anthonomus pomorum, is a most destructive little pest; it devours the essential organs of the flowers while still in the bud. The method of life of this beetle is for the female to pierce a hole in the flower buds and deposit a single egg in each, closing the hole before leaving it, to repeat the operation on another bud. Egg-laying may coutinue for two or three weeks, or in fact as long as the buds remain closed. The grub when hatched eats the stamens and pistil, the loss of these of course is total disappointment to the cultivator. The weevil is said to attain perfect development within a month from the laying of the egg. After the blossoms open, the perfect weevil feeds on the leaves for the remainder of the season, and hibernates in the same way as American blight, therefore the remedies applied for the destruction of the latter would be of service in preventing attacks of this weevil. The grease bands are also of use, as the females rarely fly, but crawl up the stem.

The Apple Mussel Scale,

Aspidiotus conchiformis, is so called on account of its resemblance in shape to the half of a mussel shell; it attacks the bark of both Apples and Pears, and when allowed to increase, the tree becomes weak and unhealthy. The injury is caused by the little scales inserting their proboscis into the bark and withdrawing the sap. The eggs are not laid, but hatched in the dead body of the female when fixed to the bark. The only way to get rid of the scale is by scraping or brushing it off with a stiff brush kept moist with some good insecticide, or by spraying the trees with some of the insecticide washes about the time the larvæ leave the body of their mother to disperse themselves over the tree in quest of fresh positions on which to settle down.

The insects which infest the Pear are not quite so numerous as those which prey upon the Apple. Several of the moths mentioned when dealing with the Apple are also found on the Pear; and the Apple mussel scale also attacks the Pear, but to a less extent. It has a near ally in the Oyster Scale, Diaspis ostreæformis, which is confined to the Pear. Like the mussel scale it derives its name from the resemblance of the covering of the female to an oyster shell. The damage it does, aud its habits, are identical with the mussel scale.

The Slugworm,

Eriocampa limacina, or Selandria cerasi, is often very destructive to the leafage of many Rosaceous plants, especially Pears. They usually appear after midsummer, and feed on the upper surface of the leaves, gnawing away great patches of the epidermis, causing the leaves to turn brown and drop. They derive their popular name from the resemblance to miniature slugs; they are covered with a black slimy excretion till the last moult, when they change to yellow. They then drop to the ground and seek a shelter in the soil, in which they pass the winter, appearing again in the perfect state the following summer.

Remedies.—Handpicking, though wearisome, is the effectual remedy, soap-suds, tobacco water or caustic lime will easily destroy them if used in the usual way. As they hibernate in the surface soil, that is another way open to us to destroy them.

The Pear Gall Mite,

Phytoptus pyri, often causes considerable damage by piercing the leaves and feeding on the young tissue, which causes blisters to arise and eventually brown patches on the leaves.

This mite is rather difficult to get at, the only way is to remove all affected leaves and burn them. In the winter they hibernate in the buds of the tree. The leaves should therefore be gathered while still quite young, so as to make sure of destroying the mites before they have left their feeding quarters.

The Plum.

The insect most generally found on the Plum is Aphis pruni, the Plum Aphis, and in some seasons it proves very destructive, closing up the pores of the leaves by their excretions, and the mealy exudations of their bodies, which attract numerous flies, ants, etc., to the trees, and these in their turn attack the fruit, causing considerable loss. This aphis increases at an amazing rate; the wingless females bring forth living young of various shades of colour, from green to brown, and these again multiply the same season. The eggs are laid in autumn and hatch out the following spring.

They are very hard to get at with any washes, on account of being so curled up in the leaves; a good plan is to pinch off the infested shoots and burn them.

A good remedy for all green fly to be syringed on is half a pound of soft soap dissolved in a pint of warm milk, add to this two quarts of paraffin, and use at the rate of a quarter of a pint to two gallons of water.

The Cherry.

The Cherry Aphis (Aphis cerasi) frequently causes considerable damage to the young shoots and leaves of the Cherry; it is generally called the black fly. Its life history resembles that of the Plum aphis, and the same means should be employed for its destruction. Where the trees are growing on walls, the infested shoots could be dusted with tobacco powder.

The Pear Slug, or Slugworm, is often found on the Cherry.

THE PEACH SCALE,

Lecanium persicæ, is another troublesome pest, and one which it is rather difficult to stamp out. The insects live on the buds and branches of the trees, and by their continued suction of the sap weaken the trees considerably. The eggs are not laid, but remain in the body of the female which dies. When hatched the larvæ move about for a short time, and then fix themselves in position on the branches from which place they never move. As they increase in size, their structure is altered considerably, the body assumes a rounder form, the legs and antennæ on the body almost entirely disappear; the bodies are of a brown scale-like appearance.

Remedies.—The best remedy of all is to thoroughly scrub the trees in the winter, using a stiff brush kept moist with some insecticide, and syringing the trees in summer with a soft-soap mixture at the rate of 8 lb. to 12 gallons of water and adding a gallon of tobacco water. There are various other remedies which would be serviceable,such as Fir tree oil, Gishurst Compound, &c. A good remedy is hot water (145°) with which to wash the trees in winter.

Green fly (Aphis amygdali) is frequently very troublesome on the young growing shoots of the Peach, and it is generally when the trees are in flower and the shoots from two to three inches long, that it does most damage. The aphis is very minute in size, soft bodied, long legged, and the antennæ long and slender. It is the growing points of the shoots which they attack, completely crippling them if not checked.

They increase with astounding rapidity. The eggs are laid in autumn, lie dormant during the winter, and are hatched out with the warmer days of spring. The larvæ originating in this way ultimately produce viviparous individuals which go on multiplying their species at a surprising rate; the progeny are possessed of the same wonderful power, hence the enormous number which are produced in one season. It is said that in a few weeks many millions of young might be produced from one individual. The same remedy as advised for the Plum aphis we have found very servicable in this case also.

THE GOOSEBERRY.

The Gooseberry and Currant sawfly (Nematus ribesii). The mischief done by the caterpillars of this fly is too well known to every gardener. The insects appear in April, and lay their eggs on the underside of the young leaves, mostly in the angle formed by the midrib and the blade of the leaf; the larvæ are hatched out in about a week, and commence operations by eating holes in the leaves, and continue devouring them until they have completely demolished everything except the veins.

When full grown, the caterpillars are a pale green, with a black head and tail; and the two segments next the head, and the one at the tail, are a bright yellow; the whole body is also spotted with black. When they are full fed they descend to the ground and bury themselves near the surface, where they change to the pupa state in about three weeks. The perfect insects then appear and go on with their work of egg laying again. The late broods remain in the soil during winter and appear when the young leaves come out in spring.

Various means are employed to destroy the caterpillars, such as hand picking, dusting the leaves when damp with flower of sulphur, soot, lime and various other dry dressings. But the most effectual plan is to remove the surface soil from under the bushes in winter fully two inches down. It should be taken away and buried, and numbers of the cocoons will in this way be destroyed.

THE MAGPIE OR GOOSEBERRY MOTH,

Abraxas grossulariata, often proves destructive to the leafage of Gooseberries, Currants, and sometimes Apricots and Plums. The eggs are laid on the leaves towards the end of summer, and the caterpillars appear towards the end of August and in September They feed on the leaves until they fall, and then find shelter either in rolled up leaves hung by a thread from the branches, or on the ground. They pass the winter in this state and then recommence to feed on the young leaves in spring till full fed, till about the end of May or beginning of June. The perfect insects appear as above stated and lay their eggs soon after (ten legs). Where this moth is prevalent all leaves should be swept up and burnt, and any hanging from the branches removed. A lot of the caterpillars are sure to be destroyed in this way, and the caterpillar may also be thinned by dusting the bushes with soot, lime or sulphur.

CURRANT BUD MITE,

Phytoptus ribis, is a small oblong, four-legged mite infesting the buds of Black Currants. Its presence is easily detected by the abnormal swelling of the buds in early winter, giving the bush the appearance of coming into leaf about midwinter. It is an excessively minute little creature, with a white fleshy body and bristles on each side. The mites find their way in the buds and destroy the embryo leaves, causing the buds to swell to a great size. In bad cases the leaves never expand, and the bushes become useless. The only effectual remedy is to cut off the affected parts and burn them, or in bad cases to grub up the bushes and burn them.

CANKER,

Though not an insect enemy, a short reference to it here can be hardly misplaced, as it is one of the most deadly enemies of the Apple and Pear.

Much has been written regarding canker, its cause and cure, but much still remains to be done before we can say that we have got to the bottom of it. The investigations carried on by many practical men have done much to enlighten us on the subject, but they have not reached that stage yet; its appearance still gives grave cause for anxiety on the part of the fruit grower. Our authorities are not at all agreed as to what is the cause of it; but many say "sudden checks to the vegetation of the tree," "derangement of the flow of sap," bad pruning and bruises, or the roots getting down into unsuitable soil, all of which may contribute to the spread of the disease. According to Goethe and our chairman it is caused by a fungus (Nectria ditissima).—*T. Waugh.*

THE VEGETABLE GARDEN.

Lettuce.

IN a large majority of private establishments a good and regular supply of Lettuces during the spring and summer months is looked for. In the market gardens round London tens, or I might say hundreds, of thousands of White Cos are now being planted for the first crop. These plants were sown last Autumn in cold frames close to the glass, and with the protection of litter during severe weather, and are now of a good planting size. It is the general practice in private places, where only a few plants are required at one time, to sow in heat and harden off, but I have found the plants that have been growing cold all through the winter grow away faster than those raised in heat. After the first lot in the open it is much safer to sow very thinly and let the plants grow where they are sown, especially the Cabbage varieties, but neither are so liable to run to seed prematurely during hot dry weather. It is best to sow at least once every fortnight all through the summer, and then, with ordinary care, no scarcity is likely to occur.—*G. H. S.*

Carrots.

THE first week in April is about the best time for sowing the main crop of Carrots. Some French Horn and Summer Favourite may be sown on a warm border for an early supply, to follow those in a frame. Now as to the main crop, the most sandy soil in the garden should be chosen, and if perfect specimens are required the ground should have been trenched to a depth of 2 ft., the drills may be about 2 in. deep, and to render the seed easier for sowing it can be thoroughly mixed with dry sand. The drills if 15 in. apart will be a good distance. In many kitchen gardens great difficulty is experienced in growing good Carrots, and I have found a great difference in the quality of the crops even in the same garden. Any kind of burnt refuse will help bad Carrot ground, and lime will also be helpful to check insects.—*G. H. S.*

Gardeners' Improvement Associations.

Woolton.—On Friday evening, the 24th ult., the members of this society had an opportunity, by the kind invitation of R. J. Harvey Gibson, Esq., M.A., of inspecting the Liverpool University Building, and more especially the teaching apparatus in connection with the botany division. A large number of microscopes with instructive sections had been arranged, the various instruments used in preparing sections, models of flowers, pictures, dried specimens, and the valuable herbarium were open for the enjoyment and instruction of the visitors. The courteous host kindly explained specimens of exceptional interest so that details might be thoroughly grasped. The noble pile of new buildings, including the magnificent Hall, the commodious and beautiful "Tate" Library, etc., were seen and greatly admired. A hearty vote of thanks was tendered to Mr. Gibson for this most enjoyable treat.

GARDENING MISCELLANY.

EARLY SPRING FLOWERS.

IN my note on early spring flowers, p. 418, I recommended Sedum pulchellum as a carpet in which to plant Leucojums; being not sure of the name I consulted a first-class authority, who looked at his book and named it. Since then I showed pieces of the Sedum to a great authority. He believed it to be S. Ewersii, but as there still seemed some doubt, a third was consulted, who provisionally named it S. hybridum [? S. lydium], but required to see the flowers. These Sedums are very puzzling. With your permission I will send the name when finally settled, and meantime ask to correct the name S. pulchellum. Since my note another lovely Iris, I. Rosenbachiana, bloomed on the 10th March in a hill bed, and about the same time several plants of Tecophyllea cyanocrocus, both the blue and blue and white forms, all beautiful. We succeed better with both of these plants in the open air than under glass. Rhododendron præcox superbum, shown in the Kew collection at the last R.H.S. meeting, lasted well this year for some time, but then the hard frost caught the blossoms. This plant should, I think, be grown more, and be placed both in sun and shade, so that some would escape, owing to the different times of flowering, the short frosts so common at this season. Our largest plant is 5 ft. high and 5 ft. wide, and owing to the habit of free-flowering was very beautiful. Shortia galacifolia in light, peaty soil in shade has grown and flowered well.—*George F. Wilson, Heatherbank, Weybridge Heath, March 24th.*

THE WEATHER IN THE ABERDEENSHIRE HIGHLANDS DURING 1892.

MR. JAMES AIKEN, banker, Braemar, who has the charge of the meteorological instruments and the observatory at Castleton of Braemar, Aberdeenshire, has just completed his annual detailed statement of records of the weather during the past year, and from his carefully compiled document the following few notes are taken:—The observatory stands in latitude 57° north, longitude 3° 24 min. west; and the elevation of the station above sea level is 1,114 ft. It may here be noted that the instruments in the observatory are of the very best description, and were the gifts of the late Prince Consort, and are now maintained by the Queen. They were made by Negretti & Zambra, of London, and have been compared with the standard subjects by Mr. Glaisher, from whose tables the hygrometrical deductions have been obtained. Sunshine is computed by Jordan's photographic recorder, and the rain gauge has a receiver 8 in. in diameter, and is placed on the ground.

The instruments at Castleton are read twice daily by the observer—at 9 a.m. and 9 p.m. Beginning with the thermometer, which is placed in air and protected, June has the highest reading, 76°; July, 74°; August, 71°; and September, 61°; while the lowest occurred in February, 2° below zero. The highest mean temperature of the year was 60° in July; August had 59°; September, 54°; and June, 58°. In sun the maximum records were July, 136°; June, 135°; August, 133°; May, 121°; September, 118°; and October, 106°. The direction of the wind for the year was principally south-westerly and west, which may account largely for the continued wet and damp weather experienced during harvest time. From due north the wind blew for seventeen days, and from due south for fifteen days, while from south-west and west its course extended over 222 days, and from north-east and east 112 days. The highest mean pressure per square foot, 1·32 in., was realised in January. For the year the total rainfall was 28 in., being 6 in. below the previous year, and 11 in. under 1890, so that taking it all over it was a

hard dry year. August showed a rainfall of 3 in.; July, 2 in.; and September, 3 in.; while October had 5 in. April and May had the highest total sunshine.

LIQUID AND SOLID AIR.

At the Royal Institution London, quite recently a lecture was delivered by Professor Dewar in the presence of the Prince of Wales, the Duke of York, and many distinguished scientific men. A series of experiments were successfully carried out as the result of many years' study and patient working. Oxygen when compressed until it assumes a liquid condition is always in a state of violent and uncontrollable ebulition at ordinary temperatures. It is therefore necessary when experiments are being carried out with it to reduce it below its boiling point, by surrounding the vessel containing it with a vacuum in order to produce a temperature 182 degrees below zero. Even in this extreme cold the oxygen, when it has been reduced to a liquid, gradually evaporates as water would at a moderate temperature. A little of this liquid oxygen was placed in a test tube, and some alcohol placed with it. The latter was immediately frozen into a solid lump which would not ignite till it was transferred to a higher temperature. There was a difference of 210 degrees between the temperature of the test tube and that of the air in the body of the theatre. The question arises whether the extraordinary heat caused by liquid oxygen at ordinary temperatures could not be put to some practical use for the heating of rooms or even greenhouses.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

The Cattleya House.—Lælia Perrinii just starting into growth should now be re-potted, using good fibrous peat with very little sphagnum Moss. When well grown it ranks as one of the best autumn flowering Orchids we have, and if the darkest form is grown, it is a fitting companion for the best varieties of the autumn flowering C. labiata. We use as small pots as possible, and afford them plenty of water after the growths are well up until they are in bloom, after which they should be rested.

Lælia purpurata.—Plants that are not going to bloom, and which are putting forth new roots from the partly made up new growths, may be repotted. They soon get hold of the new compost, and will not require repotting next season, when in all probability they will bloom. We use peat alone for these, which seems to suit them better than when Moss is added. Cattleya Trianæ as they go out of flower will receive attention by being either repotted or top-dressed. I may say, however, that we do not favour top-dressing only in exceptional cases.

Anguloas.—These are now pushing growths and flowers and will be repotted at once, using a mixture of loam, peat, Moss, cow manure, and sand well mixed together. We pot rather low as recommended for Calanthes, so that they may be watered freely when the growths are well above the compost and the plants are rooting fast. Very little water should be given to newly-potted plants, as they root into the compost more readily when it is not too wet, but the syringe must be freely used between the pots so that they do not shrivel too much.

The Exceptional Weather we have been favoured with has necessitated our keeping the syringe going rather freely in all departments, with plenty of air through the bottom ventilators. Fires are drawn early and lighted again in the afternoon, for although the days have been hot the nights have been frosty. We had 14° of frost on the 20th, and 10° on three subsequent nights.

Cool House.—Disa grandiflora does well at the cool end of this house; ours are very strong and will be kept going by being afforded weak manure water; a few horse droppings put in a bag and placed in a tub makes an excellent stimulant for these. When watering we do not let it get into the heart of the growths. Its enemies are green-fly and red thrips, and the latter if they get a hold will in time kill the plants. Two years ago we imported some plants direct which were smothered with them. Mr. James O'Brien advised us to dip them in strong tobacco water, which we did, and this in a measure kept them in check; but they had got into the soil and were not so easily dislodged. We, however, mastered them by breaking up the plants and allowing them to soak in the tobacco water for six hours, afterwards washing them in rain water and potting up with some fresh compost. They are now in fine condition, and will in due course reward us with a good show of bloom.

Temperatures.—East India House, 65° at night. Cattleya House, 60° at night. Cool House, 50° at night; with a rise of 10° by day.—*C.*

Cypripedium Peetersianum.

The upper sepal of this hybrid is ovate, with purple brown veins alternating with more slender green ones on a white ground. The petals are heavily suffused with brownish purple, and more clearly veined with rosy purple on the upper half. The lip is deep purple. The leaves are strap-shaped, deep green and leathery. The parents of the hybrid were C. phillipinense and C. barbatum, the latter being the pollen parent. It is evidently a strong growing plant, as the specimen shown by Messrs. B. S. Williams & Son, Upper Holloway, at the first spring show of the Royal Botanic Society, on the 22nd ult., bore three flowers on a tall scape. It is by no means a common plant in this country, and a Botanical Certificate was awarded it.

Cypripedium macrochilum.

The parents of this hybrid were C. caudatum Lindeni and C. longifolium, the former being the seed bearer, which is perhaps better known amongst gardeners as Uropedium Lindeni. The leaves of the hybrid are 12 in. to 18 in. long, and channelled along the centre. The upper petal is lanceolate and straw-coloured, with green nerves and suffused with bronze externally. The petals are slender, drooping, and 12 in. long, thus showing the influence of the seed parent. They are yellow at the base, with white margins and some red lines within the latter, while all the rest is brownish purple. The lip is of great size, as expressed in the name, creamy yellow, suffused with brown and spotted with purple on the claw. A Botanical Certificate was awarded it when shown by Messrs. J. Veitch & Sons, Chelsea, at the first spring show of the Royal Botanic Society, on the 22nd ult.

Vanda suavis.

A beautifully grown and well flowered specimen of Vanda suavis may now be seen in the collection of C. L. Joy, Esq., J.P., Carth Grove, Headingley, Leeds. The plant carries thirty spikes, some of them with twelve flowers, and it grows in a stove together with Nepenthes, Palms, and Dendrobiums. I am told by the gardener, Mr. Baillie, the plant receives no special treatment, and has produced a similar crop of flowers for several years. Dendrobiums may be seen here grown to perfection, specimen plants of nobile with 360 and 400 flowers, Wardianum, thyrsiflorum, and Brymerianum also flower well in this collection; indeed, it must be a great pleasure to Mr. Joy to see his plants improve and produce such a wealth of flowers.—*E.*

Cypripedium Exul.

The flowers of this Cypripedium, though small, are pretty on account of their clearly defined colours. The upper sepal is ovate and white, except the central and basal area, which is green, spotted with shining black blotches. The petals are oblong, suffused with pale brown on white, and fringed with black hairs. The lip is shining yellow as if varnished, and suffused with pale brown. The leaves are similar to those of C. insigne, as indeed the whole plant is, but the flowers are smaller and very distinct in general aspect. It has been flowering for some time in the nursery of Messrs. J. Veitch & Sons, Chelsea.

Angræcum fastuosum.

Several of the smaller species of Angræcum are very pretty and occupy comparatively little space. The flowers of A. fastuosum are larger than those of most other species of similar size. The plant we noted the other day in the nursery of Messrs. J. Veitch & Sons, Chelsea, was only about 3 in. high, and grown in a small pan. The oblong-ovate leaves are emarginate and leathery. The flowers are relatively large, pure white, drooping and very pretty when the plant is hung up in pans close to the glass so as to be on a level with the eye. The lip is twice as long as the sepals or petals, and provided with a long, curved spur of the same hue. It requires the same temperature as the Dendrobiums, and flowers without any special care beyond keeping it suspended close to the glass.

Batemannia Colleyi.

Numerous plants have been exhibited within recent years under the name of Batemannia, but they all belong to a section of Zygopetalum. That under notice is the only true species, and is entirely different in form and aspect from the others. The flowers of B. Colleyi are borne in drooping racemes, and have reddish-brown sepals and petals with green tips. The three-lobed lip is yellowish-white, spotted in the throat with purple. The species comes from Demerara, and should be grown in small pans or baskets suspended near the glass in a moderately warm house. There is a coloured illustration of it in the *Lindenia, pl.* 365.

Odontoglossum Sanderianum.

In general terms this may be looked upon as a greatly magnified O. constrictum, both in the form and colour of the flowers. In size the latter approach those of O. odoratum, and likewise agree in their delicious odour, but the form and generally the colour of the lip is different. The sepals and petals are lanceolate and yellow, blotched with brown. The lip is narrowed in the middle, somewhat fiddle-shaped, and white spotted with purple in front of the crest. It is decidedly a cool house Orchid, and very desirable on account of its sweet odour. The plant is not yet so common in collections as one would have expected some years ago. We noted it recently in the collection of Messrs. J. Veitch & Sons, Chelsea.

SOCIETIES.

Royal Botanic, *March 22nd.*—The first spring show of this society was held in the corridor and the conservatory as on former occasions, and was instrumental in bringing forward all the popular spring flowers in quantity, the miscellaneous exhibits being strong. The weather was excellent and the visitors very numerous. The first prize in the amateurs' class for Indian Azaleas was awarded to Mr. R. Scott, gardener to Miss Foster, The Holme, Regent's Park; his conical bushes were fairly well flowered for the season. Mr. H. Eason, gardener to B. Noakes, Esq., Hope Cottage, Highgate, was second. Mr. J. Douglas, gardener to Mrs. Whithourne, Great Gearies, Ilford, had the best Deutzias, and was followed by Mr. Eason. The best Hyacinths in the exhibition were the twelve pots shown by Mr. J. Douglas in the amateurs' class. Messrs. H. Williams & Sons, Fortis Green, Finchley, were first in the nurserymen's class. In the open classes for Tulips, Narcissi and Crocus, Mr. Douglas easily scored first in all cases. He was the only exhibitor of Freesias, but his plants were not so well flowered as might have been expected from such an experienced grower. Messrs. H. Williams & Sons had the best grown Lily of the Valley, the foliage being fine; but the flowers of those shown by Mr. W. Morle, 162, Fenchurch Street, were larger and gained the second place. The Cyclamens were all good samples of culture. The first prize was taken by Mr. J. Mowbray, gardener to Major the Hon. H. Legge, Fulmer, Slough, who had a good deal of variety. The second prize was taken by Mr. T. Pestridge, Boston Park Nursery, Brentford, whose plants had white flowers only, but floriferous and splendidly grown. Mr. D. Phillips, gardener to R. W. Mann, Esq., Langley Broom, Slough, was third. The two exhibits of Amaryllis were considered equal in merit; the exhibitors were Mr. J. Douglas and Messrs. Paul & Son. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, received the first prize for herbaceous plants, showing Doronicum plantagineum excelsum, D. Clusii, Solomon's Seal, Adonis vernalis, &c. Messrs. Paul & Son took the prize for forced Roses in pots. As already mentioned the miscellaneous exhibits occupied a considerable amount of space, and added largely to the effect of the show. Messrs. B. S. Williams & Son, Upper Holloway, had the most extensive exhibit, consisting of Hyacinths in great variety, also Tulips, Daffodils, Polyanthus Narcissi, Lily of the Valley, Clivias, Rhododendron Williamsii, and Orchids (Large Silver Medal). Messrs. H. Williams & Sons also showed a large collection of Hyacinths, Tulips and Daffodils (Small Silver Medal). A well flowered group of Heaths, Epacris, Azaleas of sorts, Pernettyas, Lilacs and Otaheite Oranges was staged by Messrs. Wm. Cutbush & Son, Highgate (Silver Medal). An attractive group of Cinerarias was shown by Messrs J. James & Son, Woodside, Farnham Royal, Slough. The large and velvety blooms measured from 2½ to 3½ in. across

(Small Silver Medal). An interesting group of Daffodils, Scillas, Cyclamen ibericum, Chionodoxa, Iris reticulata Nelsoni, and Violas was shown by Messrs. Barr & Son, Covent Garden (Bronze Medal). A similarly mixed group of hardy plants, including Chionodoxa, Scilla, Puschkinia, Primulas, Saxifragas Iris and Daffodils came from Mr. T. S. Ware (Bronze Medal). A small group of new varieties of Amaryllis, some Orchids and Pandanus was shown y Messrs. J. Veitch & Sons, Chelsea. A well flowered group of Cyclamens in 48-size pots was shown by Mr. J. Odell, Goulds Green, Hillingdon (Large Bronze Medal). A large group of well-flowered Cyclamens was exhibited by St. George's Nursery Co., Hanwell (Small Silver Medal). Messrs. Paul & Son had a group of new Roses (Large Bronze Medal). A well-flowered group of Cyclamens was also shown by Mr. Thos. Pestridge (Large Bronze Medal). Messrs. Wm. Paul & Son had a collection of Camellia blooms and a group of new Roses (Small Silver Medal). A group of Lachenalia tricolor was exhibited by Mr. H. Eason.

Crystal Palace, *March 25th*.—The open character of the winter and spring, and the comparative absence of fog, has been very favourable to spring flowers of all kinds, consequently spring flowers, both hardy and forced, are in great abundance, and often of high quality. This is being seen at the various spring exhibitions, as it was at the Crystal Palace on Saturday last. There were five entries for thirty-six Hyacinths, and the first award was taken by Mr. J. Douglas, gardener to Mrs. Whitbourn, Great Gearies, Ilford. Some of his finer varieties were La Grandesse, white; Electra, pale blue; Lord Derby, sky blue; King of the Blues, rich blue; Koh-i-nocr, salmon pink, and Bird of Paradise, pale yellow, Messrs. H. Williams & Sons, Fortis Green, Finchley, were second with many of the same sorts; and Messrs. B. S. Williams & Son, Upper Holloway, were third. All were good for the season, but the first prize exhibit was particularly fine. In the open class for thirty-six Tulips, Mr. J. Douglas again took the lead with some grand flowers of Kaizer Kroon, Proserpine, and Joost van Vondel. Messrs. B. S. Williams & Son were second in this case, and Messrs. H. Williams & Sons third. Mr. J. Douglas had the only exhibit of Polyanthus Narcissus, and Messrs. H. Williams & Sons were the only competitors for Daffodils. The competition was pretty keen in the class for Cyclamens, and the first award was taken by Mr. Thos. Pestridge, Boston Park Road Nurseries, Brentford, who had very floriferous plants, the bulk of them having white flowers. The St. George's Nursery Co., Hanwell, was second with a better assortment of colours, but less floriferous plants. Mr. John May, St. Margaret's, Twickenham, was third with a good exhibit likewise. Messrs. Paul & Son, Cheshunt, took the first place for Amaryllis, and Mr. J. Douglas was second. In the the class for Lily of the Valley Mr. T. Jannoch, Dersingham, Norfolk, took the first place with dwarf, well bloomed stuff, having large flowers and grown in pans. Messrs. H. Williams & Sons were second with well grown stuff, but the flowers were small. Mrs. A. H. Morle, Fenchurch Street, was third. The latter had the best Mignonette, as grown for market; Mr. A. White, Stanmore Park Gardens, was second. Mr. J. Ford, gardener to Sir C. Pigott, Bart., Wexham Park, Slough, had the best Cinerarias in large, branching specimens. Mr. J. Douglas was second, with smaller and dwarfer plants, but fine blooms. Mr. R. Wells, Longton Nursery, Sydenham, was the only exhibitor of twenty-four greenhouse Azaleas. Messrs. J. Laing & Sons, Forest Hill, took the first prize for a group of stove and greenhouse plants, with a bold arrangement of Palms, Aralias, Azaleas, Heaths, Clivias, Cyclamens, Cymbidium Lowii, and other Orchids. Messrs. J. Peed & Sons, Roupell Park Nurseries, Norwood Road, was second with a good group of Azaleas, Palms, Caladiums, Heaths, &c. Messrs. B. S. Williams & Son were third with bright materials, but thinly arranged.

In the amateurs' classes Mr. H. Shoesmith, garderer to M. Hodgson, Esq., Shirley Cottage, Croydon, took the first prizes for Hyacinths and Tulips. Mr. J. Douglas was the only exhibitor of Amaryllis in this section. The first prize for Daffodils was taken by Mr. James Gibson, gardener to Mrs. Berkeley James, The Oaks, Carshalton. Mr. Wm. Slogrove, Gatton, Reigate, had the best Cyclamens, which were grown in 32-size pots. Mr. John Hughes, gardener to R. S. Higgins, Eastlands, Dulwich, was second. Finely bloomed Chinese Primulas were shown by Mr. Jas. Ford, who took the first prize. Mr. J. Bateman, gardener to Mrs. King, Sydenham Hill, was second.

In the miscellaneous class a fine group of Azalea mollis, Lilacs, Boronias, Heaths, Otaheite Oranges, &c., was shown by Messrs. Wm. Cutbush & Son, Highgate. The St. George's Nursery Co. exhibited a large group of Cyclamens. Mr. T. Jannoch had a table of Lily of the Valley, with the plants grown in conical mounds. Messrs. Ryder & Son, Sale, Manchester, had a group of Primula Sieboldi in several varieties. Messrs. Wm. Paul & Son had a collection of Camellia blooms. Messrs. Paul & Son had Roses, Lilac, &c. Mr. S. Hardy had Mushrooms as packed for market. Mr. T. Pestridge exhibited Cyclamens. Mr Wm. Slogrove had a basket of Marie Louise, Swanley White, and Neapolitan Violets.

Royal Horticultural, *March 28th*.—The quantity of plants and cut flowers was even more extensive on the above date than at the previous meeting. Daffodils, new Holland plants, Orchids, forced Roses, Azaleas, Ferns, Cinerarias, and a host of other subjects filled the tables from end to end. A basket of very interesting terrestrial Orchids, including Calypso boreale, Orchis tridentata, and Ophrys Speculum, was exhibited by H. J. Elwes, Esq., Andoversford, Gloucestershire. Cypripedium Exul, Dendrobium splendidissimum Statteriana, and other Orchids were exhibited by T. Statter, Esq., Stand Hall, Manchester. A fine piece of Dendrobium Wardianum album was exhibited by W. R. Lee, Esq., Beech Lawn, Audenshaw. Cypripedium T. W. Bond, and others were shown by C. L. M. Ingram, Esq. (gardener, Mr. T. W. Bond), Godalming. Some Dendrobiums, including D. Bryan and D. nobile Oakwood var. were shown by N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne. A Silver Flora Medal was awarded to Messrs. F. Sander & Co., St. Albans, for a varied group of Orchids, amongst which we noted Cattleya dolosa, a peloria form of Cypripedium Chamberlainianum, grand pieces of Oncidium ampliatum majus, Dendrobium Dalhousieanum, Trichopilia suavis, Odontoglossum Reichenheimii, and others. Epidendrum varicosum was shown by Messrs. Fred Horsman & Co., Colchester. A small group of Orchids was also shown by Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking. It included Cochlioda Nœtzlianum, Dendrobium superbum Burkei, D. cretaceum, and others. Cattleya intermedia Faustiana, etc., were shown by G. R. le Doux, Esq., East Molesey; W. C. Walker, Esq. (gardener, Mr. G. Cragg), Winchmore Hill; and J. W. Temple, Esq. (gardener, Mr. Bristoe), Leyswood, Tunbridge Wells, had small exhibits of Orchids. Cypripedium microchilum and Dendrobium Alcippe, both hybrids, were shown by Messrs. J. Veitch & Sons, Chelsea. Some interesting Orchids were shown by Baron Schroder (gardener, Mr. H. Ballantine), The Dell, Egham. A group of Orchids was shown by Messrs. W. L. Lewis & Co., Southgate, including a very dark form of Odontoglossum Hallii, O. Pescatorei Lewisii, also Trichopilia suavis, Gongora maculata and Mesospinidium vulcanicum grandiflorum. A Silver Banksian Medal was awarded to Philip Crowley, Esq. (gardener, Mr. W. King), Wadden House, Croydon, for a group of Ada aurantiaca, and Cypripedium villosum. A small group of Orchids was shown by Messrs. Pitcher & Manda, Hextable, Swanley, Kent. Cypripediums were most numerous, and Cattleya Trianæ alba and C. speciosissima Manda's var. were fine. A good piece of Dendrobium Devonianum was shown by Thos. Gabriel, Esq., Leigham Court Road, Streatham.

A Silver Flora Medal was awarded to Messrs. Hugh Low & Co., Clapton, for a fine group of Eriostemon pulchellum, Acacia Drummondi, A. armata, A. undulata, Aphelexis humilis, Heaths, Azaleas, &c. A Silver Banksian Medal was awarded to Messrs. E. D. Shuttleworth & Co., Albert Nurseries, Peckham Rye, for a group of the semi-double white Azalea, Deutsche Perle and A. mollis, in fine condition, set off with Palms, Maidenhair and Lily of the Valley. A similar award was made to Messrs. John Peed & Sons, Roupell Park Nurseries, Norwood Road, for a group of Palms, Dracænas, Crotons, Clivias and Caladiums. A Silver Flora Medal was awarded to Messrs. J. Laing & Sons, Forest Hill, for a group of stove and greenhouse plants, including Leea amabilis, Bertolonias, Clivias, and various Orchids. Olearia stellulata and Rhododendron gloxiniæflora were shown by Messrs. R. Veitch & Son, Exeter. Magnolia stellata and Chionanthus virginicus, were shown by Messrs. J. Veitch & Sons, Chelsea, receiving a Cultural Commendation for the latter. They also had some fine varieties of Amaryllis. A Bronze Banksian Medal was awarded to Messrs. E. D. Shuttleworth & Co., for a group of Daffodils, Arnebria echioides, Iris persica, Puschkinia Libanotica and other hardy flowers. A Silver Banksian Medal was awarded to Messrs. Barr & Son, Covent Garden, for a large group of Daffodils, some Chionodoxas, Primroses, Cyclamens, &c. A similar award was made to Messrs. Wm. Cutbush & Son, Highgate, for a group of Azalea mollis, Epacris, Staphylea and Palms. A Cultural Commendation was awarded to the Right Hon. Lord Hylton (gardener, Mr. C. Wood), Merstham, for a noble specimen of Ranunculus cortusæfolius 5 ft. high, with some leaves 18 in. in diameter. A group of Stocks in pots was shown by Mr. W. R. Newport, Hillingdon, Uxbridge. A Silver Banksian Medal was accorded to W. M. Bullivant, Esq. (gardener, Mr. Thos. Cresswell), Homewood, Beckenham, for a strong group of Cinerarias in tall-branched specimens. A similar award was made to Messrs. J. James & Son, Farnham Royal, for a superb group of Cinerarias, the plants being all very dwarf. A Silver Flora Medal was awarded to the St. George's Nursery Co., Hanwell, for a large group of Cyclamens in 48 and 32-size pots. A Silver Banksian Medal was awarded to Mr. H. B. May, Dyson's Lane, Upper Edmonton, for a large group of Ferns, including Platycerium grande, Nephrolepis davallioides plumosum, Osmunda regalis palustris, Pteris serrulata densa, and others. A Silver Flora Medal was awarded to Messrs. Paul & Son for a group of Roses and Hippeastrums. A group of Anemones was shown by M. Henry E. de Vilmorin, Paris. Some prizes were offered for a collection of Daffodils open only to amateurs, and the first prize was awarded to the Rev. S. Eugene Bourne, Dunston Vicarage, Lincoln. A third prize was awarded to the Rev. G. P. Haydon, Halfield Vicarage, Doncaster, whose collection was small.

At a meeting of the Fruit Committee a Cultural Commendation was accorded to Mr. S. Hardy, Ash House, Parsons Green, for Mushrooms as packed for market. Nine dishes of Apples in good condition were shown by Mr. T. Crook, Forde Abbey, Chard. Strawberries and Mushrooms were shown by Mr. T. Osman, the Gardens, Ottershaw Park, Chertsey. A Cultural Commendation was awarded to Mr. T. Lockie, Oakley Court, Windsor, for Cucumber Lockie's Perfection. A similar award was made to Mr. Geo. Wythes, Syon House, Brentford, for Strawberries. He also showed the Fig St. John.

Obituary.

We regret to announce the death of Mr. Henry Deverill, seed merchant, Banbury, which took place on Wednesday, the 15th ult. Mr. Deverill was well known to agriculturists and horticulturists, not only all over the Midland counties, but it may be said throughout the three kingdoms. He had secured a wide-spread reputation for the variety and remarkable character of the Onions he had put upon the market, which he exhibited largely, invariably securing premier honours. He was an able, energetic, and capable man of business, and commenced his career as shop lad at the Royal Nurseries, Slough, about 1855, and in course of time went to Banbury, first as assistant and afterwards as head shopman and traveller to Mr. P. J. Perry, but for a good many years he had carried on business on his own account. He leaves a widow, but no family. He was fifty-two years of age.

The death is also announced of Mr. Wm. Treseder, the well-known florist and nurserymen, of Cardiff, which occurred somewhat suddenly at his residence in Cowbridge Road, on Wednesday, the 22nd ult. Mr. Treseder was in his 64th year, and might be fairly regarded as among the old inhabitants of Cardiff. The borough was a very small one when he settled down in it in 1850. He joined his father in the business of a florist, and when, at the age of 23, it came into Mr. Treseder's hands, it developed as the town increased, and of late years assumed considerable proportions. The business will be carried on by Mrs. Treseder and the sons of the deceased.

WHAT TO DO IN THE GARDEN.

Stephanotis.—The greatest amount of bloom is secured from plants that are grown in beds of soil with moderately restricted root room. Other points to be attended to are the thinning out of the weakly and useless shoots that would tend to crowd and prove detrimental to the useful ones. If this was done in what might be termed the early stage of the autumn growth, the flowering shoots will be strong and the trusses now opening in the stove. Take every opportunity of keeping mealy bug in check.

Allamandas.—Some years ago there was a mistaken idea of the unmanageable nature of certain climbers when planted out, including Allamandas. It must be understood that such strong-growing sorts as Allamanda Hendersoni, and others of that class must be allowed a considerable amount of room to develop to something like their natural dimensions, and then they will flower most profusely. This cannot be expected while they are restricted to a few shoots trained under a rafter, so that those who expect to succeed with such noble climbers must allow plenty of space for their natural and proper development. The present is a good time for transferring pot plants to beds or borders in the stove.

Begonias.—The stove and intermediate houses can now be kept gay with several of the shrubby or subshrubby and hybrid forms of Begonias that are coming to the front at a rapid pace. Among them is the old B. nitida, pink, with its white flowered variety B. n. odorata, also B. Gloire de Lorraine, B. Triomphe de Nancy, B. Gloire de Sceaux, and others of that type. When well treated, not as neglected subjects in an out of the way corner of the stove, but with the best of attention, they amply repay it.

Acacias and other New Holland Plants.—The bulk of these are now in full activity, and therefore require a considerable amount of water which must be continued all through the growing season, except when they have been cut down after flowering to keep them dwarf and bushy. At that time the roots must be kept in a rather dry condition till the young growths have made a fresh start.

Peaches.—Maintain a steady temperature in the earliest house rather than attempt hard forcing until the fruits are fairly beyond the stoning period, after which the temperature may be kept at a high figure if so desired. Keep the trees well syringed with clean soft water three or four times a day in bright weather, damping down all available spaces at the same time. Give the fruit the final thinning, leaving the best and the most suitably placed, as equally distributed as possible over the tree at 9 in. or 12 in. apart. Take care that the trees do not get dry at the roots. Disbudding must be continued in the later houses whenever necessary, to prevent overcrowding with shoots that are not wanted to occupy permanent positions.

Melons.—The attention of the cultivator at present should be devoted to the maintenance of a steady temperature of 70° during the day. The alternate dull and cold days with sunshine will necessitate a considerable amount of attention to the regulation of the valves of the hot-water pipes, and likewise the ventilators. Should the leaves present a thin and drawn appearance at this season of the year, syringing should be left off for a time and a judicious ventilation given. Keep the atmosphere moist, however, by damping down the paths and all available spaces.

Globe Artichokes.—Fresh plantations should now be made wherever they are considered necessary. Well prepared rich soil that has been trenched during the autumn or winter and manured at the same time should be selected. A portion of an old plantation may be dug up for the purpose of getting plants; divide the latter and plant the crowns three together in triangular fashion and at a distance of 4 ft. apart each way. Old plantations may have the blanks made good in the same way.

Beet.—The main crop of Beet should now be sown in well prepared ground in lines 15 in. apart. Friable soil is always better for root crops than that of a clayey nature, and the roots will be better shaped if the ground is free from stones. Pragnell's Exhibition, Dell's Black Beet, and Cheltenham Green Top are all first-class sorts to grow.

Herb border.—If not already accomplished no time should be lost in making the necessary fresh plantations of herbs before active growth commences. The various kinds of Mint, Thyme, and perennial Marjoram, as well as Tarragon, can be increased by division of the crowns. Sage may be treated in the same way, but healthy vigorous plants are better obtained by sowing seeds. Also sow seeds of Basil, Sweet Marjoram, and Savory.

QUESTIONS AND ANSWERS

APPLES.—*Omega*: At the National Apple Congress at Chiswick in 1893, the number of distinct varieties shown was 1,545, but the number actually in cultivation in the United Kingdom may safely be put down at 2,000, and there are probably more.

SOOT.—*Omega*: Soot is a most useful fertiliser for Potatos, but if sown in the drills under the sets, much of its manurial value (the ammonia) is liable to be lost before the roots are ready to assimilate it if much rain follows the planting. The best way of using it is as a top-dressing, spreading it over the soil when the plants are well up, and working it in with a fork, rake, or hoe.

VINES DROPPING THEIR BUDS.—*T. J. Nelson*: You are forcing your young Vines too hard at this early period of the year. Instead of 70° at night, 60° would have been better, and 70° to 75° during the day with top air, closing sufficiently early in the afternoon so that the temperature might rise to 75° or 80° with sun-heat. The Vines have not been established long enough to bear the stress of hard forcing, the more so because they are planted out and not grown in pots. There would have been less danger if you had treated them to a night temperature of 60° till the berries were set and grown sufficiently to be thinned, after which the temperature could have been raised. We suspect also that too little ventilation has been given them, which is a mistake, as it has a weakening effect.

NAMES OF PLANTS.—*G. Cawston*: The Musk tree, Olearia argophylla.—*A. V. M.*: The spotted flowers are those of Tydæa, and the variety Madame Heine apparently. The other is a Brassavola which we do not recognise, but shall note later on if we can ascertain its name.—*A. L.*; 1, Puschkinia scilloides; 2, Adonis vernalis; 3, Pulmonaria angustifolia; 4, Narcissus obvallaris; Myosotis sylvatica.—*I. Rettie*: 1, Saxifraga Stracheyi: 2, Forsythia viridissima; 3, Erica herbacea.

COMMUNICATIONS RECEIVED.—E. P.—F. D. H.—F. W. B.—A. F. B.—A. D.—W. S.—W. W.—N. S.—E. R.—F. K.—A. T.

TRADE CATALOGUES RECEIVED.

TOOGOOD & SONS, Southampton.—Farm Seeds.

LONDON SEED TRADE.

March 28th.

MESSRS. HURST & SON, of 152, Houndsditch, and 39, Seed Market, Mark Lane, report a brisk demand for agricultural seeds. Trefoil realises higher prices. Red Clover, White, and Alsike steady. Italian Ryegrass dearer.

COVENT GARDEN MARKET.

March 29th, 1893.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Grapes..... per lb.	2 0	4 0	Pine apples. —St. Michael's, each	2 6	6 0
Kent Cobs...100 lb.			Apples...per ½ sieve	1 0	3 6
Peaches ... per dozen			Plums...per ½ sieve		
Melons ... . each					
Strawberries, per lb.	3 0	6 0			

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, French, per lb.	1 6	3 0	Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	5 0	Seakale .....per bkt	1 6	2 6
Celery.....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers .....each	0 6	1 0	Spinach ... per strike	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	1 6	2 0
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Anemones, doz. bnch	2 0	4 0	Mignonette... 12 bun.	2 0	4 0
Azalea, doz sprays.....	0 6	1 0	Narcisse, various, doz. bnchs	2 0	4 0
Arum Lilies, 12 blms.	2 0	4 0	Pelargoniums, 12 sps.	0 9	1 0
Bouvardias, per bun.	0 6	1 0	—scarlet.....12 bchs.	6 0	9 0
Carnations, 12 blooms	2 0	4 0	Primula, double, bun.	0 6	1 0
Chrysanthemum, dz bn	3 0	9 0	Primroses doz. bchs	1 0	3 0
Camellias doz blooms	1 0	3 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Cyclamen doz blooms	0 4	0 6	Roses, yellow, dozen	3 0	6 0
Daffodils, var. dz. bch.	2 0	9 0	— French, per bnch	1 6	4 0
Eucharis ...per doz.	3 0	6 0	— French, 100 blms.	6 0	12 0
Euphorbia Jackminafolia, doz. sprays	1 0	4 0	— Red..... doz. blms.	3 0	9 0
Gardenias 12 blooms	3 0	6 0	— Saffrano...per doz.	2 0	3 0
Heliotropes, 12 sprays	0 6	0 9	Snowdrops doz. bchs	1 0	2 0
Hyacinths doz. spikes	3 0	6 0	— Tea ..... per dozen	1 0	3 0
Hyacinths Roman doz. sprays	0 6	1 0	Tuberoses, per doz	1 0	1 6
Lilac, White, French, per bunch...	2 6	0	Tulips, red, per doz.	0 6	0 9
Lilium Harrisii, doz. blooms	4 0	6 0	— White, per doz. ...	1 0	2 0
Lily of the Valley dz. sps.	0 6	1 6	— Yellow, per doz....	1 0	2 0
Maidenhair Fern, 12 bs.	6 0	9 0	Violets, Parma, French per bunch ..	2 0	2 6
Marguerites, 12 bun.	4 0	6 6	—Czar, French, bun.	1 6	2 0
Mimosa (French) p. bh.	1 0	1 6	Small ,, doz. bun.	1 0	2 0

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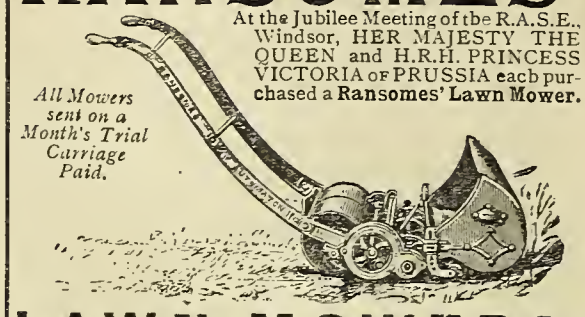

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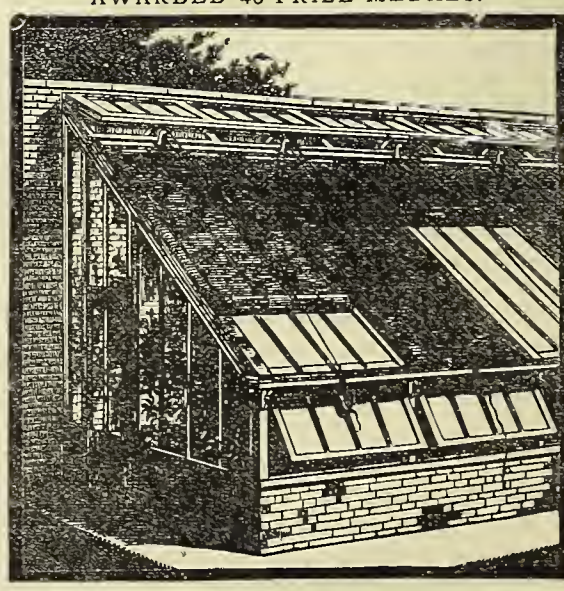

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I have pleasure in announcing that, having succeeded in obtaining several blooms from this season's sucker cuttings, every one of which having proved true, I have decided to accede to the urgent solicitations of many friends and growers to place this valuable variety on the market this season.

A limited batch of 1,000 plants will shortly be ready (of these Mr. H. J. JONES, Lewisham, purchases one half and will distribute simultaneously). Price 6/- each; 3 for 15/-; 6 for 27/6. No further trade reduction from these prices. Orders will be executed in rotation, and in case of insufficiency of stock, cash orders will receive priority.

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For Index to Contents see page 505.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, April 10th.—Sale of the Quorn House Orchids by Protheroe & Morris (3 days).

TUESDAY, April 11th.—Royal Horticultural Society: Meeting of Committees at 12 o'clock.
Brighton Spring Show (2 days).
Orchid Sale at Protheroe & Morris' Rooms.

WEDNESDAY, April 12th.—National Chrysanthemum Society: Committee Meeting at 7 p.m.

THURSDAY, April 13th.—Sale of Lily Bulbs, Plants, Palm Seeds, &c., at Protheroe & Morris' Rooms.

FRIDAY, April 14th.—Orchid Sale at Protheroe & Morris' Rooms.

SATURDAY, April 15th.—Ghent Quinquennial Horticultural Exhibition opens.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, APRIL 8th, 1893.

WANTED, RAIN.—Whatsoever may be the resources of civilisation, at least the production of rain in any artificial way is an impossibility. Had we just now any means of evoking from the heavens a considerable downpour of moisture it would be eagerly welcomed, especially that this is the season of the year when growth must ensue, and the nature of that growth must be dependent very largely upon the assistance it now obtains. Who, at the close of February, after we had passed through one of the wettest of months, would have imagined that by the end of March we should be calling out for rain. Yet is rain badly needed, and in every direction there are hearty wishes for it.

The past March may well be described as an unique month, not only in relation to dryness, but also to sunshine; indeed, whilst the average rainfall barely reached half an inch, the maximum of sunshine has almost equalled that of a brilliant summer month. Allied to that we have had day heat of a most exceptional nature for the season, a heat that has proved at once exhaustive to humanity and for vegetation. No wonder that, apart from the absence of rain, there should be such need for moisture now, such undoubted dryness of the soil because of the heat which has been experienced. It may be, so quick are the changes which occur in our weather, that ere this is read rain will have fallen. If it be so then will it prove most welcome. No wonder that with such brilliant weather there has been much activity in gardens, much cropping and forwarding of work.

What it will prove to be eventually we shall know better six weeks hence. The old adage respecting fogs in March being followed by frosts in May has already been frequently quoted, and there may be much of truth in it. In any case, everybody holds that for this heat and brilliant sunshine we shall certainly suffer later on, and that much is said because of the experience of previous years. The beautiful weather has brought out the Plum and Pear bloom gloriously, and nothing would so much tend to allay uneasiness on its account as would a change to showery weather.

HARDY FRUIT CULTURE.—The collapse of the British Fruit Growers' Association which has been finally registered has long been inevitable. Promoted with the best intentions, and largely employed to boom hardy fruit culture, it became sadly mismanaged, and after a lingering existence of many months has finally died. It may be that in its early days it did some good, still, so far as relates to the popularisation of fruit culture, we are disposed to think even now that the chief determining agency in that direction is popular demand for fruit, and given that, the supply is almost certain, at least so far as our erratic climate will allow.

Very valuable work indeed is performed by those who labour to teach the people the value of fruit as food, and to induce them as largely as possible to consume fruit products. How much of room there is for further development in that direction we all know. As to the nature of the supply which is so much desired, that cannot be too good. It is not enough, and never can be enough, that persons who have land should be induced to plant fruit trees, and to market the produce with about the same concern as they would Potatos. The bulk of our growers of hardy fruit for market have not got very far beyond that method of dealing with their produce yet. It is not merely that there is so much to learn, but there is so very much to unlearn, and it is in that direction we have been taught so successfully by American growers of Apples, who starting as new settlers and growers, and unhampered by old, negligent, wasteful methods, have adopted in every respect the best practices and beat us close to our own doors. Presently, no doubt we shall see landowners willing to let land on terms that will encourage the tenants to plant with the assured certainty that they will, if at any time dispossessed, receive full compensation for their outlay. The subject unhappily is tabooed as political, and yet it constitutes the very foundation of successful hardy fruit culture here.

"KINDS" AND "VARIETIES."—We hardly expected to find in the schedule of the Royal Horticultural Society for the autumn exhibition at the Agricultural Hall such an extreme misuse of the term "kind" as is found in connection with classes 40 and 41. These classes are for 12 and 6 "kinds" of Grapes, and curiously enough the addenda appears "Black and white Grapes admissible." It is the first time in any case that we have seen it implied that both colours are not admissible. But the incongruity of the wording is seen when compared with that found in classes 44, 45 and 48, and which leads to the impression that whilst the latter were drafted by an experienced hand the former ones are the work of an amateur or novice, and very poor work too for a leading horticultural society.

We had always thought that the distinction between the terms "kinds" and "varieties" were clearly understood. According to general acceptance there cannot be so many kinds of Grapes, because Grapes of themselves only constitute a kind of fruit, just as Apples, Pears, Peaches, etc., are kinds. What makes the wording of the classes 40 and 41 so indefinite and misleading also is that no mention is made of the number of bunches of each sort to be shown. That is an extraordinary omission, and is not found in any other class. The term "variety" as applied to Grapes in other classes is perfectly correct, and it does seem surprising that such a fact should have to be impressed on the minds of any one in these days.

We are pleased to see that orchard-house fruits are expressly excluded from the Plum, Apple and Pear classes, as they have two classes provided for them. That will prevent some grumbling and heartburning. Vegetables should make a prominent feature, although the condition that the produce staged in the class for twelve kinds must be shown in flats or rounds is a most objectionable one, and calculated to heavily handicap exhibitors from a distance. Oddly enough the highest prizes, relatively, are for six Leeks, and these are offered by a Scotch firm.

Mr. J. W. Machattie, for the last eight years gardener to the Marquis of Lothian at Newbattle Abbey, Dalkeith, has been engaged by the Duke of Wellington as gardener at Strathfieldsaye. He will be succeeded at Newbattle by Mr. A. McDonald, at present gardener to John Ritchie, Esq., Middleton, Gorebridge, N.B.

Royal Horticultural Society.—At the meeting of this society to be held on Tuesday next, Mr. Everard F. im Thurn has promised to read a paper on "Orchid Life in Guiana."

The Gardening and Forestry Exhibition at Earl's Court.—The schedule of prizes for the Flower and Fruit Shows to be held at Earl's Court this season is now ready, and can be obtained from Mr. H. E. Milner, Chairman of the Committee. A special show will be held on the opening day, May 13th, and the other dates fixed are as follows:—Orchid Show, May 18th and 19th; Rose Shows on June 28th and July 12th; Carnation and Picotee Show, July 26th and 27th; Show of flowering and fine foliaged plants, August 9th and 10th; Gladioli and Dahlia Show, August 23rd and 24th; Dahlia Show, September 13th and 14th; Hardy Fruit Show, September 17th, 28th, and 29th. Prizes for fruit are offered at all the shows but the first.

"The Flower Carriage."—With the arrival of the spring flowers, passengers on the Great Eastern Railway see once more every Saturday what is known on the line as "the flower carriage." One of the compartments of the train is filled with Stock Exchange men, each of them carrying in one way or another a quantity of fresh-cut flowers gathered from their gardens in Essex. These flowers (says *The Westminster Gazette*) are put up to auction in "the House" in the course of the morning, the proceeds week by week being sent to one of the London hospitals. The amount of the donation is often considerable, as the flowers realise handsome prices, the brokers and jobbers often bidding up to half-a-crown for a bouquet which takes their fancy.

Mr. and Mrs. Dodwell's Golden Wedding.—Mr. and Mrs. Dodwell will celebrate their golden wedding on the 20th inst., and it is proposed by some of Mr. Dodwell's old friends who have long watched the work done by him in the development of the Carnation, and who have very pleasing memories of the social meetings of the Carnation and Picotee Union at Oxford, to commemorate this auspicious event by the presentation of some suitable piece of plate. In order that the greatest number may share in this pleasing testimonial individual subscriptions are limited to 2s. 6d. or 5s. As it is necessary that immediate action should be taken, it is hoped that the appeal now being made will be responded to quickly, as the subscription list must be closed by April 12th. Subscriptions should be sent direct to the treasurer, Mr. R. Sydenham, 190, Bristol Road, Birmingham. The committee formed to carry out this movement consists of—Messrs. W. Bacon, Derby; T. E. Henwood, Reading; A. R. Brown, Birmingham; A. W. Jones, Birmingham; C. H. Herbert, Birmingham; Tom Lord, Todmorden; W. M. Hewitt, Chesterfield; M. Rowan, Clapham; Robert Sydenham, Birmingham, treasurer; and W. Dean, Sparkhill, Birmingham, hon. sec.

A Willow from Napoleon's Tomb.—A few days ago Sir William Cunliffe Brooks, of Glen Tana, Aberdeenshire, wrote Mr. Peter Harper, custodian of the Aberdeen Duthie Public Park, stating that a few years ago, while abroad, he took a slip from the Willow at the tomb of Napoleon at St. Helena, and since then had propagated several young plants. One of these he offered for the Duthie Park. He asked that arrangements might be made for having the plant brought to Aberdeen from Glen Tana, and planted on the same day. On Thursday afternoon, 30th ult., Sir William, who visited Aberdeen, brought the plant along with him, and handed it over to Mr. Harper. The interesting gift has been acknowledged, and is being suitably cared for.

The Gardens and Orchards of Cornwall are now a perfect picture, and altogether this has been truthfully regarded as the most remarkable spring for half a century. For nearly a month the sky has been almost cloudless, and vegetation is fully a month earlier than last year. Fruit will in all reasonable probability be very plentiful, for the time when the heavy easterly winds visit Cornwall, and which do so much damage, is passed away. Flower growing in Cornwall is following the example of Scilly, and whereas in former days small plots were employed, there are now broad acres devoted to Wallflower growth.

Dendrobium nobile.—An Aberdeen correspondent writes:—It may interest lovers of Orchids to know of a plant of Dendrobium nobile at present in full flower in the gardens of Ex-Lord Provost Henderson, Devanah House, Aberdeen, the dimensions of which are about 3½ ft. in diameter and about 15 in. high. A most perfect specimen, carrying over 600 individual blooms, well developed, and well coloured. Mr. Proctor, the gardener, seems to have reached perfection in the cultivation of the Dendrobium, but it is only fair to say that many other kinds of Orchids are growing and flowering exceedingly well under his care. I think I might venture to say that Mr. Proctor would be pleased to show any one interested in such flowers the noble specimen above described.

Pear Culture.—The last of a series of lectures in connection with the Horticultural Association was delivered on the 29th ult., in Dowell's Rooms, Edinburgh, by Mr. Alexander M'Kinnon, who took "Pear Culture" for his subject. The lecturer said that the Pear was in all probability brought into this country by the Romans. It would doubtless be largely cultivated by the monks in the orchards surrounding their monasteries, not only as an article of luxury, but also for the manufacture of Perry. Great attention had been paid in France and other Continental countries to the cultivation of the Pear, and the finer sorts grown in Britain were all of Continental origin. In Britain they were much behind, and this was due no doubt to the uncertain nature of their climate. Mr. M'Kinnon then dealt with the cultivation of Pears and the results yielded by different varieties. Mr. Alexander Mackenzie, who presided, said that if adequate attention had been paid by those present to the lectures delivered under the auspices of the Association, the members would be entitled to rank as men of light and leading wherever they were placed. Gardening was one of the most imitative of arts. A good gardener exercised a great influence upon surrounding districts, and it was with a view of making a gardener influence a wide district that these lectures had been delivered. It was much more profitable for a gardener to hear lectures such as these, than to wade through long volumes upon the subject, at the risk of making great mistakes in the selection of varieties.

Transplanted Trees.—The effect of long continued dry weather upon recently transplanted trees, particularly large ones, is beginning to be felt, and planters will have to supply the want artificially to prevent the trees dying. Particularly is this the case with Cupressus, Thuya, Pines, Spruces, and other Coniferæ, as well as Hollies, Chestnuts, Thorns, and ornamental trees generally. A good soaking at the roots would do them good, but if the tops could be given a good hosing it would not only wash them, but keep them moist.

HORTICULTURAL EXAMINATIONS.

I TRUST that the importance of the subject may be my excuse for troubling you. Our society, in compliance with numerous requests from County Councils, directors of technical institutes, lecturers, and others, is going to hold an examination in the elementary principles and in the practice of horticulture. The date fixed for the examination is Thursday, May 4. Being anxious that everyone in the United Kingdom who desires to sit for such exam. may have the opportunity of so doing without unreasonable difficulty, we are prepared to institute such exam. in any village or town in the kingdom, where any magistrate, clergymen, schoolmaster, or any responsible person accustomed to the conduct of examinations, will undertake to act as our representative and see that our rules are strictly observed, and that no copying or consulting of books, &c., takes place. Anyone, therefore, wishing to sit for such exam. can do so close to his own home if he will by the end of the first week in April put me in communication with any such responsible person who is willing to act as our supervisor of the exam. Obviously we must leave this part of the work to the candidates themselves, as we cannot know the names of suitable and willing persons in every village and town in the country.

Three scholarships of £26 a year tenable for two years are offered in connection with the examination, and I am already in correspondence with a very large number of persons in all parts of the country with reference to it.

A fee of 3s., payable in advance, will be charged to all persons entering for the exam., and all letters on the subject requiring an answer should contain a stamped and directed envelope. I need hardly say that the fee of 3s. will not nearly cover the necessary expense of the exam., which will, therefore, entail considerable loss on the society's general funds, but the council are of opinion that by making the fee as low as possible they are promoting the best interests of horticulture, and they trust that their action will commend itself to all lovers of gardens.—*W. Wilks, Sec. R.H.S.*

P.S.—The entrance fee should in all cases be sent to me before the date of examination.

PAST AND PRESENT—A REVIEW.*

IN offering some remarks upon a few of the more popular and useful flowers, fruits, and vegetables that are more or less extensively grown in gardens and orchards, my aim shall be to point out their relative antiquity and the care and trouble that has been expended upon them to bring them to their present state of perfection, as well as to notice some of the more dominant facts relating to their past and present culture and future prospects from a popular point of view.

APPLES.

History often repeats itself, and in view of the recent demonstration in the gardens at Chiswick as to the method of drying fruits for their preservation with the new machine, it may be interesting to note that the ancient inhabitants of Europe had a method of drying fruits in the Stone Period—an age so remote that no approximate date can be given in figures, as the following extract relating to the discoveries in the lake villages in Switzerland from "Prehistoric Times," by Sir John Lubbock, will show: "Carbonised Apples and Pears have been found at Wangen, sometimes whole, sometimes cut in two, or more rarely into four pieces, and evidently dried and put aside for winter use. Apples are more numerous than Pears, and have occurred not only at Wangen, but also at Robenhausen, in Lake Pfeffikon, and at Concise, in Lake Neufchatel. Both Apples and Pears are small, and resemble those which still grow wild in the Swiss forests."

Within historic times the Romans cultivated at least twenty-two varieties, which they had already divided into sweet Apples for eating and others for culinary purposes. They also possessed a variety without a core. Something similar was exhibited at the Apple and Pear Conference at Chiswick in 1888.

The Wild or Crab Apple is a native of Britain from the Forth and Clyde southwards; but there is every reason to believe that the cultivated and improved sorts of the present day have mostly or all been derived from Continental sources, and not from our native Crab. In all likelihood the Romaus introduced some of the varieties they possessed, as in the case of other fruits of their native country. At all events we have records showing that Apples were largely cultivated as far north as Dunkeld as early as A D. 470, that is, before the advent of the Saxons to that part of the country.

It is fortunate for us that the Apple should have been a native of this country, and that the improved sorts should take kindly to British soil, for Britain has always been from an early period comparatively independent in the matter of raising new sorts of superior merit for cultivation in this country. Indeed, the varieties have been so numerous, that various writers have from time to time given a select list of those worthy of preservation. It is worthy of note that of the numerous varieties of French origin 130 to 150 years ago, only three of them were considered worthy of preservation in Philip Miller's time.

In those days, and for at least 100 years previously, the Paradise and other dwarfing stocks, as well as free stocks and Crab stocks, were well known to fruit growers. Several eminent writers were of opinion that the true Crab stock was the best, most durable and hardy whereon to graft all trees except for small gardens, pot work and by way of curiosity, as in the case of the French who grafted or budded their trees on the Paradise, grew them in pots, and brought them to the table with the fruit upon them. We now understand the use of the various stocks much better at the present day, and it is significant to note how comparatively useless is the French Paradise for all except small trees for pot culture. The Doucin will be the dwarfing stock of the future. When land tenure is on a better footing it is more than probable that Crab stocks, or something closely similar, will be largely employed for standard trees to be planted in orchards.

About the beginning of the present century the raising of new varieties of Apples was in active progress, yearly superseding those already planted over the length and breath of the land. Many of these were being brought before the public in 1818, and Joseph Sabine, in a paper read before the Horticultural Society of London, said that the attention of the society was directed to the forming of a list of those Apples whose value was ascertained and of encouraging the distribution and cultivation of those only. He also said that the Apples to be seen in the shops of the metropolis were so inferior as to excite surprise that they should be purchased. A list of ninety-two sorts of dessert Apples was furnished soon after by another writer, of which only two dozen or so are now anything like common. A list of forty-eight culinary Apples of the same date might now be reduced to a dozen. Very few even of those are popular at the present day. So great has been the improvement in size, colour, and other qualities of culinary Apples since then that the list then given would now be very considerably reduced and a greater number of superior and popular sorts added. The list of dessert Apples is not so seriously affected. In the face of these facts there is still good evidence that we can yet improve and should give encouragement to the improvement of the Apple. In spite of the modern competition from the New World, we should still uphold the fact that with few exceptions British Apples are the best in the world, and looking to our reputation, show that our country is not merely a land of fogs nor that our Apples are all Crabs.

PEARS.

I have already mentioned the fact that Pears are of prehistoric antiquity as an article of food. The Romans possessed more than three dozen sorts, including melting and hard varieties, and some were named *Libralia*, just as we have Catillac or Pound Pear. Although the tree is naturalised in this country it is not a true native, nor does it ever appear to have been anything but of secondary importance to the Apple in this country. The greater number of the best varieties are of Continental origin, as they were 150 years ago or even earlier. About that time great improvements were effected in the cultivation of Pears in this country, whereby some of them were made to ripen their fruits one or two months earlier than they were wont to do previously. This was brought about by grafting or budding upon the Quince stock, as well as by working late kinds on summer ripening varieties, by pruning and by growing them as dwarfs for walls and espaliers. Philip Miller in 1759 described eighty of the best then in cultivation, many of which are still in existence. His lengthy list was made to please those who are fond of variety, for failure was as frequent then as now, if not more so, in securing a crop.

In 1811 we were much in the same position as now with regard to the raising of varieties suited for our climate. About that time the Horticultural Society intended to offer premiums and medals with the object of improving various kinds of fruit, including Pears. It wanted to encourage the production of Pears like those obtained from France, but sufficiently hardy to ripen on standard trees, and supply the markets with a good commodity at a reasonable price during winter and spring. About the same time it was stated by another writer that the English were outdone by the French in the division of labour. In some parts of France whole villages were often engaged in the production of a single kind of fruit, and in that they excelled all who divided their attention amongst a great number. By this method greater perfection was attained than in any other way.

Notwithstanding all encouragements given, the bulk of the best of our Pears enjoy Continental or foreign names. The uncertainties of our climate, and comparatively low temperature stand in the way of anything like certainty of securing remunerative crops except in fine seasons. The finest Pears reach our markets from France and the Channel Islands. The question of raising varieties better suited for our climate still remains; and until that is settled the most feasible plan for those who would grow Pears for commercial purposes in this country, would be to settle in the more favoured and southern districts of England, just as growers of various other fruits or vegetables, should settle in districts pre-eminently suited for one kind or another.

POTATOS.

The Potato had been cultivated from time immemorial and brought to great perfection by the natives of Peru and other parts of South America before the arrival of the Spaniards, so that much that had been considered new in this country, after its introduction had doubtless been a repetition of what previously existed. It is supposed that the colonists who were sent out by Sir Walter Raleigh in Queen Elizabeth's time, in 1584 brought back the Potato with them in 1586. Gerard in his "Herbal" figures it in 1597 under the name of Potato of Virginia, and recommends it to be eaten as a delicate dish. It is probable, however, that the Spaniards carried it from Quito to Spain prior to the above date, for it was in common use in Italy in 1598.

Its early history in this country is somewhat amusing. Shakespeare in the *Merry Wives of Windsor*, says:—"Let it rain Potatos, and hail kissing comfits," in allusion to the manner in which our ancestors were duped by the imaginary qualities of the Potato, which was served up in the form of confectionery and sold at a high price by dealers about the Royal Exchange.

Coming to more recent times when the cultivation of the Potato had taken a firm hold of this country, we find that not only had numerous varieties been raised, but that the average duration of a variety had been determined. Dr. Hunter limited this to fourteen years. As modern instances of this, amongst the many kinds that might be named, may be cited the Scotch Champion not now so disease-resisting as it used to be, and the popular Magnum Bonum, now being superseded by The Bruce for field purposes.

Andrew Knight, one of the members of the first council of the Horticultural Society, and who did so much for horticulture, mentions an ingenious experiment which he carried out to prevent early varieties of Potatos from producing tubers in order to make them flower and produce seeds. He planted some Potatos on the south side of mounds of soil, and when the stems were 4 in. high he fastened them up to stakes and then washed away the soil from them by means of a strong current of water, till nothing but the fibrous roots retained a hold upon the soil. Flowers were freely produced and likewise seed in quantity by those early varieties which previously refused to bloom. Then he proposed crossing the flowers of large late kinds with pollen of early ones in order to get early varieties suitable for field purposes. I mention this to demonstrate the utility of scientific experiments, and the activity in horticultural progress that then prevailed.

* A paper read by Mr. JOHN FRASER before the Ealing Gardeners' Mutual Improvement Association.

Tubers of great size seem to be the prevailing idea at present; but such sorts as Reading Giant, White Elephant, Snowdrop and Prodigious should determine the limit in that direction. Seedlings raised from Abundance, a pebble-shaped white variety, and which were recently certificated at Earls' Court, exhibited in one case a close approach to the Kidneys, Mr. Bresee and Peerless Rose, and in another case to The Dean and Purple Perfection, both round varieties, thus showing the unmixing of a blended parentage brought about by much intercrossing.

Disease-resisting varieties should be the aim in future in the raising of new varieties. From this point of view Messrs. Sutton, of Reading, have been crossing Sir Walter Raleigh's Solanum tuberosum with Darwin's S. Maglia and *vice versa* with the object of getting fresh blood, stronger constitution, and disease-resisting varieties.

ROSES AND THEIR CULTURE.*

(*Concluded from p.* 484).

Noisette.

Raised by Mons. Noisette, 1816. The old blush Noisette came from America. The characteristic properties are its blooming in large clusters and a free habit of growth, producing long vigorous shoots, partaking the fragrance of the Musk and Tea-scented families. Good varieties have been raised, but were crossed by the Teas, thereby becoming less hardy than the original kinds, and some I cannot see any Noisette in them. They certainly ought to be classed as Teas—I mean climbing Teas, suitable for walls and pillars. Some of them will do very well for standards. They should be encouraged to make vigorous growths, which should not be shortened; but thin out weak and crowded shoots. Cloth of Gold and Maréchal Niel should be grown against a south wall. The Maréchal Niel is also a good Rose for indoors. When pruned the long shoots should be bent down for a few weeks to make the back buds break. After that train in proper form. They like a stiff soil when worked on the Briar, but well drained; but if on a light soil La Griffere or Celine are the best stocks. They do moderately well on their own roots.

Moss Roses.

The old Moss Rose introduced from Holland upwards of 200 years ago is still one of our best and most beautiful Roses. The common Moss is the type of what a Moss Rose should be, having a most pleasing appearance. The Crested Moss with its fringed buds is most peculiar and beautiful. The old Moss is best pegged down in beds of rich soil, annually manured. Some of the strong varieties will do as standards and pillar Roses; they require moderate pruning. The White Bath will do pegged down. This beautiful variety was first produced about the year 1808, in the gardens of Gabriel Goldney, Esq., at Clifton, Bristol, from a branch of common Moss Rose becoming diseased. It produced its flower white, and now if it is grown in rich soil it frequently comes light pink.

Perpetual Moss Roses.

It is not many years that we have had this beautiful class of Rose, but we have now a first-rate variety. They differ from the old Moss Rose by their blooming in the autumn. They must have rich soil and close pruning.

Bourbon Roses.

They were introduced from the Isle of Bourbon about 1820. They are hardy and free flowering and most beautiful Roses with dark shining leaves, thick and leathery. They are, strictly speaking, autumn Roses, although they flower early as well as late. Some are moderate growers and some vigorous, forming the best of pillar Roses with their fine handsome foliage, which is nearly sub-evergreen. They can be grown on their own roots, but better on the Manettii stock. They make first-class standards. They like a heavy soil when on the Briar.

The China Roses.

Rosa Indica is a native of China. From this and the old Crimson China have sprung all the varieties in this family. This family was introduced in 1789. They have a very refreshing scent. Like the Tea-scented Rose they are good for pots. Pruning must be very light. Thin out the small shoots about the end of March. They are very pretty for small beds, and produce a great number of flowers throughout the summer and autumn. They succeed best in warm dry soil, with a good dressing of leaf mould and dung.

The Old Cabbage Roses.

The old Cabbage Rose is very hardy and sweet-scented, of moderate growth, most beautiful for beds. Rose de Meaux, one of the oldest Roses, is a first-rate bedder, and a very nice thing for the edging of Rose beds. The Provence Rose requires close pruning; the soil rich, but not too heavy.

The Old French Roses.

They were introduced into England over 200 years ago, and nearly 1,00 varieties have been cultivated. But as hybrid perpetuals have increased, they have died out. They are of the most perfect form. They are very hardy, and will grow in any soil. They will do as standards. Do not prune too close. I will mention two or three that are good—Commandant Beurrepaire, striped rose, purple, and violet; Shakespeare, velvety purple, centre scarlet; Village Maid, white and crimson, striped.

Mycrophilla Roses

were introduced from Japan. They make splendid shrubs. After flowering, the scarlet hips in the autumn look grand. There is a new one—Madame George Braunt, a perfect white, flowering in clusters. It was got by crossing Rugosa Alba with Sornbreuil, a Tea. These Roses will do well in any soil.

Austrian Briar Roses.

These Roses are very hardy and very pretty. They make a good bed. In pruning, only the ends of the shoots should be taken off, as these varieties bloom only on wood of one year old. They require a very rich soil.

Damask Roses.

There are a few excellent Roses in this class. They are beautiful summer Roses. They are very easily known by their pale green foliage. Moderate pruning and a good soil suits them.

The Scotch Rose.

This is a pretty summer Rose, very small, but of all colours. They like good soil. In pruning thin out half of the shoots; those left cut to half their length.

The Banksian Rose.

This Rose requires to be grown on a south wall. The small white is better to flower than the large one. The scent is very much like the Violet. They flower in small clusters in June and July, and are sub-evergreen. No pruning is required until they are thick. Then some of the strong shoots should be removed; all the weaker should be left, as they produce the flower. The roots like a light soil.

Ayrshire Roses.

These Roses are grand for covering trunks of trees, arbours, archways, or rough banks, or they may be budded on tall stocks, seven or eight feet high. Train them over a hoop. The branches trailing down, loaded with flowers, look splendid. In pruning them, thin the shoots only.

The Fairy Roses.

This is a very ornamental class of Roses. The flowers being very small, they look pretty for edgings of Rose beds. They are also fine for pot culture, producing from forty to fifty flowers in clusters. For pruning just thin out the shoots. They like a light soil.

ON THE CULTIVATION OF THE ONION.*

There are several distinct types of Onions, notably the White and Brown Globe, White Spanish, Deptford or Strasburgh, Blood Red, Tripoli, Giant Rocca, White Lisbon, and the Silver Skin, and these again are also represented by several different varieties. The Globe, White Spanish, and Blood Red are used for spring sowing; the Tripoli and Giant Rocca for autumn sowing; and the Silver Skin for pickling. There are also the Tree or Bulb bearing Onion, and the Potato or underground Onion, but neither of these types are cultivated to any great extent.

Spring Sowing.

The place chosen for the spring sowing should be an open situation, where they can obtain plenty of sun and air. The treatment of the soil will, to a certain extent, depend upon its character whether light or heavy, but in either case it should be liberally enriched with manure. If it is a light gravelly soil, a good dressing of cow or pig manure, dug in during the autumn or winter, would prove very beneficial. But where the soil is heavy, resting on a subsoil of clay, it may be greatly improved by adding a good dressing of road sweepings, mortar rubbish, wood ashes, or any other material that tends to keep the ground open. I would also recommend that, instead of using cow or pig manure, a dressing of horse manure should be used, and that the digging should be done early in spring, as I have found by experience that where the ground is heavy it takes a much longer time to get it in a dry friable condition for sowing if dug in the autumn than it does if dug early in the spring.

Presuming then that the ground has been dug and liberally enriched with manure, it should be in excellent condition for sowing the seed towards the end of February or the beginning of March, but on no account should the seed be sown before the ground is dry enough to be worked properly. Before sowing the seed the ground should be raked down level and all the rough stones taken off; then apply a good dressing of soot all over, and rake it well in, This will be found very beneficial to the crop, besides acting as a check to that troublesome pest the Onion Fly. The rows should then be set out 1 ft. apart, and if it is a very large bed a 2 ft. space should be left every 6 or 8 ft. to allow for weeding and thinning, etc. Shallow drills should then be drawn, and the seed sown moderately thin, taking care to label each variety as the sowing proceeds. After the seed is sown the bed should be raked over with a fine rake just sufficient to fill up the drills and to give the bed a neat appearance.

If the soil is stiff and heavy it will not require any treading or beating, but if light, it should be well trod or beaten with the back of the spade, or receive a good rolling till it is quite firm. Nothing more will be required till the seedlings are up, when the bed should be lightly hoed, and subsequent hoeings will be found necessary during the summer to keep the ground clear of weeds. The plants should be thinned out as soon as they are large enough to from 4 to 6 in. apart. They are very useful when small for salading, and may be thinned out gradually till they are the proper distance apart, but in all cases the thinning should be completed before the bulbs commence swelling. If the summer be dry, watering will be required, to keep the crop growing, for if the bed is allowed to get too dry, the bulbs will commence to ripen early, and will consequently be small. A good watering with liquid manure or weak soot water will greatly assist the swelling of the bulbs.

Towards the end of August or the beginning of September, when the tops begin to turn yellow, they should be pulled up and laid with their base towards the sun, choosing dry weather for the operation, so that they may ripen thoroughly. If it should happen to be a showery time when they are pulled up, and there is no chance of their ripening well, they should be laid out in an open shed, or some place under cover where they will get plenty of air, for thorough maturation is very essential if they are wanted to be kept any length of time.

The varieties most suitable for spring sowing are:—

Improved Reading. This I regard as one of the best main crop Onions, as it grows to a large size, is mild in flavour, and a good keeper.

Bedfordshire Champion. This is another good Onion, of fine shape, and an excellent keeper.

James's Long Keeping is a variety that everyone should grow on account of its excellent keeping qualities, remaining as it does in good condition long after other varieties have become useless, though it is rather strong in flavour. I have frequently had this Onion in sound condition till the middle of May.

Brown Globe is one of the most useful and best keeping varieties grown.

Blood Red is a medium sized variety of strong flavour, and is a good keeper.

White Spanish is a large and admirable variety, very mild in flavour, and one of the best for general cultivation.

I do not think a long list of varieties is of any use, in fact, those who do not wish to be encumbered with a lot of varieties could not do better than choose the three first named, but should they require more then the other three may be taken as being well worth cultivation.

Autumn Sowing.

Onions may be sown in the autumn for producing large bulbs to come into use before those sown in

* A Prize Essay by Mr. C. Edwards, gardener, The Elms, Castle Bar, Ealing, a member of the Ealing and District Gardeners' Mutual Improvement Association.

spring are ready, and also for drawing young to use for salading. The ground should be prepared as before directed except that the drills should be drawn deeper to prevent the frost lifting the young plants out of the ground during the winter. The seed should be sown in the beginning of August and a warm site should be chosen for the bed. Treading or beating the ground must be resorted to at this time of the year whether the soil be light or heavy, as being dry it cannot be made too firm. If the weather be exceptionally dry, watering will be found necessary to enable the seeds to germinate. The plants should remain in the bed till the end of February or the beginning of March, according to the state of the weather, when they should be transplanted to a bed of good rich soil. In transplanting the roots should be preserved as much as possible. In May and June the bulbs will be growing freely, and probably some will be inclined to "bolt" or run to seed, but if the tops are laid over it will check them from running to seed to a great extent. When laying over the tops care should be taken not to break them off at the neck, which is generally brittle at this period, and if the finger is held directly under the stem, and the stem pressed down gently with the thumb, they will not so readily snap off. This process is of great practical utility in the cultivation of Onions, as the growth of the stem is checked, to the great benefit of the bulbs. As the autumn sown Onions do not keep long only a sufficient number should be planted to meet the demands of the kitchen until the spring sown bulbs are fit for use. Varieties suitable for autumn sowing are the Tripoli or Giant Rocca, White Lisbon, Ailsa Crag, and Rousham Park Hero.

Cultivation for Exhibition.

In growing Onions for exhibition it is necessary in the first place to select varieties that grow to a large size, such as Rousham Park Hero, Anglo White Spanish, Ailsa Crag, Improved Wroxton, Suttons' A1, etc. The seed should either be sown in the Autumn, and transplanted as advised for Autumn-sown Onions; or they may be sown in January, in boxes or pans, and placed in a moderate heat till they are up, when they should be pricked off in boxes, and gradually hardened off till they are large enough to plant out of doors. They should be planted on a bed of very rich soil that has been previously dressed with cow or pig manure. Small trenches should be made, and the roots carefully placed in them, leaving the plant above the surface of the soil.

Frequent waterings of liquid manure and soot water should be given them when they are growing freely, or a slight sprinkling of artificial manure, such as Clays' Fertilizer or Guano, may be used where liquid manure is not obtainable. The Guano or Fertilizer should either be used in showery weather, or be watered in. Frequent attention will be necessary in bending over the tops, until they commence to turn yellow and die away, when the bulbs should be pulled up and ripened thoroughly, taking care not to bruise them in any way. They should then be stored in a dry, airy shed, laying them out singly till required for exhibition.

Cultivation for Pickling.

The chief object in producing Onions for pickling is to have them small, therefore they should be sown on poor soil that has not been manured. The seed may be sown during March or April, either in drills 6in. apart or broadcast, and for this purpose they should be sown pretty thickly. Thinning will not be necessary, simply keeping the bed free from weeds is all the attention required till they begin to die down, when they should be pulled up and ripened the same as the others, they will then be in a fit condition for pickling at any time. The varieties most suitable for pickling are the Silver Skinned, so called on account of the flesh being white streaked with fine green lines extending from the base to the neck. The Queen is one of the best varieties of the Silver skinned type remarkable for its rapid growth and ripening before any other sort. There is also a variety called Two-bladed on account of its only producing two blades or leaves; it is small, early, and useful.

On Storing.

Where Onions are required all the year round storing is of the utmost importance, and for this reason all varieties should be kept separate, as keeping quality is a variable quantity. A cool dry shed or loft, from which frost is merely excluded, is an excellent place for storing them. It is a good plan with late keeping varieties to string them up and suspend them to the rafters in the middle of the room. All varieties that do not keep long should be used first, and these may be laid on the floor or on racks two or three bulbs thick.

Insects.

Anthomyia Phorbia ceparium, or Onion Fly, as it is most commonly called, is at times most injurious to the crops. I have seen whole beds of them rendered comparatively useless where the fly has been allowed to go unchecked. Therefore at the first sign of this insect appearing stringent measures must be taken to destroy it. The flies are not unlike common house flies in general appearance, but rather smaller. They emerge in early summer from the pupæ, which have remained underground all winter. The female generally lays her eggs five or six in number on the leaves just above the soil, and from these emerge larvæ, which bore downwards into the bulb. When full grown they burrow into the soil, and there become changed into pupæ. The entire development occupies from four to six weeks, so that several broods may appear during the summer. It is necessary to prevent the appearance of the fly if possible. Deep trenching of the soil in order to bury the pupæ is a good practice; also changing the situation of the crop and sowing as far away from where the preceding year's crop was sown is another remedy. Dressing the ground with soot is a capital preventative, especially if done when the crop is sown. Should the fly obtain a footing, it is easily detected by the leaves turning yellow. All the affected bulbs should be pulled up and burnt, and the bed receive a good dressing of soot, or diluted paraffin oil may be used, say a wineglassful to two gallons of water. This will check the fly and save some of the bulbs.—*Garlic.*

COVENT GARDEN AT EASTER.

"No, it is practically impossible to give any statistics as to the flowers which go through Covent Garden at Easter, or any other time," began Mr. J. Assbee, the superintendent of the market, in reply to a representative of the *Daily Graphic* who asked him a question on the subject. "You see," he continued, "we simply let the flower stands to the holders at so much a year, and then they do as much business as they please."

The Harvest of the South West.

"Is Easter always a busy time?"

"Yes, for it is the opening of the flower season, though the height is not reached until Whitsuntide, when flowers are sent in in the greatest abundance, but this year sees the market unusually well supplied for church decoration purposes. It has, of course, been an exceptionally favourable season for all the outdoor flowers for one reason, but, perhaps, the real explanation lies in the fact that we are only just beginning to obtain the full benefits of the enormous activity which has been shown in Narcissus growing in Jersey, the Scilly Isles, and Cornwall. Acres and acres have been devoted to the culture of these flowers in various varieties, but even though lavishly planted, it must of necessity be some years before flowers could be cut freely from them. These immense gardens are now coming into their full bearing strength, while through them we obtain such flowers a fortnight earlier than the growers nearer home can supply us."

"But has not that seriously affected the smaller gardens round London?"

"Not nearly so badly as you would imagine. These are the flowers which the general buyer who has not much money to spare will buy, and it is probably some days before he or she realises that they have 'come in.' They are to be seen soon on all hands, and so the taste for them is encouraged, and people go on purchasing them longer than they would do were they not plentiful and popular."

Primroses, Narcissi, and Arums.

"What about Primroses?"

"They are very good this year, for there has been no heavy rain to damage them. They come chiefly from the southern counties."

"Whence does the market obtain its chief supplies of the choicer flowers?"

"Almost entirely within a radius of twenty miles. The Genistas, the Heaths, and the stove plants almost all come from growers who live in certain well-defined districts, as for example the Tottenham district, the Enfield district, or the Twickenham district. For delicate growing flowers of that description, it is a great advantage to be able to send them in direct by covered vans, as they do not suffer in appearance before they reach the purchaser. But now there are large hothouses in the neighbourhood of Farnborough and Aldershot, and in time, no doubt, we shall receive them from still greater distances."

"Arums, I notice, are cheap this year."

"Yes; that is because they are very easily cultivated, and in careful hands the plants bloom very freely. When they were sold wholesale at nine or ten shillings a dozen many saw that they might be made a highly profitable industry, and now, like the Narcissus, they are almost superabundant. Flowers that a few years ago would have fetched the sum I have named hardly bring more, now, than half-a-crown a dozen. On the other hand the other important flower of Eastertide, the Eucharis, maintains its price, though the supply is fair, because it requires great heat and infinite attention in growth. Roses are coming in from the Riviera in good quality and great abundance, and I think they are likely to form an unusually important feature of this year's decorations."

Foliage in Fashion.

"So far as you can judge, is there any new fashion coming into the decorations?"

"Undoubtedly; foliage will be more extensively employed, partly because it lasts longer itself and helps the flowers to last longer, and partly because people are awakening to its great beauties and possibilities. All sorts of small fronds, of variegated leaves, the tips of the Hawthorn when first bronzed by passing frost, the red and brown ground Ivy, and every trailing plant, are eagerly sought, while Grasses are among the most useful adjuncts of fashionable floral arrangements."

"The really keen business of the Easter flower market is done, is it not, between six and eight o'clock on Saturday morning?"

"Well, that is when enthusiastic church decorators come down in order to secure some of the choicest of the flowers, but you see that is one of the days of the year on which ordinary dealers are least disposed to buy or to pay anything beyond average prices. They know what their regular customers will require, and are not at all inclined to buy speculatively when no business will be done on Bank Holiday, and they can find a fresh supply here on resuming work on Tuesday. Our amateur visitors therefore do not 'demoralise the trade' as much as superficial observations on the subject might make one think, and they really derive little advantage that their own florist could not have secured for them. But the flower market is always a bustling and a crowded scene early, and no doubt they enjoy seeing it as well as taking a part in it."

THE VEGETABLE GARDEN.

Tomatos.

As the forward batch in pots grow, keep them securely staked and all the side shoots well pinched off, give them as much air to set the fruit as possible. Do not allow those for planting out either indoors or outdoors to become pot-bound, or they will soon get yellow, and never be such good plants afterwards.

Potatos.

It is time now to plant the main crop of Potatos. As a rule, highly cultivated kitchen gardens are not the best places in which to grow Potatos that will cook well, and except in the case of the early ones it is better if possible to grow them in the fields. But where this is not possible, select that part of the garden that is of a light nature, and not too heavily manured. Snowdrop is a great favourite with us, as it both crops and cooks well, and keeps right on until the late spring in good condition It also keeps fairly clear of disease.

General Work.

The weather during March was everything that could be desired for kitchen garden work, but now we are in need of rain, and it is to be hoped we may get some before these notes are in print. Cauliflowers in frames and pots must have all the air possible, only shutting them up to keep off frost, of which we have had so much the past three weeks. For early planting some Vegetable Marrow seed should be sown at once singly in small pots, to be potted on as soon as large enough; keep the surface of the soil well hoed among the autumn-planted Cabbages, and all growing crops.—*G. H. S.*

PLANTS RECENTLY CERTIFICATED.

THE plants and cut flowers described below were exhibited at the meeting of the Royal Horticultural Society, at the Drill Hall, Westminster, on the 28th ult., and received awards according to merit. Orchids certificated at the same time are recorded under "Orchid Notes and Gleanings."

BROWNEA ARIZA.—It is seldom that the public have the opportunity of seeing the noble heads of bloom of this tree, which attains a height of 20 ft. to 40 ft. The evergreen, leathery leaves are pinnate, with six or eight pairs of oblong-lanceolate leaflets tapering to each end. The flowers are tubular or funnel-shaped, but densely aggregated in large globular heads with the individual blooms subtended by bracts. The outer flowers are the first to open, so that when half of them are expanded, those in the centre form a compact conical bud, covered with the bracts already mentioned. The flowers are of a rich scarlet. Two heads of bloom as well as a much larger head of B. grandiceps were exhibited by Mr. F. W. Moore, the Curator of the Royal Botanic Gardens, Glasnevin, when a First-class Certificate was awarded for B. Ariza.

SCHIZOCODON SOLDANELLOIDES. — The nearest ally of this plant is the beautiful Shortia galacifolia; and both belong to the Diapensiaceæ, an order very poorly represented in gardens, and not particularly so in a wild state. The plant under notice was brought from Mzyanoshta, on the Sulphur Mountains, Japan, in 1891, by Captain Torrens (gardener Mr. W. Pascoe) Baston Manor, Hayes, Kent, and flowered by him last year for the first time in England. He also brought it before the public on two separate occasions, and sent a small plant of it to Kew. His plant on this occasion had made a greater amount of growth and bore twenty-seven of its funnel-shaped, deeply and beautifully fringed, rosy pink flowers. The latter are horizontal and borne in racemes of three to six, perhaps more when the plant gets strong. The leaves are roundly heart-shaped, leathery and evergreen. We expect that the plant has a future before it. A First-class Certificate was awarded it.

AUCUBA JAPONICA FRUCTU ALBO.—Apparently this has been raised from seeds, and is interesting as showing a striking departure from the type. The berries of the latter are scarlet or crimson-red, but the fruit of that under notice is creamy-white and shining as if varnished. The berries are large, oblong, and blunt at either end. A First-class Certificate was awarded the variety when exhibited by Messrs. Paul & Son.

MAGNOLIA STELLATA PINK VAR.—In gardens this is perhaps better known as M. Halleana, a dwarf, deciduous, spring-flowering Magnolia, about 12 in. to 18 in. high. The petals are very numerous, and when spread out to the rays of the sun present a starry appearance. The flowers of the type are white, but in this case of a decided pink externally and blush or almost white internally. An Award of Merit was accorded it.

RHODODENDRON YELLOW GEM.—The flowers of this hybrid greenhouse variety are of the largest size for this class of Rhododendrons, campanulate, with a short tube, and of a soft shade of yellow which is difficult to describe; although soft yellow they appear as if lightly washed with old gold. The leaves are large, oblong-elliptic, and altogether the variety is a handsome one. An Award of Merit was accorded it.

HIPPEASTRUM SYREN.—The flowers of this variety are bell-shaped, widely open with a short tube, and remarkable for the width of their segments—the three outer of which are scarlet, shaded with rose, and the three inner ones bright scarlet. There is a short, pale green ray at the base, and the filaments are pale. An Award of Merit was accorded the variety when shown by Messrs. J. Veitch & Sons, Chelsea, who also were the exhibitors of the Magnolia and the Rhododendron.

RHOPOLOBLASTE HIXANDE.—The name of this Palm is not very attractive, but the plant itself in a measure redeems this fault. The specimen shown had pinnate, arching leaves about 2 ft. long, with numerous linear, attenuated, dark green pinnæ. The petioles and midrib of the leaves are scurfy with black hairs, which give the plant a distinct appearance. An Award of Merit was accorded it when shown by Messrs. J. Laing & Sons, Forest Hill.

CEREUS HOVEYI.—The upright, moderately stout stems of this Cactus plant are strongly three or four angled with numerous tufts of short, bristly processes all along the angles. The flowers are large, funnel-shaped, produced from the angles of the stem, and have very numerous, moderately wide-pointed petals, the outer of which are bright scarlet while the inner ones are rosy violet, occasionally with a scarlet midrib. The flower as a whole is bold, showy and rich in colour. An Award of Merit was accorded it when shown by Messrs. F. Ross & Co, nurserymen, Merstham.

SCILLA SIBIRICA VERA ALBA.—The additional name of vera given this beautiful spring flowering bulb, we consider altogether unnecessary, because the Siberian Squill is simply Scilla sibirica and its albino can be nothing else than S. sibirica alba. Its flowers are pure white with a pale green ovary in the centre, and the variety should make a companion plant to the ordinary blue one so much used for forcing and for spring bedding. An Award of Merit was accorded the white variety when shown by M. de Graaff, Leiden, Holland.

HIPPEASTRUM ORPHELIA.—The flowers of this variety are widely funnel-shaped with rather pointed segments of a creamy white, marked with crimson in the centre of each. The crimson sends a few streaks on to the paler ground, but is otherwise fairly well defined, giving the flowers a distinct and characteristic appearance. There is also a short, green star at the base. An Award of Merit was accorded it when shown by Messrs. B. S. Williams & Son, Upper Holloway.

OLEARIA STELLULATA.—There are something like eighty-five species of Olearia, all natives of Australia, New Zealand, and the neighbouring islands. Several of them have been introduced from time to time and prove hardy or half-hardy in this country. That under notice is of dwarf and bushy habit, with small oblong-spathulate, obtusely toothed leaves that are evergreen. They would vary from ½ in. to 1 in. in length. The flowers are produced in terminal corymbs in great abundance, and have a starry appearance resembling a white Aster, as several others of them do. An Award of Merit was accorded it when shown by Messrs. R. Veitch & Son, Exeter.

CLIVIA BEECHDALE.—This variety was first flowered in 1891 and is now about eight years old. One stout crown now bears two flower stems, bearing in the aggregate seventy-six flowers. The individual blooms are moderate in size, funnel-shaped, and of a bright orange-scarlet. An Award of Merit was accorded the variety when exhibited by J. C. Geiselbrecht, Esq. (gardener, Mr. Geo. Judge), Beechdale, Lee, Kent.

CYCLAMEN PERSICUM GIGANTEUM.—An Award of Merit was accorded the St. George's Nursery Co., Hanwell, for the strain of Cyclamen it exhibited at the Drill Hall. The plants were well grown and floriferous, with large blooms of various shades of pink, rose, red, crimson, and pure white.

HIPPEASTRUM LIGHTENING.—The flowers of this variety are widely funnel-shaped, and of a brilliant scarlet with a short, white star at the base. The plant shown bore five flowers and buds on a scape. An Award of Merit was accorded it.

LILAC ALPHONSE LAVALLEE.—The trusses of this Lilac are produced in dense, pyramidal masses, and the moderate-sized flowers are of a deep lilac. An Award of Merit was accorded it when shown by Messrs. Paul & Son, who also showed Hippeastrum Lightening.

IBERIS STYLOSA.

THE accepted name of this interesting little plant is Hutchinsia stylosa, although best known in gardens under the name of Iberis. The whole plant is only an inch or two in height, like so many of the other members of the Cruciferæ, and bears a great quantity of pale pink flowers from the branching crowns. It is hardy, or very nearly so, and most suitable for planting on the rockery to flower in spring when flowers are not very plentiful. The plant is very easily raised from seed, which should be sown as soon as ripe in a cold frame, and potted off, when large enough, into small pots to bloom in the following spring. It has been flowering for a long time past in the nursery of Messrs. J. Laing & Sons, Forest Hill.

LAW NOTES.

COCKER v. THE ROYAL HORTICULTURAL SOCIETY OF ABERDEEN.—It will be remembered that shortly before the Royal Horticultural Society of Aberdeen held its fête in the Central Park, Kittybrewster, in August last, Messrs. James Cocker & Sons raised an action against the office bearers of the society to have them ordained to receive certain exhibits of Roses and Dahlias which Messrs. Cocker had tendered, and which the Committee had refused. Messrs. Cocker had been members of the society for many years, and had been in the habit of paying their subscriptions when the collector called for them; but a rule of the society prescribed that all competitors to the show must be members, and subscriptions must be paid on or before 1st August, and the committee put forward this rule as their reason for excluding Messrs. Cocker's exhibits although their subscriptions were tendered on 4th August. Notwithstanding the previous practice of paying the collector when demanded, Messrs. Cocker alleged that the desire to exclude them arose in retaliation for their having supported the Floral Fête, which was held in the Duthie Park last year. The committee replied that they understood Messrs. Cocker had withdrawn from the Royal Horticultural Society, and on that footing they had invited firms from the south to exhibit Roses, &c. The action first came before Sheriff Robertson, who decided that on the strict construction of the Society's rules Messrs. Cocker were not entitled to exhibit, and he therefore dismissed the action. Messrs. Cocker appealed to the Sheriff-Principal, but the hearing of the appeal was delayed in consequence of a proposal having been made for a friendly settlement of the matters in dispute. Ultimately, however, the proposal made by Messrs. Cocker for a settlement was rejected by the society, and the appeal was accordingly heard by Sheriff Smith at his last sitting. He has now given judgment recalling the interlocutor of 15th August, 1892, repelling the three first pleas in law for the defenders, and finding that it is now unnecessary to pronounce any order under the petition: finds the pursuer entitled to expenses.

MR. JOHN THORPE,

CHIEF OF THE FLORICULTURAL BUREAU, CHICAGO EXHIBITION, 1893.

THE very energetic and popular subject of our portrait this week was born in England in the year 1842, and as he at an early age evinced a liking for horticultural pursuits, he eventually received a thoroughly practical education in gardening, an education which has stood the test of years of arduous labour, and which has led to his elevation to the topmost branches of the gardening tree of knowledge, and has brought him into genial personal contact with the foremost gardeners of both the old world and the new. Mr. Thorpe was honourably known in England in his early days, and with a partner he had established a thriving business at Stratford-on-Avon, but being of an enterprising and energetic turn of mind he envied the rapidly progressive spirit of the New World horticulturalists, and went to the United States in the year 1874. In America, to quote *The American Florist*, Mr. Thorpe has, since his arrival, been in the van of all improvement, and he has exerted a great influence on the horticultural progress of the last three decades on that Continent, and that progress has, as we know, been in many ways fully equal to our own.

To him the Americans are indebted for their large, prosperous, and influential "Society of American Florists," a society that has quite revolutionised American floriculture by causing higher desires or ideals, and by encouraging real honest progress of all kinds. To Mr. Thorpe also belongs the credit of making the Chrysanthemum what it is to-day, viz., perhaps the most popular of all the winter blooming plants in American towns and cities. Mr. Thorpe has been termed "the Father of the Chrysanthemum in America," and rightly so, for he not only encouraged its introduction and growth, but inaugurated scientific cross-breeding experiments which have led to the origin of the now numerous and beautiful American seedling races of this charming flower. Not only Chrysanthemums, however, but Carnations, Roses, Pelargoniums, Primulas, and other florists' flowers have benefited by the impress of his hand.

As the first President of the "Society of American Florists," Mr. Thorpe is at once widely known and extremely popular, but his energy has been widely felt and appreciated in other quarters as well, and he now fills the important and onerous position of chief of the Floricultural department of the great "World's Fair" at Chicago during the present year, and this, as we are informed by American friends, will afford "Uncle John," as they affectionately call him, an opportunity of making such a floral paradise as has never been seen before either in Europe or America. European exhibitions of all kinds have been mostly copies or imitations of each other. For example, our great International Flower Show of 1866 was after the French model in its arrangement, and some of the French shows were after the style adopted at Vienna, but the Floral Exhibition, under Mr. Thorpe's guidance at the "World's Fair," is to be original in plan and execution. The flora of all the world is to be there, but especial interest is to be taken so as to afford a clear and distinct idea of the flora of the great American continent.

This is as it should be, for if a nation cannot make the best of its own productions, it can scarcely be expected to do so with foreign products, and we hail this resolve to show American plants at their best with becoming enthusiasm. The lesson thus to be given in America might, perhaps, be accepted and adopted nearer home, for our own Flower Shows in London, Manchester, and elsewhere, good as they are, might be extended and humanised with advantage.

When we think for a moment only of the magnificent American vegetation, we may get a glimpse of what Mr. Thorpe thinks possible at Chicago next May. Fancy, the enormous Pines and Silver Firs, and the great trees of the Yosemite valley, all the greenery of hardy Ferns, the gorgeous colour of its Rhododendrons, and the pink and white purity of its mountain Laurels, or Kalmias.

Then there are the lovely Water Lilies and Nelumbia, and other aquatics of the lakes and rivers, the swamp Cypress, and the Magnolias, the Maples and the Azaleas, the Sunflowers and Golden Rods, and starry Asters, and last but by no means least its flowers of the woods and the bogs, the Fly traps and Sarracenias, and the Orchids, and the Trilliums, all obtainable in quantity and all available in their season from spring to fall.

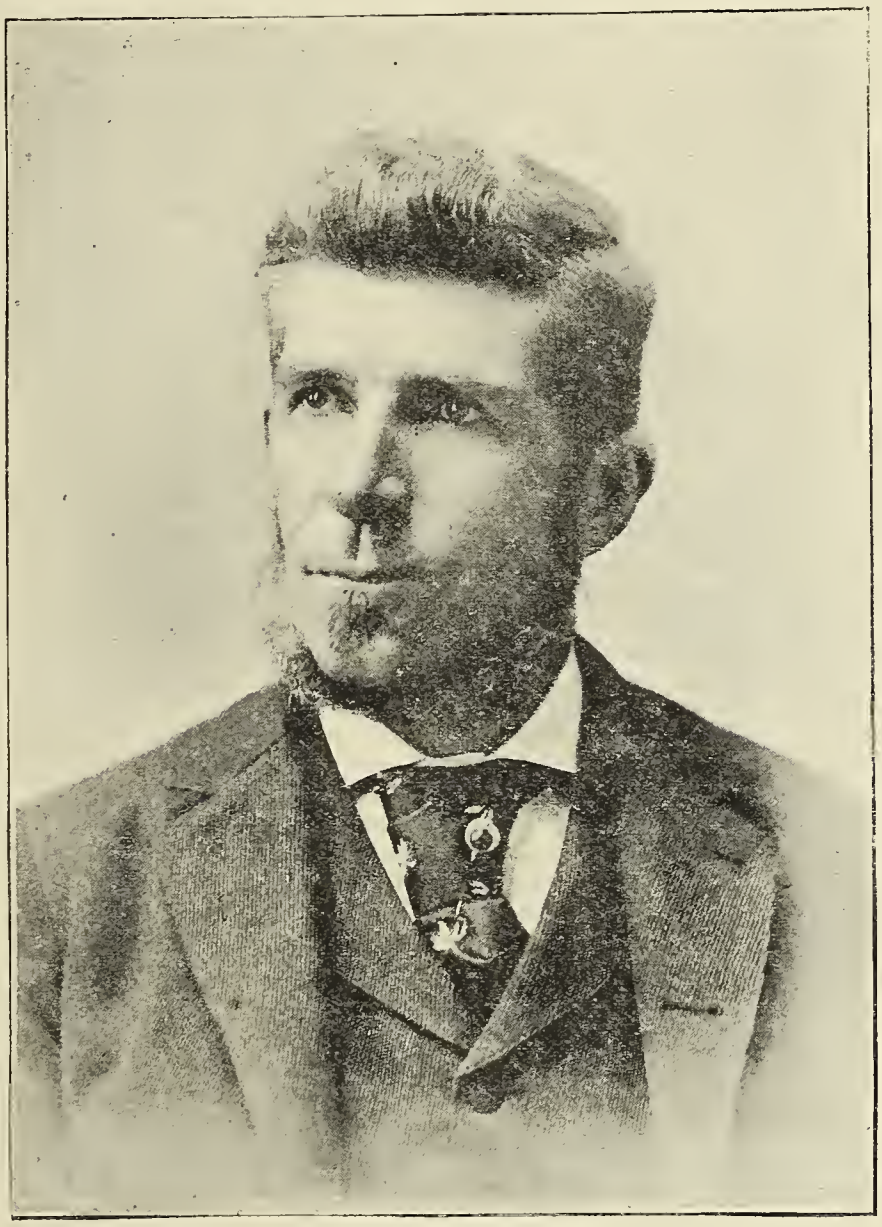
Let us hope that our genial chief of the floricultural bureau will be well sustained in his best efforts, and that the dream of Paradise on earth once again at least may come true. And that it will in part come true, one may gather from the fact that the floral part of the exhibition is to be an ever-shifting kaleidoscope of beauty. In May is to be a great Orchid show, then Roses, Pansies, and Asters, in masses by the tens of thousands, while the Rhododendrons, and Azaleas, and Kalmias ought to be worth an Atlantic voyage to see.

The flower show is to occupy a wooded island in the lake, and here acres upon acres of flowers are to be arranged, 100,000 Roses, 500,000 Pansies, 1,000,000 Asters and so forth, quantities that dwarf all our European attempts at flower shows, and yet these items are but a few of the grand total.

Let us hope that Mr. Thorpe will afford visitors from Europe a chance of seeing an ideal, or better still, a real garden as attached to an American house. This would to many be a real treat, this peep at an American house with its well kept grounds and gardens, its shade trees, its creeper-laden verandahs, its fruits and vegetables, and its flowers. Here is a point our own pioneers of horticultural exhibitions have so far failed to grasp to the full extent of which it is capable. For example if there is one thing more lovely, more beautiful and homely, and delightful to the eyes of the foreigner, or even to our own denizens of the town, it is an English cottage garden, and a more attractive feature could not be seen either at Earl's Court or at Chicago, than such an erection as surrounded by its homely and delightful country belongings. No scenic picture on earth could be more truthfully and readily reproduced, and none we know would afford greater or more general pleasure and approval.

But we must return to "Chief" Thorpe and his work. We may gather from the programme and the newspapers that the floricultural department will be well done. Palm and Tree Fern, Banana and Bamboo, Orchid and Lily, Pansy and Pæony, trees, shrubs, and flowers by the million are to be there, and there is just a spice of pleasure in our hearts as we write remembering as we do that it is one of our own English gardeners who is gathering together all this beauty for the world to see.

We have much pleasure in presenting Mr. Thorpe's portrait to our readers as one of the representative gardeners of America, and while we heartily congratulate him on his past labours and exertions on behalf of our profession, we wish him a long and healthy life and all success in the future, and we have the satisfaction of knowing that our good wishes are re-echoed by thousands of gardeners, not only in England, but throughout the American continent as well.



Mr. John Thorpe.

FLOWERS IN WINTER AT CALCUTTA.

It may interest some of our readers to note the different procedure adopted in the warm climate of Calcutta, in the cultivation of the old-fashioned flowers with which we are familiar in the mother country. Here they flower in spring and summer, but at Calcutta they flower in winter or the cool season which corresponds with winter there. Mr. Robert Proudlock, the curator of the Royal Botanic Gardens, Seebpore, Calcutta, in a communication just to hand tells us that they have had excellent, and long, cold weather there this season, which at the time of writing (March 15th) was almost at a close. It may be said to have lasted from the beginning of November up to the middle of March, so that what was termed really splendid weather lasted for four and a half months. During the months of December, January, and the early part of February the mornings and evenings felt very chilly, although the temperature seldom fell below 48° Fahr. The season has been a very exceptional one. Even the oldest inhabitants of Calcutta say that they have never known such a long, cold season there as that of 1892 and 1893, and which although not quite over at the date of writing, would soon be so.

Owing to the prolonged cold season the annuals have flowered better than usual, and are considered quite a success. They were grown in pots and also in beds in the flower garden. In order to give an idea of the class of plants that can be grown at Calcutta during the cold season and find much favour, the following are mentioned, namely, Antirrhinums, China Asters, Balsams, Browallia elata, Candytufts, Cornflowers in variety, Coreopsis coronaria, Collinsias, Dianthus sinensis Heddewigii, Eschscholtzia californica, Daisies, Delphiniums (the annual Larkspurs we presume), Gaillardias, Scabious, Schizanthus, Gypsophila, Mignonette, Nasturtiums (Tropæolum), Nemophilas, Nicotiana affinis (the Night-scented Tobacco), and other species of that genus, Phloxes (varieties of Phlox Drummondi probably), Pansies, Petunias, Portulacas, Poppies, including Papaver nudicaule in its white and yellow varieties, Sunflowers, Hollyhocks, Verbenas, Whitlavia grandiflora, and Zinnias, besides many other things which thrive only moderately.

Mr. Proudlock says that Stocks, Wallflowers, and Sweet Peas as a rule do very badly at Calcutta, but the Stocks and Sweet Peas have flowered better than he has ever seen them do before. Of course in such a heterogenous mixture of plants from all parts of the world, it might be expected that some of them would dislike the climate, particularly in the case of those coming from mild and cool climates. Of course, advantage is taken of the cool season of the year, and upon that no doubt rests the measure of success. We are not surprised that Stocks and Wallflowers should dislike the warm weather, for most of the members of the family flower in the early months of the year even in the cool climates of their native countries. Sweet Peas feel the effect of a dry warm summer in Britain. We are surprised, however, that any measure of success would attend the culture of Iceland Poppies (Papaver nudicaule) in such a warm part of the globe; its half-annual nature and the method of culture adopted no doubt accounts largely for the satisfaction it gives. Daisies and Pansies are peculiarly European plants, and although both, but particularly the latter, like sunshine, yet they must be kept moderately cool and have plenty of moisture at the roots. Even in the neighbourhood of London, Daisies have often a trying time in dry and hot weather. Even Pansies here require a deal of care in their cultivation compared with what they do in the north of England and in Scotland, with less satisfactory results.

Draba brunlæfolia.—There is no more typical rock plant than this Draba, which covers the ground all the year round with a green carpet. The leaves are linear, ciliate, and very small, but arranged in small rosettes which are crowded together, forming a warm green carpet. The flowers are clear yellow, and produced in corymbs that later on lengthen into racemes, studded all over the carpet of foliage. The plant is not only suitable for rockwork, but would seem adapted for carpet bedding or the less formal object of forming a groundwork for taller growing plants where that style of culture is received with favour. The ease with which the patches may be parted and take root again suggests that it might with advantage be used as a carpet bedding plant.

THE CYCLAMEN.

These have been well shown at many of the winter and spring exhibitions, and they form one of the most showy and easily-grown of winter flowering, subjects it is possible to cultivate. It is when we notice a pleasing subject in full beauty and well grown that we decide to try their cultivation on our own account. This must be my excuse for a few words upon what might at first sight seem an unseasonable article.

Cyclamens continue in bloom throughout the six dullest months of the year, viz., from November until the end of April; and, as we now possess such an improved strain, and good seed is fairly cheap, there is no reason why all greenhouses should not contain a few of these charming plants. First and foremost, purchase seed of a good strain. Quantity should never be the object when buying seeds. Two or three amateur friends of mine club together, and are thus able to obtain a little seed of the very best strains of florists' flowers, without any extra expense than if they dealt separately and bought of second class quality. This is a hint well worth following.

Sow the seed in August or September, using a compost of leaf soil, loam, and sand in about equal proportions. Cover the seeds about a quarter of an inch with soil. As soon as the seedlings appear, prick them off into pans or pots, say about two inches apart each way. Stand them on a shelf, close to the glass, and partially shaded from fierce sun. Never, from the seed until they flower, should Cyclamen be allowed to get dry or receive any check to their growth. A cool house or pit suits them much the best in summer, and a temperature of 55 to 60 degrees is ample during the winter months. Let them remain in the seed pans that they have been pricked into all the winter, potting them in 3-in. pots during February or March. The same compost with the addition of a little thoroughly decayed manure, and about half the quantity of sand, will suit them well at this stage, and when repotting into their flowering pots. During the summer, while they are in pits or frames, frequent damping overhead during bright days will aid them very much, and tend to check the attacks of red-spider. It is well to fumigate weakly, twice or thrice in succession, upon the appearance of this pest.

To grow a good Cyclamen takes from fifteen to sixteen months, but they are so little trouble, and give such splendid results for six months, besides being even better the second season, that few will discard them when once grown. It is an excellent plan to sow a little seed each other year, as they are of less service after flowering the second season, although I know of many bulbs which have been growing and flowering well for six or seven years. But this is the exception rather than the rule.—*Experience.*

INSECT INJURIES IN 1892.

Entomologically the year has been one of some interest, not the least important feature being that Miss E. A. Ormerod, owing to increasing work and ill-health, has been compelled to resign her post as honorary consulting entomologist to the Royal Agricultural Society of England. Her annual reports to that body will be much missed, but she still continues her independent help to all troubled with insect pests, and she has very kindly written the following report on the insect injury of the year:—

"During the past year a greater number of kinds of crop and fruit insect infestations have been present than are usually observable. Of most of these up to date an enumeration was given in *The Times* of September 26. They included attacks to almost all our common field crops, but were rarely serious, excepting locally. The widespread visitations were chiefly of Pea weevils and of Mangold leaf maggot, also of caterpillars of diamond-back moth on Turnips and allied plants; severe mischief from Mustard beetles in various districts, and also severe mischief from Corn aphides, commonly known as plant lice. Of the above attacks the Pea-leaf weevil is one which rarely occurs as a serious field pest, but last year it caused much loss in Worcestershire and Bedfordshire, and especially in Essex, where, from observations even of a single reporter (in the neighbourhood of Chelmsford), 1,000 acres were found to be seriously damaged, and repeated sowing needed, each successive crop being swept off.

"During the autumn information came to hand of the presence of a minute Mangold beetle (an atomaria) which is exceedingly injurious to young Beets or Mangolds even from their germination, and which, being extremely small and mainly an underground worker, has thus probably escaped detection as the cause of bad unexplained mischief here for some years back. An eelworm attack of great importance to growers of delicate fruit, under glass, has at date of writing been submitted for examination. It is excessively destructive by literally overwhelming the roots of various kinds of plants (in the present case Tomatos and Cucumbers) with gall growths. It multiplies very rapidly and numerously, and once established it is almost impossible to exterminate, and, where climate suits, affects crop roots, as those of Peas, Potatos, &c. In every respect, as far as I have as yet seen, it agrets with the eelworm known as the Heterodera radicicola. Every attention, including consultation with the highest Continental authority, is being given to this attack, which is of grave importance, and it will shortly be fully reported on.

"The infestation of the 'Mediterranean flour moth,' of which the caterpillars have of late years become a great trouble in our wheat flour mills, has become still more difficult to exterminate by extending into an international infestation. It has been exported from London direct to Moscow; it is now established in many mills in France, and has spread in the United States to Santo Clara County on the shores of the Pacific.

"More inquiry than usual has been sent regarding insect attacks to colonial produce. Early in the year communication took place regarding applications which checked attack of a large beetle grub to Sugar-cane in Mauritius, and also communication extending over many months, by request of the Agricultural Society of Barbados, and with the co-operation of many residents in the West Indies, and of London firms, regarding a small 'shot-borer' beetle (Xyleborus perforans) which caused much harm to Sugar-cane in Barbados, St. Vincent, and other West Indian islands. An attack of a good-sized beetle, highly injurious to Cocoa trees, was also identified (as the Steirastoma depressa), and in this case also measures which it was considered might lessen the evil brought forward.

"In the East Indies communication has taken place from one or more of the Tea-growing districts, and consequently on a series of experiments as to effects of applications for keeping down 'red spider' a ton and a-half of a special soft-soap mixture has recently been ordered for export.

"From the south of Africa (King William's Town) inquiry was sent as to au infestation of large hairy moth caterpillars (Bombyx), of which the presence (as in Europe) caused harm to stock feeding where the hairs had fallen—only in this case in the serious form of abortion. Also from the north of Africa in the neighbourhood of Algiers specimens were sent of mole crickets, with inquiry as to prevention of the great damage they were doing to underground portions of crops. Inquiry was also sent through our own Royal Agricultural Society regarding damage done in vineyards of Mr. Gilbey by a beetle allied to our English Turnip flea beetle. Other inquiries of less importance were forwarded, but the above observations show the increasing interest taken in the subject of the possibility of checking loss from insect ravage by reasonable measures.

"At home steady advance is being made, with success, notably in respect of treatment of orchard pests, also a troublesome insect pest to Hops, known as the 'string maggot,' has been found amenable to being cleared out by very practical farm treatment. At present the difficulties of Mustard-growing from insect infestation are under consideration in various districts, and practical experiment being arranged for from which there is every hope of benefit.

"But in the great advance which is steadily made, year by year, in knowledge of how to lessen loss from crop insect pests, it cannot be too strongly brought forward, and insisted on, how much of this is owing to the observations (and clear reports of their observations) by our farmers themselves. Few of them (as of the general public) may know the scientific names of insects, but they, in many cases, know the habits excellently, far beyond what is known by some of those who, in the present movement, think themselves competent to rank as instructors. Technical instruction is, doubtless, often much needed, but where this is not based on personal field study, as well as study of trustworthy authorities (a matter requiring more attention than it receives), erroneous instruction is apt to be disseminated, and there are few cases in which those almost wholly inexperienced in agricultural requirements can lay down rules. trustworthily, on the subjects of treatments of crops and weeds, cultivation, soils and manures, chemical applications, adaptations of ordinary and special implements, uses of special methods of feeding stock on land, and many other details. For a mere so-called 'entomologist' this information is not needed, but those who take post as teachers of 'agricultural entomology' are bound to comply with the requirements; and from the applications from both sides of the subject which come to my hands owing to my own long connection with crop insect prevention, I can say that I believe the matter is not receiving the attention it requires as sound well-based, and kindly help to our agriculturists."—*Bell's Messenger.*

GARDENING MISCELLANY.

BAUHINIA CANDIDA.

There are several species of Bauhinia in this country, mostly perhaps in botanic gardens. They consist of climbing or erect and shrubby plants which flower handsomely in their native habitats, but less often under cultivation, although they can be grown as easily as any ordinary stove plant. No doubt they require more sunshine than our country is favoured with, as a rule, in order to thoroughly ripen the wood and set the flower buds. B. purpurea flowered in the Palm house at Kew, about nine or ten years ago, and the subject of this note has been flowering for some time past in the same house. It is a much smaller plant than B. purpurea, being at present about 4 ft. to 5 ft. high, erect and grown in a pot The flowers are large, fragrant and white with a pale yellow blotch and some darker veins upon the upper petal or standard. In general appearance they more resemble those of Hedychium coronarium than any of our native plants of the Pea family. They were mostly disposed on the upper branches and were very effective when the most of them were at their best. The leaves are oblate, and bifid at the apex. The cultivation of this species might well be undertaken in private gardens. The plant stood all last summer upon the side bench of the Palm house close up to the glass.

GARDENERS' HOLIDAYS.

It may interest some of your readers to know that the young gardeners of Falkirk and district recently formed themselves into an association (the Falkirk and District Assistant Gardeners' Association) for the purpose of petitioning their employers for a half-holiday on the Saturday afternoon. I am glad to say that the association has been very successful, most of the gentlemen in Falkirk and the surrounding district having conceded the half-holiday to their gardeners. The success of the Falkirk and District Association may encourage gardeners in other districts to take similar steps. After the above association had been wound up, some of those present spoke of the advisability of forming a gardeners' mutual improvement society, and with a view to forming such a society a meeting will be held shortly. Such a society will no doubt be a success, as there are many gardeners in the district, some of whom have met with much success at the leading shows in Scotland. I think such a society would be both instructive and beneficial to all in the district who take an interest in gardening.—*A. G.*

ERYNGIUM OCHROLEUCUM HELVETICUM.

The flowers of this variety are smaller than those of the type, but they are of a richer, almost golden-yellow hue, more especially if the plant is grown out of doors. The plants vary from 6 in. to 12 in. in height, and are so freely branched that they form pyramidal and attractive bushes even when raised from cuttings. Each branch as well as the main stem ends in a corymb of flowers that keep up a succession for a long time. The calyx before the expansion of the flowers is of a rich brown hue, contrasting very favourably with the yellow flowers. The type, as is now pretty well known, has large, soft yellow flowers, almost resembling a sulphur

coloured Wallflower. The present plant is as upright as the latter, but has smaller flowers; but, nevertheless, might readily be mistaken by the uninitiated for a Wallflower, and is certainly desirable for the rock garden or for pot culture. It may be seen on the rockery at Kew.

HELLEBORUS COLCHICUS.

The month of March is really the time to see the Lenten Roses at their best, when the newly developed flowers are in their first blush of freshness. By the month of April, especially in early seasons like the present, the flowers lose their depth of colour and gradually assume that hue characteristic of the seed-bearing stage. H. colchicus is one of the latest to bloom, and consequently is not devoid of beauty even in the early days of April, although the petals and stamens have fallen. The broad overlapping sepals are of a deep plum-purple, with a glaucous bloom, that renders them both attractive and interesting. No other spring flowering subject out of doors has the same depth of colour. The sepals from this time onwards gradually assume a green tint which continues till the seeds are ripe. The plant may be grown in any rich soil that continues moderately moist during the summer months.

CLIMATE IN SCOTLAND.

In your issue of April 1st "Nemo" says that Ross-shire is not excelled by any county in Scotland for soil and climate. Well, the soil may be good, but I think it is excelled in climate by Ayrshire, if not by both Moray and Nairnshire, and East Lothian. Can the farmers of Ross-shire send new Potatos as early to market as the Ayrshire farmers do? I think not, and I think that the earliness of the produce of a county or district is a good guide to the climate. "Nemo" says that the climate of Aberdeenshire is colder than Ross or Sutherland shires, and that the north-east coast of Aberdeenshire is the coldest place in Scotland. Well, I have lived in both the north-east and west of Aberdeenshire, and I would say that the north-east and east coast of Aberdeenshire has a better climate than west Aberdeenshire, where I now live, the crops coming earlier to maturity (if I am not mistaken earlier than in Ross). Frost is not so severe nor does snow lie so long or deep as in the west; and I have also seen Peaches ripen on an open wall, and which were juicy enough but flavourless. I have lived in Edinburgh in winter and spring, and with its east wind I would say that it is as cold a place as any in Scotland at that season.—*J. C., Aberdeenshire.*

SAXIFRAGA STRACHEYI.

The species under notice and S. ligulata are the earliest to come into bloom of the Megasea section. S. Stracheyi appears also to be the most tender, for the flowers are very liable to suffer from late spring frosts when about half blown. This is more particularly the case where the plants are grown in a sunny position, it may be on a rockery facing the east, so that the morning sun strikes the plants while yet frozen. In such cases the flower stems cease to elongate, and the beauty of the white flowers is lost. On a northern aspect the flowers would not only be later in making their appearance, but would get thawed in the shade before the sun could strike upon them very warmly. The species flowers very regularly every year, and when it happens to escape the spring frost the flowers are bold and handsome. The leaves, of course, are produced after the flowers, and remain in good condition all the summer.

PULMONARIA OFFICINALIS ALBA.

The Pulmonarias are now mostly at their best, and very pretty they are in the spring months with their quaint and changeable flowers. In reference to the last character it may be said that the flowers are always white and do not change colour. They are produced in great abundance, but they appear smaller than those of the ordinary type, more particularly on account of the way that the corollas are incurved at the mouth as if only partially expanded. The grey spots on the leaves are also pretty clearly defined, especially in the spring months, when the foliage is young and fresh. Propagation is easily effected by division when the plants are at rest, or before they are in active growth. Good sized clumps, however, always give the best effect, and propagation need only be resorted to when a number of plants is required. The white variety would appear to best advantage by contrast with the ordinary type.

ANEMONE BLANDA ALBA.

Many plants are grown under this name which they have no right to, seeing that they are not white. The outer face of the sepals is usually pale blue, so that when the flowers are in bud they merely appear paler than those of the ordinary type. When the sun causes them to expand they then appear pure white, because the inner face only is shown. We noted a really pure white variety, however, in the nursery of Messrs. J. Laing & Sons, Forest Hill, so that whether in bud or full bloom the flowers are always pure white.

FERNS, FLOWERS, AND SEAWEED.

We have had several inquiries lately concerning the proper method of preserving Ferns and flowers for decorative and botanical purposes, and therefore a few general directions may be found useful and interesting. Ferns and Grasses are most valuable for decorative purposes. The Grasses keep well until summer comes round again, and they should be plucked in dry weather, and just before they are ripe for seeding, with stalks as long as possible. They simply need keeping in a dry, shady place, and should not be placed in water at all. If not required during the summer, they may be tied in a bundle, wrapped in brown paper, and placed in a dry cupboard until needed. Ferns and leaves must also be gathered dry. Spread them out on white botanical blotting-paper quite smooth and flat; then place a sheet of blotting-paper over them, and iron over this with a moderately warm heater. Place in a press or under a heavy weight, and keep there until they are quite dry, changing the blotting-paper if required. Two or three weeks is generally long enough for this operation, though young leaves often require longer, as the sap keeps them moist, but autumn leaves are very quickly dried. The same method may be employed to dry flowers, and the greatest care must be observed in placing each blossom on the blotting-paper, and also in regulating the heat of the iron. Small blossoms, such as Primroses, Ragged Robins, Field Poppies, Violets, and all the more delicate of field and garden flowers, require less heat than larger, stronger blooms, and less pressing also. All the flowers specified are extremely pretty for mounting on screens or mingling with dried grasses. These, like everything else intended for preservation, must be plucked in dry weather, and kept in a perfectly dry place afterwards. A more elaborate plan, and one which requires no little skill and dexterity, is to dry the flowers with sulphur. A small wooden box must be procured with all the seams papered over, and a lid provided to fit down over the top to render the case perfectly air-tight. At the top slender wooden or wire rests should be fitted, from which the flowers to be treated must be suspended. These must be quite dry, and the ends of the stalks may be either waxed or gummed. They are tied heads downward to the rests; a very little powdered sulphur placed in a tin saucer is set in the bottom of the box and ignited—it will smoulder only, not burn—the box is then closed, and the flowers left to be dried by the sulphur. It is only by experience that the exact time necessary for the operation can be ascertained. Large flowers take longer than small ones, and those with a superabundance of sap or vitality will, of course, take longest. One hour's immersion in the sulphur fumes may be sufficient for some flowers; others, such as Roses and Dahlias, will take a day. On being removed from the case every vestige of colour will be found to have gone, but on exposure to air and sunlight this will return, and the flowers will not require pressing afterwards.

Skeleton leaves are extremely effective and interesting portions of a botanical collection. The skeleton may be obtained by steeping the leaves in rain-water in a deep plate or dish; expose them to sun or air, and, as the water evaporates, add more. When the leaves putrefy, lay them on a clean white plate filled with fresh water, and gently remove the external membranes, separating them carefully near the middle rib. The process is a lengthy one, as the tissues take a long time to decay, but it may be hastened by the use of a tablespoonful of cholride of lime to a quart of spring water, instead of the rain-water. Soak the leaves in this for about four hours; then wash them in clear water, and expose them to the light to dry.

The treasures of the sea-shore, or what Eliza Cook designated "the flowers of the sea," are exceedingly useful for table decoration, hand screens, and many other purposes, when properly dried and mounted. When freshly gathered the seaweed should be well washed in fresh water; then put in a deep plate with enough water to float it, and separate every little spray and tendril by means of a camel-hair brush, all tiny stones or grits being removed by a pair of diminutive pincers. When the weed is quite cleared, slip a sheet of white paper under it, arrange it lightly on this with the camel-hair brush, lift the paper out of the water, drain it, and set it aside with the seaweed to dry. It will be quite light and feathery when dry, and will remain fresh for years. Seaweed should only be pressed when required for mounting in specimen books. Sometimes it is not convenient to indulge in these drying operations when on a seaside visit; but the seaweed can be washed in clear water, roughly dried, rolled up in a tight bundle, and treated as suggested when the home haven is reached again, though it should not be kept more than three or four weeks in this fashion In my young days, spent in fair Devon, I used to turn all the treasures of the hedgerows and sea-beach to good account; but even those whose lot is cast in London may easily procure grasses and wild flowers whereon to try their skill. The Thames tow-path above Kew is a famous place for beautiful feathery grasses, and the early summer always finds me there gathering a store wherewith to replenish my tall Chinese jars.—*The Lady.*

ORCHID NOTES AND GLEANINGS.

Certificates according to merit were accorded the undermentioned Orchids, exhibited at the meeting of the Royal Horticultural Society, on the 28th ult.

Dendrobium Wardianum album.

The stems of this variety are similar to those of the type but more slender. The sepals and petals are pure white, and the lip of the usual form, but the orange-yellow blotch in the throat is smaller and the two eye-like spots are very small and almost washed out; the rest is white like the sepals and petals. A First-class Certificate was awarded it when exhibited by W. R. Lee, Esq. (gardener, Mr. T. Billington), Beech Lawn, Audenshaw.

Dendrobium Bryan.

In this we have a very distinct hybrid obtained from D. luteolum crossed with D. Wardianum. The stems are slender, but somewhat stouter towards the top, and about 2 ft. high. The sepals are oblong and pale primrose with a faint tint of purple at the apex. The petals are ovate, and similar in colour without the purple tips. The lip is large with a brownish orange blotch in the throat, and a few lines radiating from it, but is otherwise primrose yellow. A First-class Certificate was awarded it when shown by N. C. Cookson, Esq., Wylam-on-Tyne.

Cypripedium microchilum.

This hybrid was obtained from C. niveum crossed with C. Druryi. The oblong leaves are reticulated with dark green on a paler ground. The one-flowered scape is about 8 in. high. The upper sepal is roundly ovate and white with a purple midrib, reminding us of C. Druryi, and is somewhat undulated. The petals are oblong, slightly twisted, white with a purple midrib and thinly dotted with that colour. The lip is small as indicated by the name, slightly compressed laterally and white. An Award of Merit was accorded it when exhibited by Messrs. J. Veitch & Sons, Chelsea.

Cattleya speciosissima Manda's var.

The sepals of this variety are oblong-spathulate and pink. The petals are of great size, oblong-ovate, wavy and crisped, and of a pink hue. The tube of the lip is several shades darker, but the lamina is of a rich purple with a lilac edge, and yellowish side blotches; the throat is purple with radiating white lines. The great feature of the variety is the large size and rich colour of the roundish and deeply bifid lamina of the lip. An Award of Merit was accorded it when shown by Messrs. Pitcher & Manda, Hextable, Swanley.

Cochlioda Nœtzlianum.

The plant exhibited by Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dork-

ing, has the finest flowers of any that have yet been brought before the public. The size of the flowers and the breadth of the segments are very marked compared with those of the plants originally introduced. The sepals are oblong-elliptic; the petals are broader, elliptic, and all are of an intense scarlet. The lateral lobes of the lip are hatchet-shaped, the terminal one emarginate, and there are four yellow ridges close to the column; otherwise the lip is scarlet. The apex of the column is purple. An Award of Merit was accorded the plant, which is otherwise known as Odontoglossum Nœtzlianum.

Angræcum sp.

THERE is a remarkable variation in the size and form of different species of Angræcum both as to the plants and the flowers. An unknown species exhibited by Sir Trevor Lawrence, Bart., was notable for its diminutive size. The leaves are ligulate, channelled and keeled. The flowers are borne upon axillary racemes about 2 in. or 3 in. long. The sepals are small and oblong; the lip is broader, and like the sepals and petals is pale yellow. The spur is relatively long and pinkish. A Botanical Certificate was awarded it.

Dendrobium Sybil.

THIS hybrid has been obtained by crossing D. bigibbum with D. linawianum. The stems are 8 in. to 12 in. long and similar to those of D. nobile. The flowers are borne in lateral clusters of one to three, and their pedicels are long. The oblong sepals are revolute at the sides and deep purple. The petals on the contrary are oblong-ovate, purple on the upper half, and nearly white downwards. The lip is white with a yellow blotch in the throat, on each side of which is a small crimson blotch, and the apex is purple. There is not much evidence of D. bigibbum in it. An Award of Merit was accorded the plant when shown by Norman C. Cookson, Esq.

Cypripedium T. W. Bond.

THE seed parent of this hybrid was C. Swanianum crossed with C. hirsutissimum, and there is plenty of evidence of the hybridity. The upper sepal is roundly ovate, yellowish, densely spotted with purple and suffused with brown, and likewise pale purple on the edges. The petals are long, spathulate-oblong, ciliated with black hairs; the upper half is purple of that shade seen in C. hirsutissimum, and the lower half is yellowish, densely spotted with black. The lip is long, pouch-shaped and purple, and dotted with minute black markings. An Award of Merit was accorded it when exhibited by C. L N. Ingram, Esq. (grower, Mr. T. W. Bond), Godalming, Surrey.

Calypso boreale.

MANY of the terrestrial Orchids, although small, are remarkably pretty, and that under notice particularly so. The leaves are ovate, three-nerved, and lie upon the ground, while the scape is one-flowered and rises only to the height of a few inches. The sepals and petals are lanceolate, spreading, and purple. The lip is a curious shaped organ, concave in the lower portion resembling a bath in shape, while the upper portion is again incurved at the margins but shallowly concave, with two forks at the apex. The whole of it is purple, marked with white, and fringed with white hairs at the apex of the deeper pouch. The column is remarkably widened towards the top, concave on the face and purple. A Botanical Certificate was awarded it when shown by H. J. Elwes, Esq, Andoversford, Gloucestershire.

Lælia flava.

THE flowers of this Lælia are very moderate in size, but desirable on account of their distinct colour. The sepals and petals are oblong and bright yellow. The lip has a curved tube, while the lamina is incurved and crisped at the sides, with a ridge along the centre, and all bright yellow. The pseudo-bulbs are reddish, and bearing a solitary oblong leaf at the top, and terminated by a flower scape about a foot long. We noted it with Messrs. J. Veitch & Sons, Chelsea.

Vanda tricolor.

MORE attention might be given this Vanda than it has been receiving for some years past. Although only a form of V. suavis, it is a stately plant, with a yellow ground colour to the sepals and petals, while that of V. suavis is white. A variety in the nursery of Messrs. J. Laing & Sons, Forest Hill, has the sepals and petals of the palest yellow, spotted with brownish-crimson. The lateral lobes of the lip are very dark purple, while the terminal lobe is rosy-purple. The spotting varies greatly in different varieties till it culminates in the richly marked V. insignis.

Calanthe tricarinatum

THE leaves of this Calanthe are broadly lanceolate, three-ribbed, plicate like those of other species, and 3 in. to 6 in. long. The flowers are borne in short, erect racemes, and have lanceolate sepals, and narrowly spathulate petals, all of which are pinkish. The lip is deeply three-lobed, and purplish-pink; the lateral lobes are hatchet-shaped, and the middle one obcordate with a three-ridged crest. The whole plant is only 8 in. to 9 in. high, and has been flowering for some time in the nursery of Messrs. J. Veitch & Sons, Chelsea.

Trichopilia suavis alba.

ANY variety of this Orchid is showy and ornamental, owing to the large size of the flowers. The sepals of the variety under notice are lanceolate, the petals broader, and all are creamy-white. The lip is bifid, crisped at the margins, and pure white. There were eight fully expanded flowers on a plant in a basket, in the nursery of Messrs. J. Veitch & Sons, Chelsea, the other week. The species like others of the genus may be grown in pots, pans, or baskets, but in either case should be suspended from the roof of the cool house close to the glass.

WHAT TO DO IN THE GARDEN.

Gardenias.—As the flowers are coming into bloom, they may be cut before they are completely expanded, that is, while the centre still forms a sort of bud. They will last much longer in good condition if cut at this stage, than when fully expanded.

Winter Flowering Plants.—The time has now arrived to be making some provision for next winter's requirements by propagating such things as Plumbago rosea, Euphorbia fulgens, Eranthemum albiflorum, E. nervosum, Begonia insignis, Centropogon Lucyanus, and many other subjects of that class. The object in starting early is to get well-grown and bushy plants before the dull and sunless days of autumn prevent substantial growth being made.

Ventilation.—The continuance of easterly winds at this season of the year often makes the giving of a proper amount of ventilation a difficult matter. When air can be admitted from any other quarter than that from whence the wind blows, advantage should be taken of it to give the necessary ventilation. To avoid admitting large volumes of cold air at any one time, an early commencement should be made, giving more gradually as the temperature rises rather than admit a large volume to reduce the excess of heat.

Azaleas and Rhododendrons.—The plants that have finished flowering should have the seed vessels picked off, and any necessary pruning given them that may be needed. Then they may be placed in heat to encourage a vigorous young growth, and thereby ensure their being in condition to flower early next winter. What repotting may be necessary should be done at this time, using good fibrous peat Do not give large shifts, and ram the fresh soil well down with a strong blunt label or piece of wood. This applies to Indian Azaleas and what are known as greenhouse Rhododendrons.

Heaths and Epacris.—The treatment given the Azaleas will, in the main, apply to these. A little more care, however, may be exercised in potting, and in the quality of the soil; and if the latter is fairly moist, but not wet, at potting time, no watering at the roots will be necessary for some time after the operation. The young roots will lay hold of the fresh soil all the better than if it were saturated with moisture to begin with. Both Heaths and Epacris grown for winter flowering should be pretty hard cut back before starting them into fresh growth.

Lilies in pots.—As the stems rise above the soil, the pots containing the bulbs should be kept as near the glass as possible to prevent the stems getting drawn. Plenty of ventilation should be given and a keen watch kept for the first settling of greenfly in the buds, as it soon does the latter irreparable injury.

Cape Bulbs.—A cool and airy atmosphere suits this class of bulbs best. They are often subjected to a close atmosphere which causes the stems and leaves to become drawn, much to the disadvantage of the flowers and the appearance of the plants themselves. They will now require more water than they did in winter. Frames from which the frost is merely kept out would suit such things as Lachenalis, Ixias, Sparaxis, Babianas, Tritonias, Chrocosmias Montbrettias, and similar things better that greenhouses, where they often get huddled up with all classes of plants that shade them detrimentally.

Vines.—The late houses will now demand a considerable amount of the attention of cultivators. Stopping, disbudding, and tying will be the order of the day. Do not allow the young shoots to push up against the glass. Flower-bearing shoots should be stopped at the second or third leaf beyond the bunch, and the laterals allowed to extend some way provided there is room on the trellises to expose the leaves to light, otherwise they will have to be restricted to the space at command. Give inside borders liberal supplies of tepid water.

Grafted trees.—Grafts that were put on some time ago, whether on young trees or those that have been headed down, might be looked over during the continuance of dry weather and the clay moistened with a rosed watering pot to prevent its cracking.

Obituary.

WE have to record, with much regret, the death, on the 2nd inst., of Mr. WILLIAM ROSS M'KELVIE, Superintendent of Public Parks and Cemeteries in Dundee. The deceased, who was a native of Machar, in the Parish of Kirkcolm, Wigtonshire, and who was between 60 and 70 years of age, was appointed to his Dundee office in January, 1863. He previously held an appointment in Greenock, and there was much esteemed by all classes, as was shown when some time after his departure for Dundee he was publicly entertained in Greenock by his friends, and presented with a silver tea and coffee service, a pair of silver salvers, and a cake basket. Previous to his formal appointment in Dundee he had been employed by the Dundee Town Council to prepare a plan and a report with estimate for laying out the Eastern Necropolis, which plan, report, and estimate were unanimously approved, and Mr. M'Kelvie was instructed to see his plans carried out. Among the other important pieces of work performed by him was the laying out of the Balgay Hill when it was acquired by the Corporation in 1870. Within recent years extensive additions have been made both to the Eastern Cemetery and to Balgay Cemetery—about 40 acres having been added to the Eastern and 25 to Balgay—and this ground was laid out, classified, and sold, the resulting revenue being about £55,000. The cemeteries have lately become self-supporting; the heavy debts have been paid off in full, with interest; and signs are not wanting that a substantial income may be received from this source. The deceased gentleman was known and esteemed over a wide district. The Meteorological Society of Scotland appointed him one of their observers more than 25 years ago, and since that time he has prepared elaborate reports, which were sent to the Registrar-General and to the Secretary in Edinburgh.

QUESTIONS AND ANSWERS.

NAMES OF PLANTS.—*W. A. Hulme*: To all appearance your plant is rightly named Primula capitata, but it was withered up during the holidays; it should have been packed in damp moss.—*H. L.*: 1, Pyrus japonica; 2, Lonicera fragrantissima; 3, Spiræa Thunbergii; 4, Magnolia conspicua; 5, Forsythia suspensa.—*J. Meldrum*: 1, Narcissus Pseudo-Narcissus pumilus; 2, Anemone Hepatica rubra; 3, Erythronium Dens-Canis; 4, Chionodoxa Luciliæ; 5, Scilla sibirica; 6, Soldanella alpina; 7, Primula elatior.—*P. M.*: 1, Croton not recognised; 2, Croton irregulare; 3, Euonymus japonicus foliis variegatis; 4, Pteris cretica; 5, Pteris serrulata; 6, Saxifraga crassifolia.

TARRAGON.—*E. H. A.*: The specimens sent in your letter were so squeezed up and withered, that we can only guess at the name of the plant. There are numerons composites very closely allied in habit. We believe it to be Achillea Ptarmica; but if there is any further doubt about it, send again when the plant is in bloom. No doubt the plants were sent by mistake for Tarragon when the stems were cut down.

ODONTOGLOSSUM HALLI.—*George Neil*: The flower you sent is not new, but merely represents one of the best types of O. Hallii, the varieties of which have not been named. The ground colour of the sepals and petals varies from a bright to a pale yellow, and the lip from pale yellow to white. Your variety is therefore one of the best, with chestnut-brown blotches and spots on a bright

yellow ground. The clear yellow lip is of la·ge size and beautifully blotched with red. For the sake of distinction you might name it O. Hallii Newmilns' var., or some similar name.

COLD WATER AND PEACH TREES.—*Constant Reader*: In many large as well as small gardens there is nothing else than companies' water to be had, and no harm results to plants from its use. We should not consider it injurious to trees in any way when they are hosed with it. While frosty nights continue however, we should apply the water earlier in the day so that the trees might be dry before night. Concerning its use for Strawberry beds, we should not consider it necessary to apply water thus early in the season. We should apply it after the flowers are set and that too very liberally. There will be little danger of the cold water retarding the progress of the fruit towards maturity. That will be determined more by the nature of the weather, and the amount of sunshine.

COMMUNICATIONS RECEIVED.—A. G.—G. C.—F. D. H.—R. S.—J. H. L.—R. S.—J. W.—F. H.—F. C.—A. P.

TRADE CATALOGUES RECEIVED.

DAMANN & Co., San Giovanni, Teduccio, near Naples.—General Catalogue of Plants.

WRINCH & SONS, St. Lawrence Works, Ipswich.—Garden Implements and Furniture.

E. D. SHUTTLEWORTH & Co, Limited, Albert Nurseries, Peckham Rye, S.E.—Trade List of Stove, Greenhouse and Hardy Plants.

LONDON SEED TRADE.

April 4th, 1893.

MESSRS. HURST & SON, of 152, Houndsditch, and 39, Seed Market, Mark Lane, report a brisk demand for agricultural seeds. American Red Clover is easier owing to forced sales by French importers. German Red Clover steady. Supply of finest English Cowgrass exhausted. Trefoil, White Clover, and Alsike unchanged.

COVENT GARDEN MARKET.

April 5th, 1893.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Grapes..... per lb.	2 0	4 0	Pine apples. —St. Michael's, each	2 6	6 0
Kent Cobs...100 lb.			Apples...per ½ sieve	1 0	3 6
Peaches ... per dozen			Plums...per ½ sieve		
Melons ... . each					
Strawberries, per lb.	3 0	6 0			

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, French, per lb.	1 6	3 0	Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	5 0	Seakale .....per bkt	1 6	2 6
Celery.....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers .....each	0 4	0 9	Spinach ... per strike	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	1 6	2 0
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Anemones, doz. bnch	1 0	3 0	Mimosa (French) p. bb.	1 0	1 6
Azalea, doz sprays.....	0 6	1 0	Mignonette... 12 bun.	2 0	4 0
Arum Lilies, 12 blms.	2 0	4 0	Narcisse, various, doz. bnchs	2 0	4 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, 12 sps.	0 9	1 0
Carnations, 12 blooms	2 0	4 0	—scarlet.....12 bchs.	6 0	9 0
Chrysanthemum, dz bn	3 0	9 0	Primula, double, bun.	0 6	1 0
Camellias doz blooms	1 0	3 0	Primroses doz. bchs	6 0	1 0
Cyclamen doz blooms	0 4	0 6	Orchid Bloom in var. per bloom, from	0 3	1 0
Daffodils, var. dz. bch.	1 6	9 0	Roses, yellow, dozen	3 0	6 0
Eucharis ...per doz.	3 0	6 0	— French, per bnch	1 6	4 0
Euphorbia Jackminaf olia, doz. sprays	1 0	4 0	— Red..... doz. blms.	1 6	4 0
Gardenias 12 blooms	2 0	4 0	— Saffrano...per doz.	2 0	3 0
Heliotropes, 12 sprays	0 6	0 9	— Tea ..... per dozen	1 0	3 0
Hyacinths, doz. spikes	3 0	6 0	Tuberoses, per doz	1 0	1 6
Hyacinths Roman doz. sprays	0 6	1 0	Tulips, red, per doz.	0 6	0 9
Lilac, White, French, per bunch...	3 0	4 6	— White, per doz. ...	1 0	1 6
Lilium Harrisii, doz. blooms	3 0	4 0	— Yellow, per doz....	1 0	1 6
Lily of the Valley dz. sp	s. 0 6	1 6	Violets, Parma, French per bunch ..	2 0	3 6
Maidenhair Fern, 12 bs.	6 0	9 0	—Czar, French, bun.	1 6	2 0
Marguerites, 12 bun.	4 0	6 6	Small „ doz. bun.	1 0	1 6

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Azaleas... per doz	24 0	42 0	Genesta .....per doz.	9 0	15 0
Cyclamen per doz ...	9 0	18 0	Hyacinths, doz. pots	8 0	12 0
Cyperus .....per doz.	4 0	12 0	Lily of the Valley doz. pots	9 0	18 0
Cineraria ...per doz.	8 0	12 0	Marguerites, per doz.	6 0	12 0
Dracæna term., doz.	24 0	36 0	Palms in variety, each	2 6	10 0
Dracæna viridis, doz.	9 0	18 0	Palms, Specimen ...	15 0	63 0
Deutzia .....per doz.	6 0	9 0	Primula Sinensis per doz.	4 0	6 0
Dielytra ..... per doz.	6 0	9 0	Pelargoniums ... doz.	12 0	18 0
Erica, various, doz.	12 0	18 0	— scarlet.....per doz.	12 0	18 0
Evergreens, in var. doz	6 0	24 0	Tulips—various— per doz. pots	8 0	12 0
Ferns, invar., per doz.	4 0	18 0			
Ferns, small, per 100	6 0	10 0			
Foliage Plants, doz.	12 0	60 0			

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FLOWER SHOWS, 1893.

Revised to date.

APRIL.

11,12.—Brighton Spring Show.
11,25.—R.H.S., Drill Hall.
19, 20.—Newcastle-upon-Tyne Spring Show.
25.—Flower Show in Manchester Town Hall.
26.—Royal Botanic Society.
26,27.—Ancient Society of York Florists.

MAY.

9.—R.H.S., Drill Hall.
11,12.—Crystal Palace Flower Show.
13.—Opening of Gardening and Forestry Exhibition at Earl's Court.
17.—Royal Botanic Society.
18, 19.—Orchid Show at Earl's Court.
19.—Orchid Show at Old Trafford.
24.—Midland Counties Pansy Show at Tamworth.
25,26.—R.H.S., Temple Show.

JUNE.

6,20.—R.H.S., Drill Hall.
14,15,16.—York Floral Fete.
20.—National Rose Show at the Drill Hall.
21.—Royal Botanic Society.
28.—Rose Show at Earl's Court.
28.—Richmond (Surrey) Flower Show.
28.—Windsor Rose Show.

JULY.

1.—National Rose Show at the Crystal Palace.
1.—Chingford Flower Show.
4.—Gloucester Rose Show.
5.—Ealing Flower Show.
5.—Royal Botanic Society Evening Fête.
5, 6.—Lee, Blackheath, and Lewisham Horticultural Society.
6.—Bath Rose and Begonia Show.
11.—R.H.S., Chiswick.
12,13.—Royal Caledonian Horticultural Society.
13.—National Rose Show at Worksop.
13.—Woodbridge Flower Show.
13.—Boston Flower Show.
18.—Eye Flower Show.
20.—Ludlow Flower Show.
20, 21, 22.—Newcastle-upon-Tyne Summer Show.
22.—Rose Show at Old Trafford.
25. R.H.S., Drill Hall.
26, 27.—Carnation Show at Earl's Court.
27.—Sleaford Flower Show.

AUGUST.

1.—Oxford Union Carnation and Picotee Show.
2.—Great Saughall Flower Show.
5.—Midland Counties Carnation Show at Birmingham.
5, 7.—Southampton Floral Fête.
7.—Beddington, Carshalton, and Wallington Flower Show.
7.—Duffield Flower Show.
7.—St. Neots Amateur and Cottage Horticultural Society.
7.—Mansfield Flower Show.
8.—R.H.S., Drill Hall.
9, 10.—Flower Show at Earl's Court.
10.—Margam Cottagers' Show.
10.—Maidenhead Flower Show.
10.—Taunton Flower Show.
12.—Ovenden Flower Show.
16.—Reading Flower Show.
16.—Kingswood St. George Flower Show.
16, 17.—Bilston Flower Show.
18.—Devon and Exeter Horticultural Society.
23, 24.—Shrewsbury Summer Show.
23, 24.—Gladioli Show at Earl's Court.
29,30,31.—R.H.S., Agricultural Hall.
30, 31.—Bath Autumn Show.

SEPTEMBER.

1,2.—National Dahlia Society's Show at the Crystal Palace.
5, 6.—Brighton Autumn Show.
6,7,8.—National Chrysanthemum Society at the Aquarium.
8.—Bute Rose Show at Rothesay.
12,26.—R.H.S., Drill Hall.
13,14.—Royal Caledonian Horticultural.
13, 14.—Dahlia Show at Earl's Court.
27, 28, 29.—Hardy Fruit Show at Earl's Court.

OCTOBER.

10,24. R.H.S., Drill Hall.
11,12,13.—National Chrysanthemum Society at the Aquarium.

NOVEMBER.

1,2.—Kent County Chrysanthemum Show.
1, 2.—Steyning Chrysanthemum Show.
6.—St. Neots Chrysanthemum Show.
7,8,9.—National Chrysanthemum Society at the Aquarium.
7. 8.—Brighton Chrysanthemum Show.
7,8.—Kingston Chrysanthemum Show.
7,8.—Sevenoaks Chrysanthemum Show.
8, 9.—Bath Chrysanthemum Show.
8, 9.—Brixton, Streatham, etc., Chrysanthemum Show.
8,9.—Bournemouth Chrysanthemum Show.

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„ „ **Krætzeri.** Pure white ... ... „	1s 0d.	10 6
„ „ **Melpomene.** Splendid crimson „	1s. 6d.	15 0
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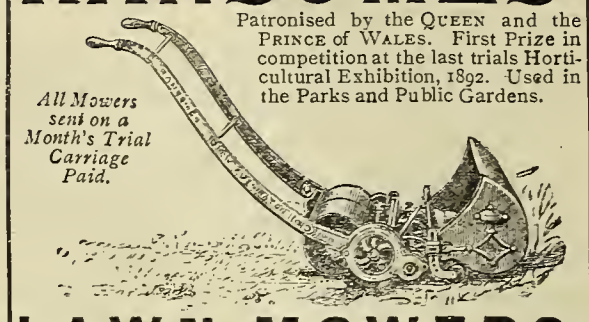

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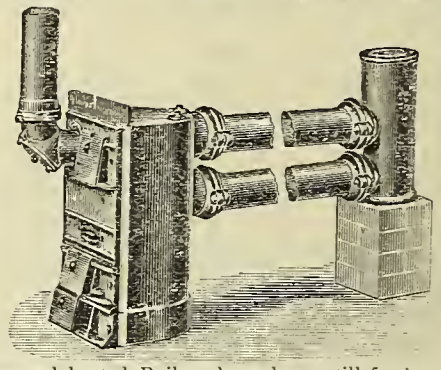

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For Index to Contents see page 521.

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NEXT WEEK'S ENGAGEMENTS.

MONDAY, April 17th.—Ghent Quinquennial Exhibition, continued.
TUESDAY, April 18th.—Sale of Orchids at Protheroe & Morris' Rooms.
WEDNESDAY, April 19th.—Newcastle-upon-Tyne Spring Show (2 days).
Sale of Orchids at Studley Castle, by J. C. Stevens.
Sale of Lily Bulbs at Protheroe & Morris' Rooms.
THURSDAY, April 20th.—Royal Horticultural Society of Ireland: Spring Show.
Sale of the Bromborough Hall, Orchids (2 days).
FRIDAY, April 21st.—Sale of Orchids at Protheroe & Morris' Rooms.

The Gardening World.
Edited by BRIAN WYNNE, F.R.H.S.
SATURDAY, APRIL 15th, 1893.

HORTICULTURAL SOCIETIES.—It is to be deplored that any horticultural society, especially one dubbing itself "Royal," should have descended to so much humiliation, as was involved in the effort made by the Aberdeen Society to exclude such an eminent and respectable a firm of florists as Messrs. James Cocker & Sons from sharing just as fully in the rights of membership in that society as any other person or persons. We seem unhappily just now to be seeing several similar organisations passing through a time of trial, and it is our earnest hope, for the credit of horticulture, that all may emerge from it speedily and creditably.

What on earth other, than some petty local jealousy, could have induced the committee of this most mis-called "Royal" society thus to attempt to debar the Messrs. Cocker from exhibiting at the society's shows it is indeed hard to say. Of course there are assertions that may or may not be true, and upon which, for the credit of our vocation, we have no desire to enlarge, but apart from the fact that any such effort was distinctly illegal, having regard to surrounding conditions, there was not only the farther fact that the exhibitions must lose in beauty and attractiveness, but also that so much of bad blood would be engendered amongst members and friends. We can hardly conceive of a public body which should more keenly study the maintenance of the *entente cordiale* than the managers of a horticultural society. So few have such broad or safe foundations that they can afford to split apart or even to have a purely domestic quarrel.

Beyond being compelled to reinstate the Messrs. Cocker in full possession of their rights as exhibiting members of the Aberdeen Society the committee have to face payment of the heavy legal costs they have so unwisely incurred. It is a big penalty to pay, but those who will play with edged tools must expect to cut their fingers. The whole thing is deplorable. Would that it could have been nipped in the bud, and a grave disaster to the society saved. Yet we must congratulate the Messrs. Cocker on their success, for they have won a position that will not only render them impregnable, but also must act as a grave warning to other committees henceforth.

ARTIFICIAL FLOWERS.—It is an odd and an instructive fact that whilst the feminine portion of humanity exhibits, in spite of the variations of fashion, the most intense admiration for artificial flowers in their head gear, and that is usually fearfully and wonderfully made, yet this same section will have of the humblest, simplest, cheapest, or any other of natural flowers only for sprays or buttonholes; so much of love for that which is natural still remaining.

That such should be the case after all is highly creditable to woman, for that innate love of decoration which marks all her tribe has to undergo severe trial in these days when the art of the floral artificer is carried to such remarkable perfection. We say remarkable because of two things—first, the artificer shows great adaptability to copy real flowers with exceeding accuracy, whilst also in many cases adding to them tints that are if not so much unnatural are at least novel, and not infrequently very beautiful. Just now the great forte of the artificer lies somewhat in the production of sprays or wreaths, and these are very popular with the wearing part of the public.

Then the artificer can excel nature in the formation of flowers of which the most experienced of florists are quite ignorant. These naturally wear a very odd or quaint aspect, but there is throughout this artificial flower manufacture now such refinement and taste that it is no wonder these decorative efforts are and promise long to be the most favoured for the gratification of feminine pride. Well it is after all a high compliment to natural flowers that these artificial copies should thus be so popular, and we see the effect in the further fact that natural flowers for ordinary wear are getting yearly more popular also. For so much we have every reason to be grateful. Long may it be so.

AURICULAS.—We may remind those of our readers who are only admirers and not growers of these delightful spring flowers, that the annual show of the Southern Auricula Society is close at hand, and that on Tuesday week next the various growers will marshall their forces and have their little bloodless contest at the Westminster Drill Hall. We have some reason for hoping this year to see some of our northern friends foregathering at the tables, for they should not have reason to complain of the backward or sunless condition of the season. Certainly it has not been so far a case of fire-heat winning; indeed, it may not at all be unlikely that some of our southern growers will complain of too much sun-heat and too much consequent shading.

Hardy as the Auricula is it can only be induced to exhibit all its innumerable charms and beauties when some warmth is afforded, and yet it is very impatient of too much heat, and not only expands too rapidly but wastes too rapidly, whilst markings that must be of the nicest to catch the censor's eyes soon become rough and demoralised. Certainly it is long since we have had a season that has so much equalised chances, and it is because of that we have so much of hope that our northern friends will turn up in quantity, give us once more a taste of their quality, and let us see Auriculas in their highest perfection. We are rather tired of hearing excuses when the exhibition falls below par. The season is either too early or too late, or it has been too cold or too hot, or something or other has prevented sending up the flowers in their best form.

Probably we shall hear that the present spring has been too sunny, too piercing. Well, if such excuse be made, then it will show that the Auricula grower is never to be satisfied. However, we cordially hope that for once all may be satisfactory. Spring flowers out in the open have had a somewhat dry time of it, but so much of the material shown is grown in pots that with the exception of Primroses, which have been somewhat hurried into bloom, and may be past their best, there seems little to complain of.

THE CULTIVATION OF APPLES FOR PROFIT.—An admirable example of the way in which non-professional writers on fruit may mislead readers was noticeable in a prominent morning newspaper a few days ago, when readers were told that "Newtown Pippins continue to command first-class prices, *a fact which may be suggestive to cultivators.*" The italics are ours because it is this sentence which is so misleading. How many readers of that paper are there who may not be induced to revile the unfortunate home grower because he does not grow Newtown Pippins, setting the fact that he does not do so down to his insular stupidity and stubborness? or else they or others may be induced in the fullness of their faith in the said writers' knowledge to purchase and plant Newtown Pippin trees in the expectation of realising sometime hence those "first-class prices" that are so productive of mouth watering.

More than thirty years ago one of our leading pomologists wrote of this Apple that it "requires a wall in this country!" What fact more damning to its reputation for ordinary culture. Apples that need walls in the southern counties need to sell at two shillings per pound in this country, for never under the most favourable conditions are wall-grown Apples a great success. In these days, when lists of the best Apples for all purposes are being constantly published, no one ever dreams of including the Newtown Pippin. Superb as may be the fruits of it grown in America, here when it does fruit, and that is seldom, they have no special merit. Really with such splendid Apples as Cox's Orange Pippin, Blenheim Orange, Cockle's, Sturmer, Rosemary, Ribston, Golden and other Pippins, all of first-rate excellence, and will thrive well and crop well with us, what need is there of troubling about Newtown or other Pippins which may have factitious reputations, but are utterly useless here.

We do not regret to learn that English Apples are now very dear for the sake of the consumer. Still those who have good late sorts well preserved are entitled to some reward for their trouble. When it is said that American Apples have been rather disappointing this season we are not surprised, because our competitors across the Atlantic are not unlikely to be in too much hurry to gather their fruits, and hence they come to us imperfectly matured. The Tasmanian Apples now coming to hand, if dear, are at least excellent in quality.

Mr. James Cooper, late of The Gardens, Mentmore, Leighton Buzzard, has been engaged as gardener to Lord Abinger, at Inverlochy Castle, Kingussie, N.B.

Death of Prof. de Candolle.—We regret to hear of the death at Geneva, on the 4th inst., of the distinguished botanist, Professor Alphonse de Candolle, at the ripe old age of eighty-seven years. He was a foreign member of the Royal Society and the Linnean Society, and the whole of his active life may be said to have been devoted to botanical science.

The Trentham Flower Show.—The sixth annual exhibition of the Trentham and Hanford Horticultural Society is fixed to be held on Thursday, July 12th, and we are glad to hear that the present Duke of Sutherland, who is the president of the society, has signified his willingness for the show to take place as heretofore in Trentham Park, when doubtless, should the weather be fine, another success will have to be recorded, so popular has the Trentham Show become with the inhabitants of the Potteries. The schedule, copies of which can now be obtained from Mr. John Taylor, 22, Glebe Buildings, Stoke-on-Trent, provides for over 100 competitions, which are open to all. The premier class is again that for a group not exceeding 300 square feet, always a prime feature at Trentham, and the winner of the first prize will secure £30 10s. as his reward; the second taking £20; the third, £13; and the fourth, £9. The Rose classes are again most liberally provided for, as also are fruits and vegetables. With such a capable exhibition superintendant as Mr. Blair, such an enthusiastic secretary as Mr. John Taylor, and such a hard-working committee, Trentham Show bids fair to become "a big thing."

A Useful Palm.—The following are among the uses to which the Palmyra Palm (Borassus flabeliformis) is put in the economy of the Indian agricultural classes. The roots are boiled and ground to a kind of flour, which is said to possess very nutritious properties, and a special preparation mixed with Chillies forms an important item in the native pharmacopœia. The web is an excellent fuel, the leaf stalk is of sufficient size and strength to form the palings of fences, and even cross sticks for the roof of small houses, and its fibre is largely used for the manufacture of cables, cordage, and ropes of all kinds. The leaf of the Palmyra is not only used for thatching the house of the middle and lower classes, but also constitutes the walls of a large proportion of these dwellings. Narrow strips are woven into baskets, mats, bags, hats, sandals, fans, umbrellas, and many descriptions of plain and fancy work. It still forms the ordinary stationery of South India, the strips taken from the young leaf for this purpose requiring no other preparation than drying. The flower stalk supplies the saccharine sap which gives to Palmyra its principal commercial value; and the fruit, although not palatable when mature, contains while unripe a vegetable jelly highly esteemed by the natives.

Culture of Plants by Cottagers.—In divers towns in England, France and Holland, horticultural societies organise competitions amongst labourers and cottagers, and with this object offer them rooted cuttings of plants. The *Revue de l'Horticulture Belge* expresses the view that such societies find imitators in Belgium. An exemplary society in the north of France offers rooted cuttings with the following recommendations:—As soon as the would-be exhibitor receives the plants he should pot them with good fresh soil from a field, mixed with a half of well-decayed leaf soil well mixing them. The plants should be placed on the sill of the window facing the south or east, never the north. They should be watered judiciously and repotted when the roots grow round the ball of soil, touching the pots. With the exception of Coleus, which prefer the interior, the plants can be placed outside on the balcony or it may be a small table with a gallery nailed under the window. The question of manures and insecticides is left to the care of the exhibitor. The first repotting should be given in a pot 4 in. in-

side measurement, the second 5½ in., and the third if required, 7 in., measuring at the top. To avoid one-sided plants it is necessary to turn them often, as the sun draws the branches towards it.

Flowers for the London Poor.—Miss Frances Armbrecht, 13, Duke Street, Grosvenor Square, honorary secretary of the Flower Mission in connection with the King's Weigh-House Church, appeals for flowers for distribution among the poor who are ministered to by its staff. The mission, it may be explained, was only started last year, but its fragrant offerings were gladly welcomed by the roughest and most degraded, while the sick and aged prized them greatly. All sorts of flowers, whether garden or wild ones, will be acceptable, and those who are in the habit of arranging flowers for decorative effect will not forget to add some foliage or grasses. When sent in large quantities these can be forwarded by parcel post; the mission is willing, if desired, to pay carriage. The distributions are made weekly, on Saturday afternoons and evenings, so that boxes or baskets should arrive on Friday nights or Saturday mornings. The season of floral abundance is now at hand, and it is perhaps only those who have seen for themselves the loving appreciation of the London poor for flowers who can fully understand the possibilities for further good which may lie under the seemingly slight gift of a few flowers.

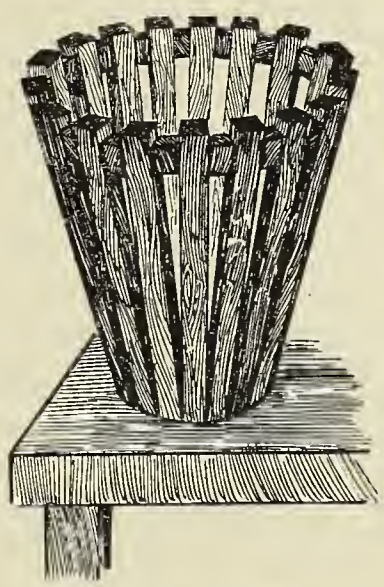
Ealing and District Gardeners' Mutual Improvement Society.—The annual dinner of this society took place in the Victoria Hall, Ealing, on the evening of the 6th inst, when fifty-two members and friends participated in the enjoyment of the evening. The usual toasts were proposed, and speeches delivered concerning the work carried on by the society, namely: the reading of papers and discussion thereon, as well as the discussions on various questions brought before the society's meetings on important and present-day horticultural topics. The chairman also distributed the prizes offered for exhibits and essays. The first prize for exhibits of plants at the meetings was awarded to Mr. Long who was followed by Mr. Slatter, Mr. Collins, Mr. J. Baird and Mr. Cox respectively. Prizes were offered by Mr. R. Dean for an essay on the Onion; and here Mr. Edwards was first, Mr. Long took the second place, and Mr. Gates was third. R. Dawes, Esq., offered prizes for an essay on Peaches and Nectarines, the first of which was again won by Mr. Edwards, followed by Mr. Long, Mr. Ernest Pentney and Mr. W. Wright respectively. C. Jones, Esq., and G. F. Nixon, Esq., offered prizes for an essay on Gladiolus, and the first award was made to Mr. J. Slatter, while Mr. Ernest Pentney took the the second prize.

Æchmea Zahnii.—Many of the Bromeliads are beautiful when in flower, but others are beautiful at all times, and the above-named subject is one of them. The linear, fluted leaves are arranged in a dense vasiform tuft, and green striated with red on both sides, suffused with red on the upper surface and all more or less of a deep red at the base. On the flower stem they give place to bracts which are also of a deep red and very attractive. The flowers themselves are yellow and crowded together in clusters at the top of the flower stem. We noted the plant in this condition in the nursery of Messrs. J Laing & Sons, Forest Hill. Young plants are obtained as suckers from the base of the old one after flowering, and take some years to reach the flowering stage; but this need not be regretted seeing that the plant is attractive at all times and may be used for decorative purposes including table decorations.

Wood Green Horticultural Society.—A special meeting of the members of this society took place in the Masonic Hall, Wood Green, on Tuesday last, when, at the invitation of the committee of the society, Mr. Richard Dean delivered an address on "The Auricula: its History, Characteristics, Types, Culture, etc.," illustrated by means of plants in flower. There was a large attendance, including ladies, special interest being taken in the culture of the flower through a number of the members being fanciers and cultivators of the border varieties. A very hearty vote of thanks was given to Mr. Dean at the close of his address, and, in acknowledging the compliment, he strongly advised those interested in the flower to visit the exhibition of the National Auricula Society, to take place in the Drill Hall, Westminster, on the 25th inst.

A new Potato Spraying Machine.—The inventor of the Strawsonizer has just brought out a new machine, an extension of the Strawsonizer principle, to meet the want by farmers of an implement that will dress Potatos with Bordeaux mixture effectively and rapidly. The machine is of a light draught, and dresses the under surface of the leaves of seven rows of Potatos or plants thoroughly at one time, and more evenly than could be done by hand. It has 4½ ft. iron wheels and a telescoping axel, so that the wheels can be drawn out from 4 ft. to 5 ft. apart, in order to suit any rows that are planted from 12 to 30 ins. wide. It carries about sixty gallons of liquid, which is automatically agitated and has a reversible pump arrangement by which it can be pumped full and strained at the same time—a valuable practical advantage. The nozzles can be elevated, brought close together, or stretched out to 30 ins. apart as required. The machine can be used as a large hand machine, and watering and spraying have been done in this way, with excellent practical effect, 300 to 400 ft. from the machine. When not in use it may be kept full of water, and can be used in case of emergency as a fire engine.

Orchid Pots of Teak.—At p. 421 we referred to Orchid baskets, rafts, cylinders, and Orchid pots made of Teak. Mr. H. G. Smyth, of 21, Goldsmith Street, Drury Lane, has recently added the latter to his stock of horticultural sundries, and we are now in a position to illustrate this new article which can hardly fail to meet a want. The pot in question is strong, durable, and simple, with the ribs fastened together at top and bottom by a strong copper wire running through them. Small pieces about an inch in length keep them apart at the top, but not at the bottom; hence the pot-like shape which the article assumes.



Teak Orchid Pot.

Royal Gardeners' Orphan Fund.—At the meeting of the committee on the 7th inst. the Honorary Secretary reported the receipt of a donation of £5 from H.R.H. the Duke of York; £1 from the Countess of Shrewsbury. and £1 1s. from Lady Gordon Lennox. Mr. Kipling sent £7, the sum received by him for skating fees at Knebworth during the past winter. Mr. J. P. Leadbeater, Tranby Croft, sent 12s., the result of a card collection; and from their collecting boxes, Mr. Jesse Willard, Holly Lodge, Highgate, sent £1 7s. 6d.; Mr. H. Cannell, Swanley, £1; Mr. T. Turton, Maiden Erleigh, 16s., and the Liverpool Horticultural Association, 10s. 6d.

The Brighton "New" Horticultural Society's Spring Show on Tuesday and Wednesday was a very successful one, the exhibits being good all round, the arrangements thoroughly satisfactory, and the attendance good. Mr. G. Hart, gardener to H. Head, Esq., Shoreham, had the best dozen Hyacinths, and Mr. C. Mussell, Preston Park, the best dozen pots of Tulips—a grand lot. Other successful competitors were Mr. Gore, with Lily of the Valley; Mr. House, with Amaryllis: Messrs. Peed & Son, with Cyclamens and Pelargoniums; Messrs. W. Miles & Co., with double Primulas: Mr. Murrell, with greenhouse Azaleas, a well-flowered lot, and Mr. J. Turner, Furze Hill, with a group 60 ft. square. Mr. G. Miles was second in the latter competition, and Mr. E. Meachen, third, and all these as usual were of unexceptional quality.

Among the exhibits not for competition were a grand group of plants and floral designs from Messrs. Balchin & Sons. A table of fruit from Messrs. J. Cheal & Sons, Crawley. A large table of decorative plants from Mr. Prinsep, gardener to Viscountess Portman, Buxted Park. This contained a grand plant of Dendrobium densiflorum, also pieces of D. Dalhousianum, and Cypripedium hirsutissimum as well as several other Orchids. Mr. A. Kemp, gardener to C. R. Scrase Dickens, Esq., Horsham, sent a stand of Grapes, and twenty-four dishes of Apples, and Mr. H. Stringer, 212, Western Road, had one of the most showy and tasteful exhibits in the show, viz., a bridal and ball-room bouquet, and also a large wreath of excellent quality.

HYBRID PRIMROSES.

So long as spring succeeds winter, so long, I suppose will the old love be renewed for the fresh and the beautiful, for the charm and the fragrance born of all that is implied and delightful in the magic of the word "Spring." In the summer season "the young man's thoughts lightly turn to love"; but in the spring of the year, if he affect nature, his cogitations are directed towards those sweet and philosophical lessons which are invariably suggested by a contemplation of flowers. Among the old-fashioned flowers, perhaps, none have received more consideration than the Primrose family; and, although the present race of hybrid Primroses was unknown to our forefathers, it is quite certain that they were not very far behind us in the matter of symmetry and colour. But in these days the varieties are so numerous, and the tints and shades so extraordinary, that our ancestors could not but be astonished were it possible for them to rise up in evidence against us.

These remarks are called forth by the grand display of these flowers at Falkland Park, South Norwood Hill, where Mr. A. Wright, the able all-round gardener, has provided such a show as it has never been my pleasure to witness before. The strain is known as Dean's Hybrids, and they are justly celebrated, inasmuch as the colours range from bluish purple to pure white, with a hundred intermediate grades between; and while some of the hues are wonderfully rich and effective, in other cases the colours are so blended that it is quite impossible to describe them. Again some of them are so unique that they possess white edges, and are otherwise fringed, feathered and blotched.

Several of the pips were examined, and it was found that they measured 1⅛ in. in diameter. This is really remarkable, when it is considered that this time last year they were in the seed packet.

Contrary to the generally recommended aids to cultivation, viz., partial shade and protection, they are well exposed to the full glare of the sun and the four winds of heaven, with the result that the plants are sturdy and dwarf, while the flowers partake of the same characteristics, are free in addition, and look for all the world like mountain gems—out of all proportion to the tuft of leaves. When it is further stated that there are over 7,000 plants, and that they occupy a position on a wind-swept hill more than 400 feet above sea-level, it is self-evident that they are adapted to the bleakest of places. What wonder then that Mr. Wright is enamoured of them! He positively asserts that for the outlay of capital and labour he has never received greater satisfaction. What wonder he exhibits much enthusiasm for those delicately sweet and hardy denizens of the florists' care! He is so partial to them that he would not discard, even at the risk of incurring the florists' ire, the "pin-eyed" varieties, which exhibit in other respects perfection of form and colour. Although I have dubbed them all Primroses, there is a large percentage of those forms known as Polyanthuses, and it may be well to query here what is a Polyanthus? Dr. Lindley, in the "Treasury of Botany," describes a Polyanthus as "an umbellate-flowered variety of Primula vulgaris," while the most recent authority, the "Encyclopædia Britannica" states that "P. veris is the origin of the Polyanthus of our gardens." When doctors differ had we not better adopt the golden mean? Certain it is that this grand collection exhibits all the variations of the transition state, for plants which were earlier in the season, of the Primrose type, become as time develops the "Polyanthus of unnumbered dyes."

The Primrose is associated with poetry, politics, and science; but it is

"The weak and soft-eyed Primrose"

which obtains with all these groups. The poets, we know, loved it for its own sweet sake; the politicians love it for the principles it implies, and the scientists regard it with feelings of pleasure for the lessons it affords. So whether it be Wordsworth, Beaconsfield, or Darwin, matters not to us just now, as we are concerned rather with its wonderful developments than with the .

"Pale Primroses,
That die unmarried, ere they can behold,
Bright Phœbus in his strength."

Without entering here into the merits of the "thrum-eyed" versus the "pin-eyed," it is enough for us to observe that both are necessary where the highest fertility is desired, and that it has been found by experiment and research, that a transference of the pollen from the long stamens to the long style, or the short stamens to the short style, or in other words, cross fertilisation, is absolutely necessary, if the most perfect and most robust flowers are desired, therefore Nature wants both forms, even if the florist does not.

As gratitude is not a silent virtue, I trust that this exposition of my views will give as much pleasure to the reader as to the writer, and that this record of a visit to Falkland Park will induce others to take up this floriferous subject with as much advantage. —*C. B. G., Acton, W.*

DAFFODILS AT LONG DITTON.

Some of the earliest flowering Daffodils, even of the ordinary Narcissus Pseudo-Narcissus type, are practically over for the season, having been in bloom in the open ground for some time past; but in the nursery of Messrs. Barr & Son, Long Ditton, Surrey, there is now a wealth of blossom of all kinds, and which will be continued for weeks to come, as the late varieties, only yet pushing up their flower buds will prolong the succession. The long continued spell of dry weather has made itself felt by the Daffodils as by many other kinds of vegetation. The result is that the flowers are not so large as they ought to be, and the plants are very dwarf. This would not in itself be matter for particular regret, but the flowers themselves do not last so long in the cut state as they would had the ground been congenially moist so as to supply the roots with a sufficiency of moisture. In connection with the prevalence of cold east winds a striking phenomenon presents itself throughout the three fields of the nursery. All the flowers face the west, and by this means no doubt the more tender organs are protected from the injurious influences of the cold and desicating winds.

Some of the golden yellow early flowering and choice forms of the type are Golden Spur, Princeps, and Narcissus obvallaris. All three are grown in quantity, a fact in itself ample evidence of their general utility. A few flowers still remain, and late planted remnants of the last-named, as well as Pallidus Præcox, are now at their best. A grand Daffodil is M. J. Berkeley in the way of M. maximus, with a wide mouthed and deeply lobed trumpet, all golden yellow. Her Majesty is a paler coloured flower of similar form. One of the Daffodils of the future is Glory of Leyden, notable for its broad glaucous leaves, and huge, bright yellow trumpet widening upwards to the lobed mouth. Monarch may be put in the same category for size, but its ovate sulphur yellow segments and deep yellow trumpet show an affinity with those of Emperor. The same may be said of P. R. Barr, a magnificent Daffodil of the Emperor type. The segments of Mrs. J. G. Baker are small and sulphur coloured, and the huge trumpet is of the palest lemon. Emperor itself has stood the dry weather admirably and is now in grand form as it is in quantity. The form of the flowers of the last four mentioned Daffodils shows that they belong to the bicolor section, differing merely in the pale yellow colour of the segments instead of being white. Achilles is a bold and free flowering golden yellow form of the common Daffodil. No collection of Daffodils would be complete without some patches or clumps of the Queen of Spain, a form of N. Johnstoni, with moderate sized and charming lemon yellow flowers. The dry weather, however, has been more prejudicial to its welfare than we have ever seen before. All the double forms of the common Daffodil are grown here, so that we shall only mention Capax plenus, otherwise known as Eystettensis and Queen Anne's Daffodil, the sulphur yellow segments of which are piled over one another in six series.

The bicolor section is well represented by large quantities of Bicolor Horsfieldi, Empress, and Grandis, the last being only yet in bud. Their broad white segments and long, bright yellow trumpets render them highly popular with all classes of people. J. B. M. Camm belongs to the same group, and has a long trumpet of a pale lemon, fading almost to white with age. It is not yet so plentiful as the others.

Many varieties of N. moschatus are now at their best and all agree in their white segments and pale lemon trumpet, ultimately fading almost white. N. m. tortuosus is characterised by its twisted segments, and F. W. Burbridge has large flowers with a long trumpet. The Swan's Neck or Wm. Goldring has its segments longer than the trumpet and the flower stalk very much curved at the top. Something in the same way is Cernuus pulcher, but the segments are shorter and sulphur-white. The distinction of Mrs. Thompson seems to be its large flowers and wide-mouthed corona. A vigorous but dwarf variety is Colleen Bawn, an Irish form of N. moschatus with large flowers and twisted segments. The double form of this type, namely, Cernuus plenus is very choice. The trumpet is perfectly full inside, but not split up, and the tips of segments are seen to alternate with the supernumerary trumpets arranged one within the other. The segments are white and the double trumpet palest lemon.

The varaties of N. incomparabilis, for which Messrs. Barr & Son are noted, are still very numerous and varied. It is impossible here to do more than note a few of the more striking and choice sorts, particularly such as find favour with planters generally. It is scarcely necessary to state that Sir Watkin has not yet been beaten for size and effect. It is grown in quantity, and although the flowers are smaller than usual, this will all be forgotten in more favourable seasons. A bold variety of this type is Gloria Mundi with a large, plaited crown of an orange colour on the outer half. A beautiful contrast is offered to this by the white segments and pale lemon crown of Queen Bess. Good also is Gwyther with a golden-yellow crown. One of the choicest, as far as colour is concerned, is J. C. Backhouse with with a long orange-scarlet crown. The fault of this, as well as others having orange-colouring matter in them, is that they are liable to burn with the sun before others of their class fade naturally with age. A vigorous kind that stands the weather well is Beauty, having a large wide-mouthed crown of a golden yellow with an orange rim.

Closely allied to the N. incomparabilis group is N. Barrii, the type of a section of Daffodils of supposed natural hybrid origin. It is generally accepted that N. Barrii Conspicuous is the best of them. The broad segments are sulphur yellow, and the yellow crown has an orange rim. It is a vigorous grower, well adapted for planting on the grass, and we noted ten long beds of it here. Barrii Sensation has a longer corona and nearly white segments. Another pretty form is Crown Prince, with a bright orange rim to the crown. Much paler is General Murray, with broad, palest sulphur segments and a soft yellow crown with a golden edge. Alongside of the above we have another group of Daffodils classed under N. Leedsii. They are more slender in their growth than those of the N. Barrii type, and have milk-white segments with a crown of variable length and colour, but generally pale sulphur or lemon. Some of the varieties are very choice and pretty, but for general purposes a few of them only are necessary, such as N. L. Amabilis, N. L. Gem, and N. L. Flora. The latter has a long, pale, lemon yellow crown, which in many cases is cup-shaped.

None of the Narcissi are more popular than N. Poeticus and several of its finer forms. The pure white colour and the broad segments of N. p. ornatus make this variety conspicuous in the nursery at present. It is the best of the early flowering varieties of this species. A succession will be kept up till the double N. p. patellaris, and N. p. recurvus flower towards the end of May or even in June. Closely allied to N. Poeticus is N. Burbidgei with its forms. The crown is longer than that of N. Poeticus, and has an orange rim. N. B. John Bain has a yellow cup and rather broad white segments. The varieties are all very pretty, and as fragrant as N. Poeticus.

PAST AND PRESENT—A REVIEW.

(*Concluded from p.* 498.)

Tomatos.

The Tomato was introduced to this country from South America in 1596. It corresponded to the sort still cultivated under the name of Large Red, and was then only known in a state of cultivation. Ruiz and Pavon in their "Flora Peruviana" state that the Cherry Red Tomato grows abundantly in waste places near the sea in Peru, and Joseph Sabine on that account considered the Cherry Red to be the wild type from which all the varieties of Lycopersicum esculentum have been derived.

In 1818 only six varieties of Tomatos were known to exist in Europe, namely, Large Red, Small Red, Cherry Red, Pear Shaped, Large Yellow, and Small or Cherry Yellow, the two latter not being very highly esteemed. All were of some antiquity by that time, and in addition a White Tomato was known to exist in 1613, but had been lost, as several others were believed to be. All these old sorts are cultivated at the present day, with exception of the white variety and possibly the Small Red. Judging from description, the latter closely resembled Horsford's Prelude.

As early as 1818, at least, considerable advance had been made in the outdoor culture of Tomatos in the vicinity of London. That year having been a favourable one in the matter of sunshine, John Wilmot, of Isleworth, obtained over 3½ tons of fruit from 600 plants. The latter were planted 4 ft. apart at the foot of a sloping bank of soil, which was considered the best place for them. They were pegged against the bank into which they sometimes rooted, and all the laterals were topped when they met. All other growths were also removed as they appeared and the leaves thinned out. The plants bore on an average 20 lbs. of fruit, and some of them 40 lbs. The larger fruits weighed 12 oz. The variety grown was Large Red, which cannot yet be beaten for outdoor cropping, as far as weight of crop is concerned, and perhaps only equalled by Earliest of All and Laxton's Open Air, which are closely allied sorts.

The cheapening of glass has enabled the cultivation of Tomatos to be more independent of climate. Popular favour has also encouraged the production of varieties with a smooth outline. Their names are legion, but it is difficult to find a distinction for many of them. This refining of the fruits generally means a reduction in the number of carpels and their enlargment. Champion, however, is rather a notable exception, for it has many carpels. Scarlet, crimson, and crimson-red are the most popular colours; but the objection to dull red, or coral red as it is sometimes called, of Dedham Favourite, and to yellow is mere prejudice, for, where 1 lb. of a yellow variety was sold a few years ago, 20 lbs. can now be sold. Fruits of medium size are greatly preferred by the public, and are now largely cultivated for commercial purposes. Such things as President Garfield and Royal Sovereign (six fruits of the latter sometimes weighing 10½ lbs.) may please the curious, but their admirers will not be numerous.

Carnations.

We have no evidence to show that the Carnation was known to the ancient Romans, so that various writers are inclined to consider it of relatively recent origin as a florists' flower. Notwithstanding this we know that Carnations or Double Clove Gillofers (as they were called) existed more than three hundred years ago, for a figure in "Dodoen's Herbal," of 1578, might well be considered as representative of something closely allied to the old Clove still in existence. The names Coronations, Cornations, and the old Latin Vetonicam coronariam would lead us to suspect that Carnation is merely a corruption for Coronation flower; and we are also told that the greatest and bravest were used for making crowns and garlands. The fact that double flowers of various colours then existed would seem to refute the idea that the name Carnation was applied on account of the flesh colour of the flowers.

In 1759 Philip Miller stated that the single wild Carnation had "long been cast out of gardens." Even then the florists divided them into four classes, namely, Flakes, of two colours with the stripes large;

Bizarres, with three or four colours in irregular spots and stripes; Piquettes, spotted or pounced on a white ground, with scarlet, red, purple, etc.; and Painted Ladies, red or purple above and white underneath. Previous to this time the Piquettes were the favourites, but about 1759 the Flakes were held in most esteem.

The old florists in those days understood the cultivation of Carnations well. They propagated them by seeds to obtain new kinds and by layers to perpetuate good ones. The good varieties were named exactly on the same lines as they are at the present day; and the promising ones were grown upon trial for two years to make sure of determining their actual qualities and value. Single and badly coloured flowers were at once rejected. Pod-splitting varieties with large flowers were as troublesome then as now, but they were grown in pots and tended with great care, while the smaller flowered but otherwise meritorious sorts were planted out in borders. I cannot here enter into detail in the matter of cultivation, but a very practical hint offered by Philip Miller is worthy of note. He proposed to have a bed of plants solely for layering, and prevented from flowering so as to get good layers to ensure large flowers every year. The layers for the stock of flowering plants were to be taken from fresh soil, and rather poor than otherwise, so that the plants might be in better health. He noted also that varieties raised from layers a number of years tended to be seedless, and so advised the raising of new sorts from seedlings.

Even then hybridisation was not unknown, although the old florists do not, as a rule, get much credit for their knowledge on that score. They possessed a strain of hybrid origin which they termed Sweet Johns, derived from the Mule or Fairchild's Sweet William, and which was obtained from a Carnation crossed with a Sweet William.

The Piquettes, in 1578, had become the Picotees of florists in 1818 or earlier. At this time we hear of the Yellow Piccotee. A batch of them raised from German seed was exhibited before the London Horticultural Society on the 21st of July, 1818. They were chiefly yellow with different shades of crimson, scarlet, purple, slate, and black. One of them measured 11 in. in circumference, so that we cannot be said to have made much progress in that respect. Evidently they were in these days as near the possession of a blue Carnation as we are, notwithstanding our varieties, showing grey, heliotrope, slate, and other hues of that kind. The yellow ground Picotees of to-day are then merely a revival of what existed seventy to ninety years ago. The old florists made a bold effort to grow the beautiful yellow Picotees, but found that their weak constitution was unable to cope with our fickle and ungenial climate.

The recent revival of this class and the raising of seedlings from home-saved seed is a step in the right direction, and lead us to hope that stronger constitution will yet be secured. The white ground Picotee of the present day with its heavy or narrow wire edge has been refined and brought to its present state of perfection, from the old pounced or spotted Picotees, within the last twenty years.

PINKS.

The garden Pinks, like the Carnation, are not natives of Britain, but are naturalised in some parts of England. The flowers were as various in colour as Carnations as early as 1578, but double forms were unknown at that time, and as they were only planted in gardens, they must have been introduced from the Continent. Time forbids entering into a history of the Pink (Dianthus plumarius), its variation and popularity at different epochs of its culture. Recent attempts have been made to revive its popularity; but some new departure will have to be made to give it fresh impetus. In the most refined and laced form, and strictly as a florist's flower, it can never be appreciated and cultivated by the million. In-breeding and continual propagation by cuttings weaken their constitution and make them difficult to purpetuate.

Self-coloured varieties of Carnations, for border culture, yellow-ground Picotees, as well as white ground varieties marked much in the same way as the "pounced" Picotees of the old florists', have given the cultivation of Carnations a fresh impetus within the last few years; and Pinks might gain largely by being treated upon the same lines. Self-coloured flowers of distinct hues and fine form, fragrant, and produced in quantity by healthy plants of strong constitution, would enable them to be enjoyed by the mass of the people, and cultivated by all possessing gardens in suitable positions.

CHRYSANTHEMUMS.

Chrysanthemums have been cultivated for ages by the Chinese and Japanese so that when we first became acquainted with them they were already in a highly improved state. A small form made its appearance in the Chelsea Botanic Garden in 1764, and a large flowered variety, known as the Old Purple, and imported from China, was grown in the same neighbourhood in 1789. By the year 1824, eleven varieties of Chinese Chrysanthemums had been figured in botanical and other works in this country. Sabine, in that year read a paper at a meeting of the London Horticultural Society describing twenty-seven varieties grown in the gardens at Chiswick. They had been trained to a south wall in the arboretum and flowered there. The variability of the flowers grown under different conditions in the open air and under glass sometimes led cultivators to consider some of the variations as distinct, just as occasionally happens even yet. The difference in colour and occasionally form between the blooms from "crown" buds and those from "terminals" is very remarkable in some varieties.

An amateur in Jersey raised a batch of seedlings which found their way to Vauxhall, and were exhibited before the public in 1836. About this time the incurved form made its appearance. Under the name of the Chusan Daisy the original parent of the Pompon race was sent home by Fortune, and the first blooms were shown at a meeting of the London Horticultural Society in 1846. The National Chrysanthemum Society, which has had no small share in the development of the Chrysanthemum, had its origin in the society formed at Stoke Newington in 1847.

In the years 1860 to 1862 inclusive, Fortune sent home the first of the Japanese forms. For some time the florists of those days were prejudiced against them. Now they are the most popular of all the races of Chrysanthemum all over the world. It is calculated that in Britain alone there are 100,000 cultivators of Chrysanthemums. The history of these as well as all other flowers shows that they must take the public fancy independently of florists' rules and regulations, after which their culture will extend. The show boards originally intended for Dahlias and utilised for exhibiting Chrysanthemums are now found to be too small to show off the larger of the Japanese types to the best advantage.

The raising of incurved varieties lapsed for many years in this country, and the only new ones exhibited were sports from old sorts. There are signs of the practically lost art being revived. The raising of seedlings of new Japanese varieties by English florists has also been making rapid progress within the last few years. The incurved Japanese types were much in evidence last year, and are likely to increase. The formality of the true incurved type greatly limits variety, not only on account of its shape, but also because the upper surface, although the most highly coloured as a rule, is hidden. The September and October flowering habit of a large number of the new varieties, whether home raised or of Continental origin, is also a striking feature of the Chrysanthemum and its progress in the last decade of the nineteenth century. The small Japanese varieties, such as Elaine, Baronne de Prailley, Belle Paule, Bouquet Fait, Flamme de Punch, Jeanne Delaux, Lady Selborne, Fair Maid of Guernsey, Madamoiselle Lacroix, and others, that were so popular ten years ago, are fast dropping off the show boards and into comparative oblivion, except where they have been found useful as cut flowers for market purposes.

A fact bearing upon the culture of the Chrysanthemum, and now pressing itself upon the attention of the cultivator, is that cuttings for the following year's stock of plants should never be taken from plants that have been highly fed or forced by means of stimulants for the production of huge blooms, because their constitution has been greatly weakened and undermined thereby. Such cuttings are more difficult to root, and plants grown from them are relatively weak. Philip Miller gave us a similar hint with regard to Carnations considerably over 100 years ago.

Gleanings from the World of Science.

The Tree under which Livingstone died.—A bronze tablet has at last been affixed to the tree under which Livingstone died, after a period of nearly twenty years. The tablet was the gift of his daughter and son-in-law. This was entrusted to Mr. Arnot, a missionary, who also carried with him a handsome present from the Geographical Society for Chitambo, the chief of the district. Mr. Arnot failed to reach Lake Bangweolo, the goal of his journey, and the object of the mission was accomplished by Lieutenant Franqui, of Captain Bias's expedition. By this time the chief of the district was dead, and his son had removed the village about twenty miles to the westward. The inscription on the tablet was also discovered to be partly erroneous, inasmuch as Livingstone died in Kalinde and not in Ilala as stated. It would, moreover, be interesting to know the botanical name of the tree under which he died in that wild part of the world.

Grooved leaf-stalks.—In a large proportion of flowering plants the leaf-stalks are grooved on the upper surface, and dilated at the base clasping the stem. The significance of this has been the object of a long series of experiments and observation by Professor Nelson of Wyoming University. In the monocotyledonous class of plants the stem is often short and the leaves relatively large, or the latter are crowded on the top of tall stems as in the Palms. The long petiole is for the purpose of exposing the large leaves to a due share of light, and the professor goes to state that the petiole gains strength by being dilated at the base and hollow along the upper surface, in accordance with a well-known mechanical principle. The grove, however, does not always exist even amongst Palms, the petiole of which is often flat on the upper surface.

Moreover, the shape of the petiole generally depends on the distribution of the fibro-vascular tissue, and that again upon the form of the leaf blade. The length of the petiole does indeed depend upon the size of the leaves and their arrangement, and the dilated base often serves the purpose of protection as well as strength. The professor believes that the groove is a mere survival amongst Dicotyledons; but such may also be the case amongst Monocotyledons. In either case we may assign valid reasons for their survival at the present day. The professor also states that the groove in the leaf-stalks of the former serves to carry water to the bud in their axil.

Fermentation of Farmyard Manure.—Some very useful hints on the making and use of various kinds of manure in "Manures, how to Make and Use them," by Frank W. Lempers, director of the Fordhook Chemical Laboratory, America. He therein states that much has yet to be learned of the exact changes which take place in the fermentation of manure. Some of the micro-organisms which bring it about can only flourish when they have free access to the air, others can live in the absence of free air, some require an abundant supply of moisture, while others thrive where they are kept moderately dry. The kind of fermentation that goes on therefore depends upon the kind of micro-organism at work. When farmyard manure ferments slowly, the oxygen unites with some of the carbon forming carbon-dioxide, which passes off into the atmosphere; but if the heap is kept tolerably moist, ulmic, humic, and other organic acids are formed.

The nitrogen combines with hydrogen forming ammonia, which unites with the above named acids, forming ulmates and humates, etc., which are very soluble in water. Should the manure be too dry and ferment rapidly so that the temperature rises above 150° F., water is driven off and the manure burns forming carbonate of ammonia, which passes off into the atmosphere and is thereby lost. The brown liquid which runs away from the heap is rich in nitrogen, phosphoric acid and potash, and when this is allowed to continue the most valuable constituents of the manure are lost.

The Carnation: its History, Properties, and Management, with a descriptive list of the best varieties in cultivation. By E. S. Dodwell. Third edition with supplementary chapter on the Yellow Ground. London: GARDENING WORLD Office, 1, Clement's Inn, Strand, W.C. 1s. 6d.; post free, 1s. 7d.—[AD.

BERTOLONIAS AND SONERILLAS.

The cultivation of this class of plants is likely to be more extended in the near future than it is at present. Cultivators are also beginning to find out that they can be grown without the close, moist atmosphere generally given them, and without hand-lights or bell-glasses. The leaves, when grown with a fair amount of ventilation, are more durable when in perfection, and can be taken into dwelling rooms or placed on the exhibition table with less danger of being injured than when they have been previously subjected to close treatment.

A considerable number of varieties are grown in the nursery of Messrs. J. Laing & Sons, Forest Hill. The Bertolonias have the boldest and most showy foliage. B. Leon Pynæert has green leaves with five red nerves and dotted all over with the same hue, interspersed as well with olive green blotches. B. argyroneura has large ovate leaves closely covered with white spots. Those of Madame August van Geert have five silvery nerves running through them. The markings of the leaves of B. Souvenir de Gand are more intricate and as beautiful as they are complicated. The five principal nerves are connected by means of short lateral ones all of a warm carmine colour. The interspaces are olive green spotted with carmine. The leaves of B. van Houttei are very large and ovate, with seven red nerves fading to pink when old, and are likewise spotted with carmine on an olive ground. The large leaves of B. albo-punctatissima are spotted all over with circular, pale pink blotches fading to white as the leaves mature. A strong growing plant is B. marmorata, with five longitudinal silvery bands on an olive green ground.

The Sonerillas have smaller or narrower leaves than the Bertolonias, and are as a rule more freely branched and even less particular as to treatment. They are usually grown in stoves without any extra covering. The leaves of S. M. Chibaut are small and so closely blotched with pearly white blotches as to present a marbled appearance. The leaves of Petit Leon are oval and deep green with pearly white blotches. The old leaves of M. de Warelles are elongated and of a silvery hue slightly marbled with green, but the young ones are more decidedly marked with pearly blotches. In company with the above was the charming little Orchid Macodes petola, generally spoken of as Anœctochilus. The leaves are of a velvety olive green curiously marked with wavy yellow lines like golden, silken threads fancifully laid over the leaf, forming a beautiful tracery. Being in the early part of the season all of the above plants are grown in a frame in the stove to start them into growth.

PRIMROSES FROM SEED.

Alas! the poor little Primroses! What with burning sun by day, nipping winds and frosts by night, and an almost unprecedented drought at this time of the year, the pretty Primroses are having a rough time of it, though they may be credited with a loyal effort to beautify the earth in the spring time. The flowers are small, and wanting in colour; they are seared by frost and curled by the sun, and one can but regret that so much beauty and winsomeness should be subject to such a grievous trial.

I am just now planting out some thousands of plants raised from seed sown in the early autumn. The seeds were sown in light soil in shallow boxes, the plants as soon as large enough pricked off into other boxes, or on to a border in a cold house, and now they are being placed in the open air, it is necessary to water the earth in order that it may be sufficiently pulverised and rendered fit to take the plants, and when the April showers come—as come they must, and will—the plants will grow merrily and make rare stuff by the autumn: and this is why it is I advocate sowing the seeds of Auriculas, Polyanthus, and Primroses as soon as gathered, because of the gain in point of time. To have good plants to flower a year hence, the seeds should be sown early in spring, if not in autumn, so as to afford time to develop. I sow in early spring as well as in autumn in order to keep up a succession of plants, as they are wanted almost at all seasons of the year.

Let me advise anyone who is contemplating arranging for a good display of Primroses and Polyanthus next spring to sow at once, so as to afford time for the plants to grow well into size. It is because I like to have good strong plants, that will bear fine heads of bloom in spring, that I like to give them eighteen months' probation. Such plants are always very satisfactory, and with matured strength comes fine quality of bloom. But plants raised from seeds sown now will need to be constantly looked after to have them in good size by the autumn. A fine sandy soil, with which is mixed well sifted leaf mould or cocoa fibre refuse, should be put into well drained pots or boxes and fairly well pressed down and made level upon the surface. A slight sprinkling of silver sand added, the seeds sown on this as thinly as possible, and pressed down into the soil, adding a slight dusting of silver-sand to cover them. Then a sprinkling through a fine rose watering pot may be given and the boxes or pans placed in a cold frame, and if possible pieces of glass placed over them to assist germination. I raise a good many seedling Auriculas, Polyanthus, and Primroses by placing the boxes or pans on shelves in a greenhouse in full exposure to the sun, but taking care to keep the soil nicely moist, but not soddened. As a matter of course some shading is given by day while the sun is shining fiercely.

In the case of rapid development being required, it is a great advantage to get the earliest developed plants pricked off as soon as possible. Not only are they helped on into growth, but room is left for the remainder to develop. A little care is necessary in taking out of the seed boxes the earliest plants. A slight sprinkling may be given overhead, then a little time allowed for the water to drain off, and then if a small pointed stick be inserted under the plants and the soil gently raised the tiny plants may be drawn out with some grains of soil adhering to the roots, and then pricked off into other pots or boxes, kept close and shaded for a few days after they have had a gentle sprinkling and they quickly make growth. It is risky to attempt to extract the small seedlings without gently loosening the soil beneath them; when this is done the head will sometimes part from the roots, or some of the roots will be left behind in the soil, and then longer time is required for them to become established in their new quarters.

Boxes are most useful for seedling raising; they are easily procured, portable and cheap, and with care can be used for some time. I prefer them to pots for raising seeds of Auriculas, Polyanthus, and Primroses.—*R. D.*

CHIONODOXA, OR GLORY OF THE SNOW.

There are something like four species of Chionodoxa, all very closely allied it is true, and several varieties. Some botanists would probably reduce them to two, or three at the most—namely C. Luciliæ, C. nana, and C. cretica. The last-named is closely similar to C. nana, and C. sardensis might be considered a form of C. Luciliæ. This and C. nana might be looked upon as the extreme forms of the genus, differing chiefly in size, the latter being a miniature form. C. Luciliæ, and the forms that may be grouped under it, are certainly the best and amongst the most charming of spring-flowering bulbs. They are all perfectly hardy and appear in all their beauty in spring, often just after the melting of the snow or the departure of frost from the ground; hence the name, which is a translation or English rendering of the generic one. They may be grown in beds, borders, in patches on the rockery, or planted out upon the grass. The leaves gradually ripen and die away during the early part of summer, after which no further notice need be given the bulbs till the flowers appear in all their beauty the following spring. The flowers may be compared to those of the spring-flowering Squills, such as Scilla bifolia and S. sibirica, to which they are closely allied, but the larger flowered forms are superior to either. All of them may be used for forcing purposes to be placed in the greenhouse or conservatory during February and March; but they dislike warm treatment and soon get so drawn and lanky that they look shabby. They cannot be grown too cool and airy, hence their value for outdoor decoration, where they always appear to best advantage.

The most important and showiest species is C. Luciliæ and its forms, by reason of their large and lively blue flowers with a bold and conspicuous white eye. The type was introduced from Asia Minor in 1877, and is also a native of Crete, one of the islands of Greece. It has a synonym in C. Forbesii. As far as colour is concerned the white variety (C. L. alba) is the most distinct. C. L. gigantea may, however, be considered more important on account of the greater size of the flowers which are light blue, with a very large white eye occupying nearly half of the flower. Each scape bears from one to four flowers, two being the average number, and anything beyond that exceptional. The blooms of C. L. Tmolusii are as large as those of the type, but the blue is brighter with a larger eye often shaded with purple at the edge of the blue; the segments are likewise somewhat narrower.

The next in importance is C. sardensis, which is notable for the intense blue colour of the flowers the stamens only being white. The whole plant bears a close resemblance to Scilla sibirica, both in stature, size, and colour of the flowers, and in the drooping habit of the latter. It was introduced from Sardis in 1887, and appears to meet with as much, if not more, favour for forcing purposes than any of the rest. The flowers are of course smaller than those of C. Luciliæ.

The earliest species to flower in the open border is C. cretensis, sometimes called C. cretica. It seldom produces more than two flowers on a scape, and which are pale blue varying to white. They are about the size of those of C. sardensis, but fade to white in the centre, and were at their best early in March, and completely withered up by the end of the month, while all the others were still in good condition. Of course, like other things, it would vary from year to year according to the season. It is a native of the mountains of Crete. The smallest flowered and dwarfest of all is C. nana, which seldom or never exceeds 3 in. or 4 in. in height. The small flowers are white or a porcelain hue, with a pale blue or lilac midrib and tip to the segments. The leaves lie almost flat on the ground. It was introduced from Crete in 1879, but is only grown when a collection of all the species is desired. When collected together they form, however, a very interesting group.

PLANTS IN POTS.

The soil of these, whether they be standing in the greenhouse, in the window, or in the open, dries very rapidly during the prevalence of dry sunny weather and parching winds, and so constant care and watchfulness is necessary. To fancy, as some amateur gardeners appear to do, that plants need regular and periodical supplies of water, just as human beings take their meals, is amusing, but it is nevertheless a fact. How often is the question put, "How many times a day will this plant need water?" and the humour lies in that it is put seriously and not as a melancholy joke. According to these a plant is looked upon in the light of a vegetable ogre, with a capacious receptivity, and needing several hearty meals a day, to be taken at regular intervals. You may gorge a turkey till its crop becomes as big as a balloon and its body emaciated through indigestion, but no sensible man, other than a heartless practical joker, would send such a bird to his clergyman at Christmas time; and you can turn a healthy plant into a shrivelled framework of vegetable design by gorging it with moisture.

One indication of a plant needing water is seen in the dryness of the surface of the soil, but there are some persons who cannot distinguish between a state of dryness or undue moisture in a plant, though with extreme quickness in their own case, inwardly especially. Where the surface is dry it takes on a dusty appearance, and if the finger be pressed upon the surface and particles of the soil adhere to it then the soil is dry, too dry. Or, if the pot in which the plant is growing be tapped on the side with the knuckles a hollow sound is heard, and that will indicate moisture is absent and air has taken its place, and consequently water is needed. On the other hand plants in pots, when the soil is saturated with moisture, emit a heavy dull sound when rapped, indicating the soil is moist enough.

In respect of plants in pots, experience is a good teacher. Plants in pots when the soil becomes dry about the roots, show they are in a parlous state by the leaves flagging and when this is the case, it is at once made known, the ball of soil is dry right through. It is an unfortunate predicament for a plant to get into, because in many cases the leaves

loose so much by flagging that they rarely ever regain their original vigour and freshness, and they will sometimes turn yellow and drop. When the ball of a plant is dry right through, cast all theories as to the order of baptism to the winds, and at once immerse it in a pail of water for a few minutes. You may as well try to teach guinea pigs geometery as to imagine you can thoroughly saturate a ball of dry soil by pouring water upon the surface—the very act of becoming dry causes the soil to contract, and instead of the water that is poured upon the soil sinking into it and gradually pervading it, it runs away between the soil and the sides of the pots where there is a vacuum, and is practically useless.

There is a difference in the requirements of plants which is a fact taught by experience. There are topers among them, subjects that drink heavily, not from a tendency towards inebriation, but because it is in their nature to imbibe freely. It is a necessity of healthy development. A free-growing healthy Pelargonium in a 48-size pot that is full of roots requires frequent drinks. A Cactus, which is the living embodiment of a teetotaller in vegetable life, can exist for days in an atmosphere of dryness that would appal a supporter of the Veto Bill. The season of the year has also to be considered. At one time plants are active, needing much water; at another time they are at rest, and require only enough to sustain life. A heavy, close compost is also more retentive of moisture than a light one, and this sets up another consideration necessitating a judicious answer, How often must I give this plant water?—*R.D.*

OLEARIA GUNNIANA.

There are something like eighty-five species of Olearia, all natives of Australia, New Zealand, and the adjacent islands, yet few of them are in cultivation, notwithstanding the great beauty of a number of them. Some of them are hardy while others are scarcely so, and that is, no doubt, the reason why they are not introduced extensively. That under notice flowers naturally in September, but has already proved an excellent subject for forcing and utilising in the greenhouse or conservatory during March and April. Its value for this purpose was amply demonstrated at the meeting of the Royal Horticultural Society on Tuesday, where it was exhibited in fine condition by Messrs. J. Veitch & Sons, Chelsea. Our illustration will give an idea of the wealth of white flowers it is capable of producing. It forms a neat-habited and bushy shrub, 1 ft. to 3 ft. high, bearing small leaves to a great extent hidden when the plant is heavily flowered.

Olearia Gunniana.

POTATO PLANTING.

An enterprising and highly successful Midlothian farmer, Mr. William Park, of Brunstane Farm, has this spring been putting into practice a rather novel idea in regard to Potato planting, which has been very favourably commented on by many of the leading Potato growers in the Lothians. The system of manuring the green-crop break on the stubble is being more extensively adopted year by year, particularly in the stiffer kinds of soil, as it saves a good deal of labour and materially relieves the congestion of work in the spring, besides having a very beneficial effect on the stiffer soils through opening them to the pulverising influence of the winter's frosts. This system is now all but invariably followed as far as possible on the rich soils around Edinburgh, on which Potatos are largely grown. But by this system, as well as by the older system, in which the manure is spread in the drills, the Potatos are planted in a furrow in which the soil has been hardened by the weight and pressure of the drilling plough, as well as by the feet of one of the horses tramping in the furrow when the drill alongside it is being made.

By way of obviating this disadvantage, and assuring that the Potato seed shall be planted in soil where its fibres shall have the fullest freedom for growth, Mr Park conceived the idea of loosening the bottom of the drill with a drill harrow previous to planting the seed. The harrow employed for this purpose has four scoop-pointed teeth—two at each side—so that all the soil in the bottom and at the sides of the drill is thoroughly loosened up, while behind these side teeth is a central tooth with a still broader scoop-point, which not only loosens up the soil in the bottom of the furrow, but also leaves a hollow in the centre of the drill into which the seed can be safely deposited. Mr. Park has followed this plan with the greater part of his Potato break this year, and approves highly of it; but, like the practical experimentalist he is, he has planted a few on the old system in the bottom of the unharrowed drill, in order to compare the results of the old system and the new when the crop is grown. This plan has also been highly approved by many of the other Potato growers in Midlothian, some of whom have adopted it. Doubtless the plan will commend itself to all Potato growers who have to do with the stiffer class of soils.—*North British Agriculturist.*

A WEST INDIAN ISLE.

The roads in Jamaica are excellent, and quickly and easily a general idea of the character of this part of the island can be obtained. The way is for the most part not shady, but there is luxuriant foliage on either hand. Great Silk Cotton trees, in girth sometimes rivalling the California giants, are frequent, and the wild and ragged Gwango, and the dry Woman's Tongue rattling in the breeze. Here are flowering trees, too, chiefly the blue Lignum Vitæ, and dyewoods, above all the Logwood. And then

fruit trees innumerable—Cocoa Nuts, Mangoes, Oranges, Sapadillos, Guavas, Grape fruit, Star Apples, green and red, bread fruit, Bananas in their tens of thousands, acres of Sugar-cane, groves of Coffee and Chocolate, besides Pineapples, Plantain, Yams, and a dozen other fruits and vegetables. You pass what looks like a careless thicket—on closer inspection you find it to be Coffee. Everything seems to grow as a part of Nature, not a product of cultivation; the whole island laughs with abundance as if mocking such unnecessary labour as tillage and harvest. From every thicket peep little cabins, thatched with Palm-leaves or Guinea-grass, where the negro families loiter to nod you a bright good-day. They are perfectly charming in their good nature these natives. They will come out with some of their fruit or vegetables, a branch of Oranges or a few yams. "A present, a present," they say, offering it, and do not refuse a small present in return. But they would give, without any return.

When they are not loitering, they are marching. Drive when you will upon any of the roads leading into Kingston, and you will meet or pass a hundred barefooted natives, women for the most part, bearing their burdens balanced on their heads and moving with that stately carriage which belongs to those who spend their lives as Caryatidæ in motion. Even thus burdened they manage to give you good day, and turn upon you that unblinking stare of genuine, undisguised curiosity which is troubled by no self-conscious shyness. After some experience of this endless procession of black folk, you come to realise the fact that Jamaica, out of a population of 640,000, has only some 14,000 white inhabitants.

The day we left Jamaica we drove twenty miles through the mountains to Castleton. The valley scenery was varied, but always luxuriant. We assed manySugar,Tobacco,and Banana plantations, and finally came to a point on the slopes descending to the north, where, in a lovely amphitheatre of hills, the Government Botanic Gardens are situated. A stream, whose course we had been following down, formed the base of the garden, and up the side of the hills to the west rose this little tropical paradise. Here were Palms of every kind, chief of all, the perfect Royal Palm. And here the Victoria Regia Lily spread its great frying-pan leaves over the surface of a whole pond. Large flowering trees, the Dithenia speciosa and the Sapthodea grandiflora, gave colour to the upper air, and Ferns and Orchids gave grace with colour to the lower levels.

The wealth of Ferns in Jamaica is extraordinary, and here could be seen the silver Fern which prints off, over and over again, its tracery upon a dark cloth. Nutmeg and Cinnamon trees fringed the walks, and in the grass could be found the delicate little Sensitive Plant. It was Kew, and something better than Kew, in a mnch more limited space. The gardens are to be removed to Hope, only some five miles from Kingston, where they will be more accessible, though they will never find a more lovely situation.—*The Globe.*

MANURES: HOW TO MAKE AND USE THEM.*

What applies to manures and the making of them in America also applies in this country. The waste of manure is a sad reflection on the science of the nineteenth century, and still it is allowed to go on notwithstanding all protests on the part of scientific men to the contrary. This American book appeals to every one having anything to do with the cultivation of plants, and as its teachings on the whole are sound they may be relied upon. The information therefore is not new to physiologists and others on this side of the Atlantic, who make plant life the subject of scientific research; but there are thousands engaged in plant culture who have not the slightest idea of the science of the subject, and cannot therefore go beyond the beaten track of practice whatever the conditions of soil, climate, and locality, etc., may be. A scientific study of plant life, however elementary, if correct, would enable gardeners and farmers to surmount many difficulties by which, at present, they are baffled, notwithstanding the means of information quite within their reach.

We do not agree with the book in every detail, even though the disagreement may be on matters of minor detail. For instance, the best physiologists in this country are agreed that only ten elements of plant food are absolutely essential. The Americans, it would appear, reckon that fourteen of them are essential. The four extra ones are chlorine, sodium, silicon, and manganese, the latter not being included in some of our older books on the subject, and which are getting, to say the least of them, old-fashioned. Chlorine, sodium, silicon, and several others are nearly always present in plant tissues, but by the process of water culture it has been determined that they perform no useful function in plant life, and are not even essential to the life of the plant. Many chemical elements are taken up by the roots of plants simply because they are present in the soil, and there is no physical obstruction to their ingress into plants. The writer quotes the opinion of M. Georges Ville, that "the omission of soluble silica is very prejudicial to vegetable activity"; but physiologists here investigated the subject and found that the laying of Corn was due, not to the absence of silicia in the soil, but to thick sowing and the obstruction to light having a proper access to the stems which were weak because the proper thickening of the cell walls was thereby prevented. The process of water culture also demonstrated that Maize could be properly grown without silica. The writer wisely states that manganese "is sufficiently abundant in all soils for the use of plants and is rarely used as a fertiliser."

The proper making of farmyard manure is a good feature of the book, and ought to be studied by farmers and horticulturists everywhere. Various other natural manures, including night soil, peat composts, guano, bones in various prepared forms, humus, green manuring, and others are dealt with in the same practical manner. Artificial or chemical manures also occupy a considerable portion of the book. A large number of formulas are given for the making of artificial manures for certain specific crops, and this we consider as one of the best features of the treatise and ought to encourage cultivators to extend the system greatly by experiment on their own farms and gardens. The science of agriculture cannot be limited by strict rules as the conditions vary so much. This then is the reason why the cultivator should undertake experiments on his own account.

* "Manures: How to Make and Use them." A new practical treatise on the chemistry of manures and manure making. Written specially for the use of farmers, horticulturists, and market gardeners. By Frank W. Sempers. Published by W. Atlee Burpee & Co., Philadelphia, Pa., 1893

GARDENING MISCELLANY.

FAIRY PRIMROSE.

There is a white variety of Primula minima in cultivation but is very rare, if not lost. The type is, however, moderately plentiful and grows pretty freely when grown in a tolerably moist, sheltered position, so that it does not get dried up under the influence of a scorching sun in summer. When the cultivator has not a suitable position at his disposal, he can grow it in pots in cold frames, where it succeeds admirably. The whole plant does not exceed an inch in height and is often less than that. The leaves are wedge-shaped, toothed along the top and of a bright shining green. They form a close carpet from which the flower scapes rise, bearing only a single flower as a rule about an inch in diameter, and vary from rose to deep purple, and pubescent in the throat. The flowers are stated to make their appearance during the summer time, but when grown under glass it blooms early in March, as we noted in the nursery of Messrs. J. Laing & Sons.

HELICONIA AUREO-STRIATA.

The foliage of this plant is always of an attractive character, and as it seldom flowers under cultivation, it is a fine-foliaged plant pure and simple. The leaves are ovate or inclined to be ovate-elliptic, pointed and of a bright green with incurved yellow lines proceeding from the pinkish midrib and running through the greater part of the length of the leaf. The petioles are also of a pinkish hue and smooth, so that they alway present a clean appearance. There are several species in cultivation, but that under notice is one of the best and commonest. The habit of the plant is similar to that of Calathea zebrina, and it is in fact a member of the same family as the latter, but more nearly allied to the Musas. The flowers are by no means showy. All come from the tropical regions of the western hemisphere, and therefore require to be grown in the stove.

GREVILLEA BANKSII.

The species of Banksia vary greatly in the form of the leaves, some being small and quite entire, while others are much divided as in the case of G. robusta, to which G. Banksii may be compared. The leaves are pinnatifid with oblong segments which are broader than those of G. robusta. The plant grows much more slowly however, and would therefore remain longer in a useful condition for decorative purposes. Some of the Grevilleas prove difficult to raise from cuttings, but can readily be raised from seeds when such are procurable. This is the method adopted with G. robusta, of which seeds are obtainable in great plenty. That under notice will have to be raised in the same way, and provided seeds can be obtained in plenty there should be no difficulty in raising the plants in quantity, and if such is the case there is a prospect of the plant becoming popular.

ANEMONE RANUNCULOIDES.

Yellow is a very unusual colour amongst the Anemones, just as white, purple, and scarlet, with intermediate shades, are common. The species under notice has a purple-flowered Pyrenean variety, but the type is golden yellow with five sepals, and on superficial examination bears a remarkable resemblance to a Buttercup. The analogy ends with the golden-yellow flowers, the coloured parts of which are sepals and not petals. The involucral leaves are deeply three-parted, and therefore fully characteristic of the genus to which it belongs. A small bed of it upon the grass may be seen in the Royal Gardens, Kew, and the plants are now in full bloom, forming a mass of golden-yellow. We have often seen this plant in pots, but no conception of its beauty can be formed from half-starved specimens grown in that way. Anemones of this class must be planted out in friable moderately moist soil fully exposed, in order that their capabilities may be understood and appreciated. It is as hardy as the common Wood Anemone, and evidently as easily cultivated; in fact, it is naturalised in some parts of England, and although an old plant, has been very much neglected.

DRABA AIZOIDES.

The species of Draba in cultivation have mostly yellow flowers, but a few of them are white. The regrettable part is that they are not more plentiful in gardens in early spring. Some of them are inconspicuous and weedy plants, but a goodly proportion on the other hand are both neat and attractive, forming little tufts suitable for culture in the more moist crevices of the rockwork. Some of them are not particular as to moisture, however, and provided the roots can get beyond the baking influence of the sun in summer, they thrive in a comparatively small quantity of soil. That under notice has bright yellow flowers on scapes an 1½ in. to 2 in. high, and this season they made their appearance about the beginning of March, even in the open air and unprotected in any way, as might have been seen in the nursery of Messrs. J. Laing & Sons, Forest Hill. The leaves are linear-lanceolate, ciliate, and produced in small dense rosettes, giving the whole plant a very neat appearance.

A NEGLECTED WALLFLOWER.

Popular as the common Wallflower is, there is still room for some of the other species in gardens, including the showy Cheiranthus mutabilis, a subshrubby species from Madeira. It is considered only half hardy, unfortunately, but it may be safely wintered in a cold frame, where many other subjects of less importance are often well cared for. There is a batch or two of it in the nursery of Messrs. Barr & Son, Long Ditton, Surrey, where the plants stood the severe weather of December and January last uninjured, and are now in full bloom. The flowers are richer in colour than we have ever seen them before, a fact due, no doubt, to the clear skies and bright sunshine of March. They are borne in dense racemes terminating the branches. The unexpanded calyx is of a deep brownish-purple, and when the petals open they are of a deep orange red, almost scarlet, with darker veins at first, but they soon change to deep purple and then to pale purple. All these shades may be seen on a truss of bloom at the same time, and render the plant highly ornamental as it is uncommon. The plant is easily propagated from cuttings, and would be highly ornamental in the greenhouse or conservatory.

ERICA CARNEA.

More use might be made of this hardy little Heath than is at present the case notwithstanding its frequency in gardens. It is more easily managed than the common Ling or Heather (Calluna vulgaris). The pale red, conical flowers make their appearance in January and keep in perfection till April, in fact they become deeper in colour at the present time. The sepals especially are of a deep purple, and the stamens are protruded from the flower as if to favour the distribution of the pollen by means of wind. The plant may be grown in peat or in a soil containing no peat at all, provided the soil is friable and moderately moist. For edgings to beds the plant is certainly well adapted, and might be grown in that capacity in beds of American plants, or in fact any other class of shrubs.

SOCIETIES.

Royal Horticultural, *April 11th*.—The exhibits at the last meeting were again very extensive, hardy flowers, but particularly Daffodils, being well represented. Hardy flowering shrubs, New Holland plants, Wallflowers, forced Roses, Azaleas, and Orchids filled the four long tables to repletion, while some groups were stood on the floor. A Silver Flora Medal was awarded to Messrs. B. S. Williams & Son, Upper Holloway, for a large group of Orchids. Dendrobiums, and Odontoglossums were very conspicuous in the group together with interesting subjects such as Angræcum citratum grandiflorum, Vanda teres, Phaius Wallichi, and others. A Silver Banksian Medal was awarded to Messrs. W. L. Lewis & Co., Southgate, London, for a smaller group of Orchids, including Cattleyas, Dendrobiums, Epidendrum Stamfordianum, and Odontoglossum polyxanthum, the latter having ten larger flowers. Some fine pieces of Cattleya Trianæ Schroderæ, Dendrobium Schroderæ, Odontoglossum Selwoodense, and O. Krauzlinii were exhibited by Messrs. F. Sander & Co., St. Albans. A fine piece of Cypripedium grande atratum, and a bold-looking Sarracenia, named S. Mandainum, were exhibited by Messrs. Pitcher & Manda, Hextable, Swanley. Cattleya Trianæ Nallida, and C. guatumalensis were shown by the Right Hon. Joseph Chamberlain (gardener Mr. H. A. Burberry), Highbury, Birmingham. De B. Crawshay, Esq. (gardener, Mr. S. Cook), Rosefield, Sevenoaks, exhibited Odontoglossum tentaculatum and O. hybrid Crawshay's var. A fine piece of Cattleya gigas from the C. rex district, was exhibited by Messrs. Charlesworth, Shuttleworth & Co., Heaton, Bradford, and Park Road, Clapham. Cattleya Lawrencianum Omala was shown by the Rev. Ed. Handley, Bath. Three large flowering pieces of Cyrtopodium punctatum splendens and one of Miltonia stellata were shown by Mr. G. Wythes, gardener to the Duke of Northumberland, Syon House, Brentford. Dendrobium Niobe, Cymbidium eburneo Lowianum, and other Orchids were shown by Messrs. J. Veitch & Sons, Chelsea. An interesting little group of Orchids, including Odontoglossums, Oncidiums, Cypripediums, Phalænopsis, etc., was shown by Messrs. H. Low & Co., Clapton.

A Silver Flora Medal was awarded to Messrs. Hugh Low & Co. for a showy group of New Holland plants, Heaths, Epacris, and fine masses of Cytisus, Scoparius Andreanus, and Staphylea colchica. A similar award was made to Messrs. Wm. Cutbush & Son, Highgate, for a showy and varied group of Erica Spenseriana, Moutan, Pæonies, Leschenaultia biloba major and others. A fragrant bank of Wallflower in various shades, and Primrose Harbinger were shown by Messrs. H. Cannell & Sons, Swanley, Kent. A Silver Banksian Medal was awarded to Messrs. J. Veitch & Sons for an exhibit of hardy flowering shrubs lifted from the open ground and shown in baskets, including such as Olearia Gunnii, Cerasus Watererii, Cydonia, Maulei and others. Cut flowers of Philadelphus inodorus grandiflorus forced were shown by Mr. W. C. Leach, Albury Park, Guildford. A group, Fontin's variety of the Lily of the Valley, was shown by Mr. Ed. Morse, Epsom. Princess May, Sir Evelyn Wood, and other highly-coloured varieties of the Malmaison Carnation, with large flowers, were shown by M. R. Smith, Esq. (gardener, Mr. C. Blick), Hayes Common, Beckenham. A Bronze Banksian Medal was awarded to Messrs. John Peed & Sons, Norwood Road, London, for a group of Anthuriums, Dracænas, Heaths, forced Spiræa Astilboides, and palmata. A Silver Gilt Banksian Medal was awarded to Messrs. Barr & Son, Covent Garden, for an extensive group of Daffodils, cut and set up with their own foliage, as well as grown in boxes. They also showed Tulips, Muscari, Fritillarias, and Cheiranthus mutabilis. A Bronze Banksian Medal was awarded to Messrs. E. D. Shuttleworth & Co., Albert Nurseries, Fleet, Hants, for a group of various hardy spring flowers, including Daffodils, Primroses Polyanthus, Violas, &c. Cytisus præcox grafted standard high, some Magnolias and herbaceous plants were shown by Messrs. Paul & Son, Cheshunt, when a Silver Flora Medal was awarded. A fine group of a Clove Carnation named Uriah Pike was exhibited by Mr. H. May, Upper Teddington, Middlesex, who was awarded a Silver Banksian Medal. The plants were 3 ft. to 4 ft. high. A Silver Flora Medal was awarded to J. C. Tasker, Esq. (gardener, Mr. P. Perry), Middleton Hall Brentwood, Essex, for a group of forced Roses, Azaleas, &c. A Silver Banksian Medal was awarded to Messrs. H. Lane & Son, Berkhamstead, for some baskets of Polyantha Roses and Azalea Anthony Koster. A Bronze Banksian Medal was awarded to Messrs. E. D. Shuttleworth & Co., for a fine bank of Cycas revoluta in excellent condition, and of a rich dark colour. A group of Clivias, Caladiums, Azaleas, Palms, and other subjects came from Messrs. J. Laing & Sons, Forest Hill, who were accorded a Silver Gilt Banksian Medal. A similar award was made to Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for a large collection of Daffodils, Iris Saari Nazarensis. Iris Helenæ, I. atropurpurea, Muscari botryoides album, and others. A Silver Flora Medal was awarded to Messrs. B. S. Williams & Son, for a group of Amaryllis, Lilac and Rhododendron McNabbiana, the latter being a large well-flowered plant grown in a tub. A collection of hybrid Daffodils was shown by Messrs. J. Veitch & Sons; and another collection was shown by Mr. J. W. Wilson, South Cave, East Yorks. A Silver Flora Medal was awarded to Mr. F. Cant, Colchester, for two boxes of cut Roses in excellent form. A similar award was made to the Guildford Hardy Plant Nursery, Guildford, for three large baskets of Alpine plants. Some prizes were offered for Daffodils and the first prize for nine varieties was taken by the Rev. S. Eugene Bourne, Dunstan Vicarage, Lincoln; A. Kingsmill, Esq., Bushy Heath, was second. The first award for six varieties was taken by the Rev. G. P. Hayden, Hatfield Vicarage, Doncaster; J. W. Melles, Esq., Sewardstone Lodge, Chingford was second, in this class.

At a meeting of the Fruit and Vegetable Committee a Silver Banksian Medal was awarded to Mr. Geo. Wythes for an interesting collection of vegetables, including Purple Sprouting Broccoli, Cattell's Eclipse, Young Cabbages, New Potatos, Seakale, Spinach, and Asparagus. He also showed Grapes, Strawberries, and Figs. Small lots of Apples were shown by Mr. W. Divers, The Gardens, Wierton House, Maidstone; by the Royal Horticultural Society; by Messrs. H. Lane & Son; by Mr. G. Woodward Barham Court, Maidstone; and by Messrs T. Rivers & Son, Sawbridgeworth. Veitch's Golden Queen Lettuce was shown by C. Ingram, Esq. (gardener Mr. T. W. Bond) Godalming, and Sutton's Vegetable Marrow was shown by Mr. W. C. Leach.

Royal Caledonian Horticultural.—The Spring Flower Show of this society was held in the Waverley Market on the 5th and 6th inst. It was unquestionably a very fine display, as, indeed, was only to be expected after the spell of exceptionally favourable weather in which horticulturists have lately been rejoicing. What struck the spectator most of all was the extraordinary wealth of colour which the tables bore. From the spectacular point of view the show had not a great deal to commend it, as there was a manifest absence of the foliage plants which so materially contribute to the setting-off of such an exhibition. The display of Orchids included numerous handsome and well-flowered plants, and was probably superior to anything that has been seen at these shows. The display of essentially spring flowers, notably Primulas and Alpines, was wonderfully fine—rich in variety, bright in colour, and altogether as fine as might be seen anywhere. Also worthy of notice were some remarkably fine forced Magnolias, many beautiful varieties of the Ghent Azalea, introduced into the schedule for the first time, and some capital specimens of Rhododendron. A table of Cinerarias, presenting a magnificent blaze of colour, was in itself something to feast the eye upon. In fact, everything that carries a flower was shown in perfect style, with the exception perhaps of the Hyacinths, which were nothing special. Fruit was a rather limited display, but the quality was remarkably good. The Garibaldi Strawberries from Oxenford Castle were the chief features of this department. Nurserymen, as usual, contributed a good deal to the interest of the show. Messrs. R. B. Laird & Sons had on view a large collection of Clivias, many of them extremely beautiful, being selected seedlings of Continental origin. On the table of Messrs. Thomas Methven & Sons Japanese Maples, especially a silver variety, were a conspicuous feature. Messrs. Dicksons & Co., Edinburgh, showed as part of their large display a special strain of Cineraria, and some very fine specimens of Spireæ. Mr. D. W. Thomson, Frederick Street, put up a very fine collection of Azaleas; and Mr. P. Aitken had an excellent table of Alpine and other hardy plants.

In the plant classes Mr. M'Intyre, The Glen, Innerleithen, carried off a considerable number of the principal awards, securing first honours for a table of plants 20 ft. by 5 ft., forced Tulips, forced plants in bloom, stove and greenhouse plants, hardy Rhododendrons, Azalea Mollis, six Orchids, table plants, Dracænas, Cyclamens; and other prominent winners were Mr. A. Crichton, Libberton, Mr. George Wood, Oswald House, Mr. William Bennett, Corstorphine, Mr. A Laing, Salisbury Green, and Mr. W. Murray, Restalrig House. Mr. H. Miller, Bothwell, was the premier exhibitor of Hyacinths, and Mr. James M'Millan of Tulips. In the Fruit classes Mr. Smith, Oxenford Castle, had the best Strawberries and Black Grapes; and Mr. S. Johnston, Hawick, came in first for Vegetables.

In the Nurserymen's classes Messrs. R. B. Laird & Sons secured premier awards for Azalea Mollis, forced plants, Palms, Conifers, table plants, Alpine Auriculus, Hyacinths, Tulips and Narcissi; and Messrs. Dicksons & Co. had the finest Indian Azaleas, forced Liliacs and Hollies.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

Cattleya House.—The plants of the autumn-flowering Cattleya labiata just starting to grow will require going over, picking out as much of the old rooting material as possible, and replacing with some fresh peat and moss. Most of our plants are grown in baskets which admits of their being better attended to in this respect than when grown in pots. Those grown in the latter will be repotted, the process of which enables us to get rid of a lot of wood-lice which are sure to be found among the crocks. These pests may be easily trapped by placing hollowed-out halves of Potatos about their haunts at night and on the pots. These should be looked over and removed every morning, as they look unsightly when left on the pots in the day time.

Lælia Elegans.—Our plants of this Orchid are now rooting freely and will now be repotted, using good tough peat and pieces of crocks to keep it open. We find they do not keep in health so long when moss is added.

Vanda Kimballiana growing close to the glass in the Cattleya house is rooting very freely, and will be resurfaced with some fresh living sphagnum. We find the roots do not like being confined too much, and on that account the majority of them are allowed to ramble outside the pan or basket at will.

Root Galls on Cattleyas.—Keep a sharp look out for the fly that causes these galls, as, owing to the exceptionally bright weather, they are sure to make their appearance much earlier than usual. Last year we were much annoyed by them, but thanks to the rigorous treatment adopted, *i. e.*, cutting off every root that was effected, and fumigating every other night and the following morning. Our plants are comparatively speaking quite free of them, but, nevertheless, we keep a vigilant look out.

Miltonia Vexillarium.—Our plants are pushing their spikes, and will receive weak doses of manure water at every other watering. Our plan when affording plants stimulants is to have a pail holding about four gallons of water, to this is added a pinch of the best guano. By a pinch I mean about as much as can be taken between the thumb and two

fingers. The plants are then plunged up to the rim of the pot, holding them in that position until the crocks, &c., are thoroughly moistened. In giving it this way you preserve the moss, and there is no danger of the manure water getting into the heart of h growths.

ODONTOGLOSSUM HARRYANUM treated in the same way does wonderfully well with us, making fine growths and large spikes, having ten and twelve blooms to the strongest. These may now be transferred to the cool house with advantage.

THE SYRINGE must now be kept freely going morning and afternoon in all divisions, and those that do not care to afford manure direct to the plants would do well to damp down with manure water, adding half a pint of drainage from the stable to four gallons of water. In a future calendar I hope to go fully into the effects of manure water on Orchids.—*C.*

Lycaste macrobulbon Youngii.

THERE are comparatively few of the yellow species of Lycaste in cultivation, and some of them are difficult to distinguish. One of the best known is L. aromatica, the leaves of which fall away before the plant comes into bloom. A coloured plate of the plant under notice is given in the *Lindenia, pl.* 368, where it is represented as evergreen, there being good foliage while the plant is in bloom. The flowers are large and of a rich golden yellow, such as we see in many of the Daffodils. The variety Youngii merely differs from the type in having smaller pseudo-bulbs and in the absence of spots on the petals and lip.

Lælia-Cattleya Amœna delicata.

THIS bigeneric hybrid is the result of crossing Cattleya Loddigesii with the pollen of Lælia Perinii. It is intermediate between the parents and has rosy purple sepals and petals beautifully lined with darker veins like Lælia Perinii but fading to lilac in the centre like Cattleya Loddigesii. The lip takes the form of the former, but the colour of the lip of the latter and therefore very pretty. A number of plants have been raised from the same capsule, and the variety delicata under notice is one of them. The interior and exterior of the tube of the lip is porcelain white, but the greater part of the lamina and the lateral lobes are of a clear pale yellow, while the apex is bright rose. Five seedlings were raised by M. Bleu, and four of them were identical with delicata while the fifth has a less elongated lip the front part of which is of an intense reddish-violet. There is a beautiful illustration of the variety under notice in the *Lindenia, pl.* 367. It flowers in October and November.

Cymbidium devonianum.

THIS may be described as a quaint old-fashioned species which is very pretty and interesting although not showy. The leaves are stalked, lanceolate, and 12 in. to 14 in. long. The flowers are borne in pendent racemes about a foot in length. The sepals and petals are a greenish yellow suffused with purple, the petals being clearer in colour than the sepals. The lip is reflexed from the middle and characterised by two black blotches on the most prominent part, while there is also a black blotch on the base of the column. The species was introduced from India in 1837 and was named in compliment to the Duke of Devonshire. It may be grown in pots or baskets suspended from the roof of the warm division of the Orchid house. We noticed a fine piece of it in the nursery of Messrs. J. Veitch & Sons, Chelsea.

Epiphronitis Veitchii.

THE generic name of this has been compounded from Epidendrum and Sophronitis in order to indicate that the progeny is a bigeneric hybrid. The parents are stated to be Sophronitis grandiflora and Epidendrum radicans, known also as E. rhizophorum, the latter being the pollen parent. The plant is certainly most closely allied to the latter, having dark orange red or bright scarlet flowers. The sepals and petals are lanceolate-elliptic, and the three-lobed lip is of the same colour with the exception of a yellow blotch at the base and some crimson spots. The lateral lobes are toothed at the apex. From what we have seen of it the plant is about 18 in. high with oblong leaves arranged in two ranks. It is therefore of the same habit as Epidendrum ellipticum, E. evectum and others of that type. It may be seen in the nursery of Messrs. J. Veitch & Sons, Chelsea.

Gardeners' Improvement Associations.

Torquay District Gardeners' Association.—The first annual meeting of the members of this association was held on March 28th, when the secretary reported a balance in hand of over £10, and a membership of 120. Several new names were promised for the ensuing session, and several fresh features are contemplated in the association's programme, amongst others being the formation of a library, giving prizes for essays, &c. The summer outing will probably be to Taunton Flower Show, on Aug. 10th. W. Lavers, Esq., is president, and Mr. F.C. Smale, hon. sec.

Devon and Exeter.—The members of this association held their last meeting for the session on the 5th inst., when Mr. Stoneman, teacher of botany at the Exeter Science Schools, read a paper on "The Conifers at Dropmore," on behalf of Mr. Cecil Bartlett (one of the foremen at Dropmore). Mr. D. C. Powell, of Powderham Castle Gardens, presided. As illustrative of the paper read, a large number of branches were exhibited to show the characteristics of the trees referred to. The specimens showed that a well-drained, gravelly soil is eminently suitable for Conifers, that being the character of the soil at Dropmore, from whence the specimens came. A grand specimen of a cone of Araucaria imbricta was shown, and among the branches were some lovely forms of Abies, Pinus, Cedars, and other such ornamental trees. A cordial vote of thanks was passed to Mr. Cecil Bartlett for the paper, and to Mr. Stoneman for reading it. Mr. Hope announced that the "Transactions," published by the society, giving the essays read in the session 1891-92, was now ready. He also stated that there would not be any charge to members for borrowing the books which had been presented to the association, and, with a few restrictions, the circulation of the books would be free to members. It was hoped that for the summer outing the start would be made at Streatham Hall, and then on to Killerton, Escott, and Sidmouth. The outing would take place in July.

WHAT TO DO IN THE GARDEN.

Eucharis.—Bulbs that have flowered during the winter may now be kept warm and moist to encourage them to make fresh growth. They will then furnish another crop of bloom during the summer months. Should the pots be getting overcrowded with bulbs and the soil exhausted, bulbs may be shaken out, sorted into sizes and repotted in good, substantial and fibrous loam.

Gesneras.—The tubers or rhizomes of the late flowering Gesneras may now be shaken out of the old soil and repotted. The rhizomes may be started in pans of light soil if so desired, and afterwards transferred to pots when they have started into growth. The plants can then be assorted according to strength, so that the tallest may be in the centre.

Poinsettias.—If it is desired to grow on some of last year's or even of older plants, a batch may be started now, so as to give them a fair length of season to make good growth and develop numerous flower heads. Old plants started about this time will come into bloom before those raised from cuttings.

Sparmannia Africana.—When the plants of this old-fashioned conservatory plant have gone out of bloom they may be pruned pretty hard back and then encouraged to make good growth in preparation for next winter and spring flowering.

Camellias.—The repotting of this class of plants should not be attempted after the young shoots have fairly started into growth. If the operation has hitherto been neglected, it had best be deferred till the young growths are fairly firm, but before they have set their buds. Keep them moist by watering and syringing while growth is being made.

Bouvardias.—No advantage should be missed of hastening the growth of young plants. Cuttings should be potted off singly as soon as they are well-rooted and the tips of the shoots removed to make them branched and bushy.

Fuchsias.—The beauty of the plants may be made or marred according to the treatment they receive between this and flowering time. An endeavour should be made to fill up all gaps and defects in the plants by pinching the young shoots to cause them to throw out several so as to furnish the plant equally all over. The final stopping may be given about six or seven weeks before the time they are wanted to be in flower.

Peaches.—During the prevalence of east winds, which have already been long continued, regulate the ventilation very carefully so that the heat may never be so great as to necessitate the admission of large volumes of cold air for the purpose of reducing the temperature. Syringe the trees throughly morning and afternoon. When the fruits in the earliest house commence to make their second and final swelling, the night temperature may be raised to 60° or 65°, but the degree may be much higher during the day from sun heat.

Melons.—Take every advantage of sun heat to forward the growth of the crop, and avoid the use of artificial heat as much as possible. Pinch back or remove all unnecessary lateral growths, to concentrate the energy of the plants upon the fruits. Where the crop is heavy, or even good and evenly distributed, there will be little trouble in keeping unnecessary growth in check, but where the crop is thin there will be a great tendency to produce useless wood which must be held in check. As the fruits of the first crop approach their full size, avoid syringing but keep up the atmospheric moisture by damping down the borders, pathways, &c.

Cucumbers.—To prevent cold cutting winds from playing upon the tender foliage, a thin screen of tiffany or similar material may be placed over the open ventilators. Keep up the vigour of the plants by occasional top dressings of rich material, or cover the beds with well decayed manure, or liquid manure at the temperature of the house may be given.

Cauliflower, Cabbage, &c.—The weather has hitherto been too dry for planting, but Cauliflower sown in autumn or in February under glass should now be planted even if it is necessary to water them till established.

Broccoli and Borecole.—The main crop of these should now be sown in beds to be planted out afterwards when fit. Dust the beds over with fresh lime and soot, or net them in districts where birds are troublesome. More attention, than has hitherto been the case, should be given to the various kinds of Borecole, such as Dwarf Green Curled, Reed's Hearting, Cottager's Kale, Asparagus, Kale, &c., for winter work.

Fuchsias.—Recently repotted Fuchsias will now be starting into growth freely. Plenty of light and air will prove of immense advantage to them, even at the present early stage. Pot off rooted cuttings singly and keep them growing on without check.

Figs on open walls.—Complete the tying and nailing of Figs in the open air if it has not already been done. But if the stopping of unnecessary shoots was properly attended to last summer, there should be very little wood to cut away at present. Sound fruit-bearing shoots should be laid in at full length, because it is from them that the first and only crop of fruit can be obtained during the ensuing summer.

QUESTIONS AND ANSWERS.

**** Correspondents are requested, in order to avoid delay to address all communications to* "THE EDITOR," *or* "THE PUBLISHER," *and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed* "*Bambusa, London.*"

NAMES OF PLANTS.—*W. Black*: 1, Saxifraga Aizoon; 2, Begonia manicata, an old garden plant. —*A. R. S.*: 1, Dendrobium aggregatum; 2, D. Devonianum; and 3, D. cariniferum.—*Amateur*: Kerria japonica.—*Genista*: We do not recognise the Camellia. Try some nurseryman who grows a good collection.

PILEA MUSCOSA.—*S. J.*: The Artillery Plant is now frequently used in bedding arrangements as a groundwork for Begonias and similiar plants.

SCREEN PLANTS.—*Urban*: Polygonum Sachalinense would make you a grand summer screen plant for such a position, but you must plant at once as they are beginning to grow fast.

PRIMROSE.—*P.*: A large flower certainly, but course and pin-eyed, and of no commercial value. We have already, in Harbinger and others, much more pleasing forms.

ERRATUM.—At p. 502, at the fourteenth line from the bottom of the right-hand column, for Eryngium ochroleucum helveticum, read Erysimum ochroleucum helveticum. It was merely a *lapsus pennæ*, as the description shows the plant to belong to the Wallflower family, and not to the Umbellifers.

COMMUNICATIONS RECEIVED.—B. & S.—H.W.P. —A.P.—J.T.—P.B.—E.P.—A.J.P.—A P.—R.S.H.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, April 25th.—Royal Horticultural Society: Meeting of Committees at 12 o'clock. Exhibition of the National Auricula Society.
Flower Show in Manchester Town Hall.

WEDNESDAY, April 26th.—Annual Dinner of the Royal Gardeners' Orphan Fund at St. James's Restaurant.
Royal Botanic Society's Spring Show.
Ancient Society of York, Florists' Spring Show (2 days).
Daffodil Show at Birmingham.
Sale of Hardy Plants at Protheroe & Morris' Rooms.

FRIDAY, April 27th.—Sale of Orchids at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, APRIL 22nd, 1893.

YOUNG GARDENERS.—Whilst we heartily sympathise with the efforts of young gardeners anywhere to secure for themselves the blessing of shorter hours of labour or of a weekly half-holiday, we hardly think that—because of the needful preparation for Sunday, which must of course be attended to—Saturday can be the best day for that purpose. Perhaps we may be thought captious, but if young gardeners will but realise the exceeding necessity there is for the utilisation of spare time intellectually, they will do very much indeed to help create for themselves and their movement public sympathy. There never was greater need for effort in this direction than now. Not that gardening is a vocation that can be acquired by the study of theory, or, as it is termed, mere book learning, but the youth who strives hard to add to his practical experience such of knowledge as otherwise can be acquired must in the time to come stand higher in public esteem than will he who is a mere working gardener and nothing more.

We look forward with some interest to see what number of young gardeners will enter for the examinations that occur next month, and have been instituted by the Royal Horticultural Society. If these examinations are to be spasmodic and uncertain then faith in them will soon decay; but if it be determined at all hazards to persist with them, then we may expect to see the number of candidates from the ranks of gardeners increase yearly.

How many young men, rightly or wrongly we cannot say, complain that their chiefs give them no encouragement intellectually, and indeed seem to exist rather to find fault than to help? If that complaint be well founded then it is indeed a misfortune. It is to be feared that in too few cases do head gardeners give their juniors that help and encouragement they so much need. It is not pleasant to learn that capable and willing youths are so often on the move. There must be something wrong somewhere, more's the pity. We could imagine such a condition of things that not only should heads be most anxious to induce and help young men to become candidates, but that they should also be full of gratification should these youths prove successful in passing through the examinations.

POTATOS.—To many persons it doubtless comes as a matter for surprise that during the past month of March there should have been imported into this country no less than 140,000 cwts. more of Potatos than were sent here in the corresponding month of the previous year. Oddly enough there has been a large falling off in Apples and Onions, our other chief imports of a vegetable kind. Still, we have no information as to whether the Potatos sent us are old or new, although, remembering the time of year and the fact that all along Potatos have been very cheap and plentiful at home, as well as good, we are disposed to think that a large portion of this great increase in Potatos imported must be of new ones. And, indeed, it is but natural that such a trade should develop as, wisely or unwisely, the consuming millions of England are ever somewhat fastidious with respect to their foods, and in the matter of Potatos seem to prefer new ones, however valueless as an article of diet, over good old well-matured Potatos, that relatively contain double the needful nutrient elements.

In spite of the fact that home Potatos have been so plentiful and cheap, the recent dry weather has again led to the planting of enormous breadths of land with this crop, and, all being well, we may look this year for a continuance of that plenty which is of such importance to us as a nation. It is useless to plead with the fastidious consumer of Potatos that they are but fools for rejecting the good mature old tubers in favour of the new unripe ones—we can but deplore the existence of this unhappy public taste. What of old tubers are sent us can hardly return much of profit to the foreign grower, having regard to prevailing rates. Perhaps many of them go to the manufacture of gin, or finding body for some of our patent or quack foods. So far at least we can aver that there are no Potatos in the world superior to those of home-growth.

PRIMULACEÆ.—Sometimes we have seen very charming groups of diverse species of Primulaceæ at the Auricula Show, to which we adverted last week, and hope to be as highly favoured on Tuesday next. Pretty as these varied forms of the world's Primroses are, for our own native forms are perhaps the least attractive, yet they find, on the whole, few cultivators. This is to be regretted, but perhaps it is due to the fact that the bulk of these species are Alpines and need conditions which we seem unable readily to furnish; indeed our chief success seems to be found in a course of culture in pots and in cool frames, except where now and then soil and well constructed rockwork provide the desired conditions.

Perhaps it is because somewhat difficult to cultivate that Primulas find so many admirers. Everybody likes them and admires them, and somewhat longingly realise how difficult it is to have them. Of course, as with all the great Primrose family, the bulk of these Primula species flower in the spring. Some indeed are so precocious that it is hard to catch them in bloom at the end of April. Still, including garden forms or hybrids, the detestation of the botantist, we can manage to make from the family a very attractive show. The most popular of all the section, perhaps, is the one tender species from China, and that we have not only captured for our greenhouses, but have converted it into one of the most beautiful of winter bloomers.

Next, perhaps, come the garden varieties of P. vulgaris, and Elatior, the Primrose and Polyanthus proper, for these now can, and often do, decorate our gardens with flowers of exceeding beauty in the early spring. With all these, however, we are very familiar. It is therefore rather with the farinose Himalayan, Japanese, Abyssinian, Marginate, Alpine, and other forms that we look for so much of charm and perhaps of rarity at the Auricula Show. If our Welsh friend, Sir. J. T. D. Llewellyn, Mr. Samuel Barlow, Mr. Self Leonard, Mr. Jas. Douglas, and some few prominent traders in hardy plants would but do their best, we might have to enjoy, with, we hope, a large body of the public, a charming show of varied Primulaceæ.

LEAFAGE.—That sudden burst of beauty which characterises those northern regions where snow and frost holds ice-bound to the last all nature, then suddenly quits its hold and leaves all vegetation to come into summer beauty and leafiness as with swift rebound, is not for the dweller in the British Isles. How far it may be for the welfare of that wondrously constructed machine, the human frame, that changes of this kind should be so sudden we do not know. Certainly here the sluggishness of motion which characterises our spring season leaves little room for complaint on the score of surprises.

Not a few of our deciduous trees, notably the Horse Chestnut, have now been six weeks leafing and have not yet completed their clothing. Other trees, the Oak and Ash for instance, have hardly yet burst a bud, indeed it will not be a matter for challenge if we assert that at least nine weeks, if not longer, seems needful to enable all ordinary tree and shrub life to get into full activity. No doubt this exceeding slowness has its compensations. We have so much that is interesting to note in this process of the unfolding of the leafage, so much that varies from day to day. We have here, thanks to enterprise, a marvellous wealth of hardy trees and shrubs, and these have in all their forms and developments such pleasing variations that so long as nature is in process of expansion so is she full of charm and of variety.

It is not of the somewhat long-drawn out activity of nature of which we complain, but rather of the atmospheric conditions which lead to it. Our springs would be so much more enjoyable were they more genial. It is true we have been having one of the finest and most brilliant of springtimes on record, but all the same we have been scorched in the day with a summer heat, and have shivered at night with an arctic cold. These are not, and never can be, enjoyable conditions for us or for vegetation. All the same the country, where nature can be seen, is now becoming beautiful, and could we but have the April showers, how delightful, joyous, lovely would all nature be, so full of sweetness, and of peace.

Mr. and Mrs. Dodwell's Golden Wedding.—The present made to Mr. and Mrs. Dodwell on the occasion of the celebration of their golden wedding on the 20th, consisted of a handsome sterling silver tea and coffee service, but as the limits of Mr. Dodwell's house are too small to permit of a large gathering, and Mrs. Dodwell's health not being such as to allow her to venture on having a garden party so early in the season, the service was sent to Mr. and Mrs. Dodwell and the formal presentation, with a salver or any other piece of plate that may be purchased from the balance of funds, will be made at the annual gathering of the Carnation and Picotee Union in Mr. Dodwell's garden on August 1st. We have much pleasure in giving a portrait of our old friend in another column.

Royal Horticultural Society.—The next meeting of the Royal Horticultural Society, on April 25th, at the Drill Hall, James Street, Victoria Street, Westminster, promises to be of exceptional interest in every way. Besides Daffodils, Orchids, hardy plants, fruits, &c., the members of the National Auricula and Primula Society will bring their choicest plants, which will be sure to attract universal attention. At 3 p.m. the visitors will have an opportunity of hearing a lecture on "Alpine Plants," by Mons. Henry Correvon, of the "Jardin d'Acclimatation," Geneva. The lecture on "Chemical questions concerning the soil," by Prof. Cheshire has been postponed until May 9th.

Sequoia gigantea.—The *Bulletin d'Arboricu'ture, etc.*, states that the American Government is actually taking measures to preserve that which still remains of the gigantic examples of this majestic Conifer upon Californian territory. The age of some of these trees is computed at a thousand years. We are only surprised that our American cousins have not taken measures before this time to preserve some of the best of the most gigantic and grandest specimens of living vegetation extant, the like of which the world may never see again, although we have evidence in a fossil state that vegetable giants have at a former geological epoch occupied the earth's surface.

The Helensburgh Rose Show will be held on July 10th.

United Horticultural Benefit and Provident Society.—At the usual monthly meeting of this society, held at the Caledonian Hotel, Adelphi Terrace, Strand on Monday the 10th inst., Mr. George Kelf presiding, five new benefit members were elected and three others nominated. S. M. Segar, Esq., also became a honorary member. There are two members only on the sick fund at the present time.

Saffronomania.—*L'Illustration Horticole* relates that General Rajewski, president of the Imperial Horticultural Society of St. Petersburg, in calling the attention of the members to the many varieties of Apples and Pears that succeed best in the Crimea, spoke of the harm done by nurserymen in renaming the varieties of fruit trees. They have thus replaced the names Reinette Franche, Reinette d'Orleans, Court-pendu Royal, Pearmain d'Hiver, &c., by those of White Saffron, Winter Saffron, Red Saffron, Striped Saffron, &c. The honourable president called that a Saffronomania with good reason.

A Hardy White-flowered Azalea.—As related by *L'Illustration Horticole* there is a hardy white Azalea which has been obtained from the Chinese A. molis fertilised with A. viscosa. This origin is authenticated by M. Fr. Brettschneider, of Berlin, who is a specialist. This hybrid form has been named Azalea hybrida Daviesi, and is distinguished by its flowers being at first slightly tinted with sulphur, but changing to pure white when fully expanded. To this unique colour amongst the A. mollis type is added an exquisite perfume. The plant is perfectly hardy, but is besides well suited for forcing purposes. It is of English origin. There is a figure of it in the February number of *Gartenflora*.

Edinburgh Botanical Society.—This Society met at 5, St. Andrew Square—Dr. Christison, president, in the chair. It was reported that during the last fourteen years £107 had been contributed to the Illustration Fund, and that the expenditure had exceeded that sum by £21 9s. The council therefore appealed for contributions, so that the "Transactions" might continue to be illustrated in a manner worthy of the society. The chairman also urged upon the meeting the desirableness of increasing the member-

ship of the society, for otherwise it would be necessary to considerably curtail the publications. Communications were made by Professor Bayley Balfour on the genus Latania, and Mascarene Palms, and on the origin of the Pomegranate, and by Mr. T. D. Sadler on the life history of the Pinguicula vulgaris.

Variation reproduced by means of Seeds.—While treating upon the subject of the heredity of certain variations, *Garden and Forest* comments upon a case that occurred at the Cornell University of the United States Department of Agriculture. A graft of a variegated species of Cornus was placed upon a stock of Cornus Mas. A shoot was allowed to grow both from the stock and graft, and in 1890 both fruited. The seeds were sown and the seedlings from the fruit of the graft proved to be normal. The berries taken from the variegated graft gave rise to variegated seedlings like the mother plant. The latter were of weakly constitution and all perished as often happens with seedlings possessing but little chlorophyll.

East Anglian Horticultural Club.—Under the auspices of this club, an organisation which has now been in existence for about two years, a pleasant and successful entertainment was given on the 13th inst. in the Assembly Room of the Agricultural Hall, Norwich. The club comprises a large proportion of professional gardeners living in East Anglia, and its main object, as the name would imply, is to promote the interests of horticulture. The committee are empowered to apply their surplus funds to charitable purposes, such as the assistance of gardeners overtaken by misfortune, and it was in aid of the Gardeners' Royal Benevolent Institution that the concert was organised. With only two exceptions, we believe, the performers were entirely restricted to employés of Messrs. Daniels Bros. The performance was in every way a success, and those present, who were sufficiently numerous to fill the hall from floor to gallery, not only had the satisfaction of aiding a worthy movement, but of spending a highly agreeable evening.

A handsome Yellow Tulip for Bedding.—Although the dry weather may shorten their period of flowering, Tulips seem to delight in a dry time. At present a large number of the bedding and other varieties may be seen in bloom in the nursery of Messrs. Barr & Son, Long Ditton, Surrey. We were particularly interested the other day in a golden yellow variety with large, cup-shaped flowers. It is a well-known sort for pot culture, namely, Ophir d'Or, and in collections of forced plants it looks handsome. Here the bulbs were planted in a bed running north and south. The plants in all the rows, except one, were only 4 in. to 6 in. high, but in the outermost row facing the west the stems were 9 in. high. The edge of the bed is slightly raised above the alley, and the slope facing the west has been warmed up to a much greater extent from the afternoon sun than the rest of the bed that almost every bulb has added 3 in. to the height of the stem. The phenomenon is very marked and peculiar, but had the outer row been more distant from the edge of the bed we feel certain it would not have occurred.

The New Potato Season in Cornwall has now fairly set in. So far the crops are excellent, and bid fair to supersede by far those of many former years. Many tons have already been sent to the London and Midland markets, and the price is in advance of that usually obtained for first crops, as might be expected when the fact is taken into account that the Potatos have been put into the markets fully a month earlier than is usual. Gooseberries are coming on apace, and there is no doubt but that fruit generally will be very plentiful unless the long spell of dry weather we have had should create blight later on, which is feared. Everything in the gardens appears in a parched condition, and everybody would welcome a downpour for twenty-four hours. This has been a remarkably properous season for the flower trade of Scilly, and not only the growers, but the railway companies, with their increased rates, must have reaped a wonderful harvest since Christmas.

Experiments with Insect Pests.—On Saturday last, the 15th inst, the Stott Fertilizer & Insecticide Distributor Co., Limited, were invited to give an exhibition of their appliances for the destruction of insect pests, in the orchards of Joseph Masters, Esq., ex-Mayor of Evesham. The time fixed was 10 a.m. A numerous company were present from Toddington, Evesham and Pershire, including Messrs. Masters, Geo. Innes, C. D. Wise, Chichester, Hy. Field, F. Hooper, G. T. Brodie, G. F. Bullogh, Gregory, H. Pollard, E. L. King, J. Clarke, J. Grinnel, &c. All the varied appliances were experimented with, and for the first time Mr. Stott brought out a patent quadruple acting wing pump fixed in a 30 gallon engine. This engine had two insecticide distributors attached, the working arrangements of the pump being so arranged that it is almost impossible to get out of order or choke with sand, or other sediment. The distributors were charged with Killmright, and various trees were sprayed with the solution under and over the foliage, the result being everything that could be desired, caterpillars, red spider, black fly and aphis being quickly destroyed. This being an informal meeting, the results were so satisfactory that Messrs. Stott were requested to give a further demonstration at Toddington, this day, Saturday, a body of the Evesham fruit growers being invited.

Cornwall and the Railway Rates.—Whatever may be the result of the agitation for a reduction in the railway rates for carriage of gardening produce from other parts of the country, Cornwall has come off remarkably well. As a result of an influential deputation to the directors of the Great Western Railway Co., the new terms have been settled on a satisfactory basis. Amongst other matter, it appears that the old rates for conveying Broccoli are to be reverted to, and as these were considered reasonable there is no grumbling. Any rates for hot-house fruit advanced in the revision have been put back to the old figures. Consignments may be sent to stations in England and Wales at half the ordinary parcel rates. With regard to Potatos, the company state that the rates have not been advanced. They consider it an exceedingly liberal one, including, as it does, delivery by van in London. The company find it impracticable to wholly equalise the advantages obtained from geographical position, but it must be remembered that those most distant from large centres of population have generally the advantages of lower rents and rates of labour. These modifications will practically remove all legimate grounds for complaint, and much lively satisfaction has been expressed both by producers and buyers.

PLANTS RECENTLY CERTIFICATED.

THE subjects mentioned below were exhibited at the meeting of the Royal Horticultural Society on the 11th inst., and received awards according to merit:—

SARRACENIA MANDAIANA.—This new Sarracenia is supposed to be a natural hybrid between S. flava rubra and S. Drummondi. A small plant was exhibited by Messrs. Pitcher & Manda, Hextable, Swanley, Kent, and two of the pitchers were each about 2 ft. long, wide at the mouth, and gradually narrowed to the base. They are green, marbled with silvery spots just under the rim. The large lid is also green with darker nerves, and having silvery spots in the intervening areas; the neck or hinge of the lid has a large, purplish-brown blotch. The plant is bold and handsome, and received a First-class Certificate.

BOUGAINVILLEA SPECTABILIS.—Cultivators find greater difficulty in flowering this species than B. glabra. The inflorescence consists of axillary branches that divide into three smaller ones, made up of three bracts each, and every bract bears a flower at its base. Altogether then there are nine flowers to every axillary branch, but they are small and inconspicuous because hidden by the bracts, which really constitute the most ornamental part of the plant. They are broadly-oblong, obtuse, and of a rich rosy or reddish-purple. A First-class Certificate was awarded it when shown by Capt. Oldfield, South Warnborough Lodge, Winchfield, Hants.

AZALEA ANTHONY KOSTER.—In this we have a vigorous and very floriferous variety of A. mollis. Five plants were shown and which were so floriferous that the foliage was almost hidden. The flowers are yellow, suffused with red or orange towards the edges of the segments, and mottled with green upon the upper one. A First-class Certificate was awarded it when shown by Messrs. H. Lane & Son, Berkhamstead.

EUCHARIS LOWII.—The bulbs of this new Eucharis were brought home in an importation of E. Sanderi, and the flowers seem intermediate between E. grandiflora and that species. The long tube is dilated upward to the mouth, where it is funnel-shaped. The segments are ovate or the three outer ones oblong-ovate, while the inner ones are incurved at the sides, giving the flower a distinct appearance. The corona is short with two triangular teeth between every two stamens, making twelve in all. In this respect it resembles E. Mastersii, but the teeth are much longer. Like all the rest it is a native of New Grenada. The leaves are large, ovate, or subcordate at the base, ribbed, and shining. An Award of Merit was accorded it when shown by Messrs. Hugh Low & Co., Clapton.

IRIS SAARI NAZARENSIS.—Judging from the name, we should say that this Iris came from the Holy Land. The stems are about 1 ft. high. The flowers are of good size, and the falls are obovate, slightly incurved at the edges, of a greyish-white, spotted all over with purple, and having a large crimson blotch in the centre; the claw is bearded with brown hairs along the middle. The standards are also broad, infolded over the top of the flower, undulated at the edges and of a pale satiny-grey. The petaloid stigmas are of the same hue, but minutely dotted with purple and revolute at the sides so as to cover the beard of the falls with which they form a tube or covered pathway for insects. An Award of Merit was accorded the variety when shown by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

CARNATION PRINCESS MAY.—Since Madame Arthur Warocque, otherwise known as the Scarlet Malmaison, made its appearance the raisers of seedlings of the Malmaison type have been busy and there are now several richly-coloured forms in existence. Princess May is one of them, and has large deep red flowers intensified to crimson at the base of the petals, which are rounded and incurved at the edges. They are also distinctly fragrant. The plant is dwarf, judging from the specimens shown by Martin R. Smith, Esq. (gardener, Mr. Blick), Hayes Common, Beckenham. The stems were 6 in. to 8 in. high and the flower stems added about another 12 in. The leaves are broad, glaucous, and revolute. An Award of Merit was accorded it.

CARNATION URIAH PIKE.—This is described as a Clove tree Carnation, and resembles the Old Clove as far as the size, colour, and fragrance of the flower is concerned. The flowers are of a dark maroon-crimson, a shade or two brighter perhaps than those of the Old Clove, and the petals are slightly dentate at the margin. The plants, however, when in bloom are 3 ft. to 4 ft. high with moderately wide, glaucous leaves. Cut flowers, as well as a group of plants were exhibited by Mr. G. May, Upper Teddington, who received an Award of Merit for it.

PYRUS JAPONICA CARDINALIS.—There are now numerous varieties of the Japan Quince in cultivation, all differing chiefly, in the size and colour of the flowers. That under notice has very large flowers, even for this species, measuring 1½ in. to 2 in across. They are of an intense red or crimson, at least when they first expand. Flowering branches of it were shown by Mr. Anthony Waterer, when an Award of Merit was accorded the variety.

CANNA PROGRESSION.—Three of the segments of the flower of this variety are of large size, bright yellow, and finely blotched with scarlet all over. Two of the smaller segments are also coloured in the same way, but the lower one has the blotches several shades darker. The leaves are ovate and glaucous, while the stems are about 2½ ft. high when grown in pots. An Award of Merit was accorded it when shown by Messrs. Paul & Son.

THE ALPINE HOUSE AT KEW.

THIS remarkably interesting and floriferous structure is now gay with the sweetness and beauty of the vernal year; it is, in fact, no exaggeration to say—

Spring in the Alpine house now holds her court,
And Flora blossoms 'mid a thousand hues.

For practically, as well as poetically, the picture is such as to warrant the warmest encomiums being lavished upon it. It is quite unique in its way, as, notwithstanding our natural love of gardening, this kind of conservatory is rarely to be met with—hardy plants not being considered of sufficient merit to cover the extra labour involved in pot culture.

What an erroneous notion! as a sight of this distinct and attractive house would soon dispel. Visitors here are becoming more numerous since the authorities opened up the herbaceous grounds so prominently to the public, although it is yet *in nubibus* as far as the majority of the people are concerned. But those who do find their way towards the house are very appreciative in their remarks, and many notes are jotted down for future reference. The advantages of mere protection—for no artificial heat is used—are self-evident, for in a climate like ours, where the range of temperature at this season is so extreme, nature can only put on her best and gayest attire where sbe receives some assistance from the vicissitudes of the weather. Moreover, by the aid of glass, the beauty and integrity of the flowers can be preserved over a much longer period. Again, if it were not for this structure many of the rare and exquisite gems of a mountain flora would "waste their sweetness on the desert air" as far as the flower-loving wanderer is concerned. From vague generalisations let us descend to details, and notify some of the leading characteristics of the classes of vegetation which are here represented.

Along the front row, then, may be examined the various species of Primula, P. Auricula, show and Alpine occupying a prominent place. P. Siebaldi, and its beautiful fringed varieties, also a dark form known as Magenta King cannot fail to attract attention, and to this P. rosea, and some hybrids of P. vulgaris, etc., and it will be admittted that the Primrose plays an important part in hardy plant culture. Next comes Milla uniflora with its pale and starry blossoms, and glaucous green grassy foliage, with Gentiana verna, as a set off in respect to colour. No wonder the mild Milla pales before the vivid blue of tbis lovely Gentian. Anemone stellata fires the zeal, which is only quenched by contrast with its pure white congener A. nemorosa, and its excellent variety Robinsoniana.

Among other white flowers may be noted Ranunculus amplexicaulis—a gem—and Allium vernale, which is very free and fine. Tbe delicately tinted Phlox procumbens, and P. amœna; the brigbt blue conical-shaped clusters of the Grape Hyacinth, Muscari conicum, or the modest drooping racemes of Dicentra saccata, each excites some interest.

Yellow flowers are supplied by Doronicums, and the free-flowering Erysimum ochroleucum, variety Helveticum—closely allied to the Wallflowers—and which is largely grown at Kew. Thus it will be seen that the plants enumerated, besides dozens of others, are quite sufficient to produce a floral picture wbich cannot be surpassed by any other forms of vegetation.—*C. B. G., Acton, W.*

CARVED FRUIT STONES.

Nothing is wasted is China. The stones of various fruits and the shells of nuts are cleaned, dried, and carved into ornaments of the most graceful kind. Among the stones used are the Olive, Plum, Peach, and Cherry, and of the shells the Walnut and Cocoanut. The stones are collected with care; each must exceed a certain standard of size, proportion, hardness, and weight. They are dried slowly and at such a heat as not to crack or sprout, and are then ready for the carver. The designer makes a rough outline of the future group or picture, and hands it over to his boys or apprentices. These work with great rapidity and soon block out the design, cutting through the hard ligneous tissue, and then extract the kernel. A second treatment now takes place to dry the interior of the stone, as well as to prevent the fine lining of the interior from undergoing decomposition. This completed, the designer sketches a second outline, and also indicates by his pencil or brush where the surface is to be manipulated, made into leaf work or arabesque, or be cut altogether away. The work is performed by the subordinates, as at first. The designer then does the finishing touches, after which the assistants clean, polish, and oil or wax the perfected carving. The stones are sold in this shape to quite a large extent, but more largely in other forms. Among these may be mentioned buttons, watch charms, sleeve-links, earrings, and brooches, and, when strung together, bracelets, anklets, necklaces, watch-chains, rosaries, and official ornaments. The price of a stone varies greatly with the workmanship and the fame of the carver. Some may be bought as low as 5d. a piece, others command as high as 8s. and 12s. each. The average price is 1s. 3d. a stone, with a handsome discount for purchases in quantity. The carvings display great variety and beauty. One class represents bunches of flowers and leaves, in which pistils, stamens, and tendrils are accurately executed.. Similar to these are fruits and flowers, and flowers and leaves. A second class is composed of carvings of birds, reptiles, and higher animals. The dragon, griffin, stork, horse, lion, tiger, camel, elephant, and bull are the favourite figures. A canon in Chinese carving is to reproduce only those animals which have been deified, and those mentioned are about the only ones which have enjoyed divine honours. A third class, and by far the most interesting, comprises groups of human figures representing scenes in history, poetry, mythology, and the drama. The workmanship is often so fine as to be microscopic in its delicacy. In fact the finishing touches are made by the artist while using a magnifying glass of at least fifty diameters. On stones not over an inch in length along their major axis, it is not uncommon to find eight, nine, and ten characters in different attitudes and costumes. Unlike most pbases of Chinese art, there is much regard paid to perspective and foreshortening. Some of these pieces might have been made by Hindoo or Italian artists, so free are they from local conventionalism. Nevertheless, in the main, conventionalism is all-prevailing.—*Society of Arts Journal.*

DOG'S-TOOTH VIOLETS AND WOOD LILIES.

The species of Erythronium and Trillium are peculiarly spring flowers, and not only interesting but beautiful on account of their large and showy flowers, made all the more conspicuous because they make their appearance in spring before flowers are over plentiful, and because they will grow in woodland and shaded walks where spring flowers are peculiarly appropriate and desirable. The undermentioned species are all American. There is of course a European species of Dog's-tooth Violet, namely, Erytbronium dens-canis, already well known in British gardens, although it has been neglected of late. The subjects of these notes we examined the other day in Mr. T. S. Ware's, Hale Farm, Nurseries, Tottenham.

One of the most vigorous of all the species is E. grandiflorum, in favourably moist seasons and in suitable positions growing to a height of 18 in. to 2 ft. The dry spring, however, has kept the flower stems down to 8 in. witb two flowers each, whereas they bear as many as six flowers in favourable years. Tbe flowers are pale sulpbur-yellow with a golden zone at the base. The leaves have pale veins and sometimes a few bronzy blotches between. The plants grow like weeds in a moist border between two hedges. Finer and even more attractive is E. g. giganteum, also known as E. g. albiflorum, and is, if anything, more vigorous tban the type. The flowers are pure white with exception of an orange zone at the base, and have golden anthers. The leaves are large, oblong, glaucous, and distinctly blotched with bronzy-purple. The type is a native of North-west America, and the variety comes from Washington Territory.

The flowers of E. purpurascens are of the same type as those of E. grandiflorum, but white at first and afterwards shaded with rosy-purple, and having a golden zone at the base. The leaves are pale green and blotched with bronze between the grey veins. In full sunshine the base of the corolla externally assumes quite a purple hue. It is also grown under the name of E. Smithii. Another species now flowering freely is E. Hendersonii with much smaller but pretty flowers. The plant is altogether smaller and less vigorous than either of the above, and comes from Oregon. The leaves are pale green with grey veins. The flower stems are at present about 6 in. high and bear two blooms each, and which are white shaded with rosy-pink and have a violet-purple blotch at the base of each segment. The stamens and style are purple, thus adding to the beauty of the flowers considerably by contrast with the pale segments.

The species of Trillium popularly known as American Wood Lilies or Indian Shamrocks are also well represented at the Hale Farm Nurseries. Several of them are now at their best while early ones are getting over, and late ones will continue the succession. T. discolor, also known as T. atratum, is particularly noticeable on account of the rich colour of the leaves, which may be described as elliptic and of a deep bronzy purple with greyish-green blotches. The solitary flower is sessile, that is, stalkless and close to the three leaves of the stem. The outer face of the sepals is green but when the flowers are expanded the inner face of the sepal is purple and the petals of a rich shade of that hue. T. ovatum is the earliest species to flower and is similar to T. grandiflorum, but the white flowers are smaller. The leaves are ovate and green. The species is a native of the South United States and is well worth growing to precede T. grandiflorum. The strongest growing species we noted was T. erectum, with deep purple petals. The variety T. e. album is even more vigorous, being about a foot high, with very broadly rbomboid, green leaves and stalked, nodding flowers. Altogether it is a bolder plant than T. grandiflorum, and tne nodding character of the flowers serves to add interest and distinctness to the species.

JOHNSON'S GARDENERS' DICTIONARY.*

A new edition of this old standard work, such as Messrs. G. Bell & Sons are now publisbing in monthly parts, has long been a necessity, for in many cases the nomenclature was sadly behind the age, while as a matter of fact so many new species have been introduced, or garden forms have arisen even since the last supplement was published, that a record of them has become quite indispensable. The use made of a good black letter type to distinguish the genera and other headings in tbe new edition is a marked improvement upon the original edition, inasmuch as the eye rests upon the names directly, and we can find what is wanted witbout waste of time in following the text. Another important feature of the book is the placing of synonyms alongside the correct name, instead of making a separate list at the end of the work where they would seldom be consulted. References to figures or illustrations in other publications is also a useful innovation.

The "Genera Plantarum" is taken as the standard authority for generic names, except in some instances where garden usage makes it more convenient to employ old and well-known names, which distinguish for instance Azalea as distinct from Rhododendron, and Cerasus from Prunus. This we can understand, but we must take exception to the calling of tbe species of Abies, Spruce Firs. Tbe popular or English names are universally recognised by gardeners and identified with the proper class of trees, but the botanical names of Abies and Picea are often confused. The species of Abies are Silver Firs, yet under this beading we have Abies Ajanensis, A. alba, and A. nigra, all of which are Spruce Firs, namely, Picea Ajanensis, Fischer, P. alba, Link, and Picea nigra, Link. Abies Pattoni we venture to say is synonymous with Tsuga Pattoniana, given in the same list. We must also challenge the revisers' classification of the species of Adiantum. We find only three varieties classed under A. cuneatum, and one of these, namely, Lathomi, we should relegate to A tenerum. A. Legrandi and A. Pacotti are given as greenhouse species, wbile A. gracillimum and A. mundulum are described as stove species, but surely all of these are more closely identical with A. cuneatum than is the form Lathomi. A. Weigandi, although given as a species, we should class under A. Capillus Veneris, and A. Mariesii and A. Moritzianum are also forms of the latter plant. A. cultratum is a form of A. trapeziforme, as also is A. t. Sanctæ Catherinæ, which although the most common of the two varieties in gardens is not mentioned at all.

In the old edition of tbe dictionary a whitish variety of Agapanthus umbellatus is mentioned, namely A. u. albidus, but in the new one we find mention made of three additional ones, all having white flowers, yet which are apparently tbe same thing, recorded at different times under different names. Solium tremulentum, mentioned under Aira, we take to be a printer's error for Lolium temulentum. Additional insects are being described in the new edition, but we should have liked to see some of the old articles upon them revised. Several genera of aphides are included under aphis. Something like

* "Johnson's Gardeners' Dictionary." A new edition, thoroughly revised and considerably enlarged. By C. H. Wright, F.R.M.S., and D. Dewar, Curator of the Glasgow Botanic Garden. (London: George Bell & Sons).

180 species are included by the gardener under the general terms of green and black fly and American blight, but it would have done him no harm to know something more of the numerous genera of the Aphis family, and the dictionary would have had the advantage of being "up to date." The article on Canker might also have been brought more into line with the present day literature of the subject, the introductory part at least, or the latter omitted altogether. The more nearly a work when published accords with modern science and literature, the more durable it will be, and take longer to call for revision which is a serious undertaking in a complicated work of this kind. We admit that the task is a severe one for the compilers, who should not be in too great a hurry to have it completed, if they can command their own time. The work is to be completed in eight parts at a shilling each.

SEED SOWING.

"Blessed is he that expects nothing, for he shall never be disappointed." Thus runs sententiously the old adage. But, says a writer in a Kentish contemporary, like a good deal of proverbial philosophy, this ancient saw scarcely bears reasonable analysis. It is certainly bad to be disappointed, but it is infinitely worse never to enjoy the cheap though eminently delightful joys of anticipation. The practice of the gentle and pleasant art of gardening is so encompassed with sage precepts that the gardener who endeavoured to obey them all would find his task far from easy. He, of all men, most lives on expectation, and at no season so much as during the present month. We have had a wonderful March. It came to us on the wings of moist westerly gales, chanting a blustering symphony of the magic of the spring. Wiseacres prophesied day after day that the weather would change, yet for more than thirty days we have basked in golden sunlight, beneath skies that make those who know the fairyland of Europe think of Italy. To the gardener it has been a time of pride and pleasure. His sanguine eye already notes signs that unless—oh, terrible word—the May frosts are quite abnormal, the Rose harvest of 1893 will be early and superb. The moderate winter was most merciful to the early spring flowers, which have bloomed with rare luxuriance. Should capricious April bring those soft showers of silver rain that constitute "growing weather," we must be prepared, with our seeds sown in thoughtfully selected plots.

Every year brings a formidable list of floral novelties in its train. Some are beautiful and worthy of permanent cultivation; all are decidedly costly. Lucky possessors of a full purse and an army of gardeners are wise in encouraging enterprise by purchasing. But the owner of a small garden, especially if it be near a town, will do wisely and well to keep to old-established favourites, and not to waste the seed funds in experiments that are very apt to prove disasters. If care is taken to pick them at the right time and to store them properly, there is no doubt that home-saved seeds are best. Of course, some purchases must be made, but let them be from a thoroughly good seedsman. Utilise every scrap of space, but study the dimensions of your pleasure-ground and beware of too much ambition. In Dean Hole's fascinating "Book about the Garden" there is an ideal description of a small one, which, with its rockery, its finery, its tiny rosery, was yet alluringly varied and complete. Gardeners are proverbially generous folk, and if we are too honourable to steal, we may at least beg and borrow all kinds of additions to the perennial borders that are certainly most economical. But there are many indispensable annuals. A garden without Mignonette and Sweet Peas would indeed be a forlorn spot. These should be cultivated in profusion in the most modest territory. You may cut and come again and again from the hedge of dainty Sweet Peas, or the border that sends such an incense into the house. To grow, let us say, six kinds of annuals thoroughly well and plentifully is infinitely more satisfactory than merely to obtain scanty patches of twenty varieties.

It is pleasant to have a special hobby or two. A collection of Pansies is a charming thing, or of Primroses, or of Michaelmas Daises, or of anything else, for that matter. In thinning out the seed pans much kindly benevolence may be exercised towards poorer but still flower-loving neighbours. In many districts the gloom of the workhouse is relieved by a smiling garden stocked with free gifts, and orphanages and convalescent homes rejoice in offerings of plants. April is the month *par excellence* for busy work in the garden, and if the weather be propitious what can be more delightful? The Almond, Peach, Plum and Apricot are decked in delicate blossom. The pretty, old-fashioned flowering Currants blush pink in the shrubberies, and the yellow Berberis is thick with the heavy clusters the bees love so well. The Celandines glimmer star-like in the hedges, and the frail Anemones open their starry eyes on the meadow banks. April is here and we must make the most of it. Alas, that it should be no longer than dull November. It is too soon to be sanguine, but if April only half fulfils the promise of March, then Lady May will come into a radiant world indeed.

THE VEGETABLE GARDEN.

Vegetables at the Drill Hall.

As a rule Vegetables are not shown very freely at the meetings of the Royal Horticultural Society during the winter and spring months, but on Tuesday, the 11th inst, there were a few interesting exhibits, the most important being a nice collection from Mr. Wythes, of Sion House. The Potatos were very nicely shaped examples of Sharpe's Victor, a good variety for forcing, the Seakale was good, as also were the Leeks and the collection contained also good Asparagus, Mushrooms, Spring Cabbage, Cucumbers, &c., &c., making altogether a very nice lot. Another exhibitor sent Veitch's Golden Gem Lettuce sown in heat and grown on in a frame. This is evidently a very valuable sort for early work, as the heads were quite equal to any of the Cabbage Lettuce seen in Covent Garden at the present time, and were besides firm, crisp, and of a nice colour. There were also shown some Vegetable Marrows, an unnamed variety of Messrs. Sutton's, said to be very useful for forcing and a good setter in heat. It may be an acquisition, but I do not think that Vegetable Marrows, however well they may set in heat, will ever be much used for forcing.—*G. H. S.*

General Work.

Still we have no rain, and the young vegetables are in want of it badly. In small gardens, where plants can be watered as planted and attended to afterwards, some progress can be made, but in large market gardens the work is being sadly hindered. The dry weather is also making the sparrows doubly troublesome; in this part they are becoming a terrible pest, getting worse every year. At the present time they are eating Lettuces as fast as they are planted, and the Peas when too tall for wire guards are being completely spoiled. Keep all the ground hoed as much as possible, so that when rain does come there will be fewer weeds to start with. Any one who intends making Asparagus beds may do so at once, and for plants for planting next year seed should be sown at once, one year old plants being much the best for planting.

With nice showery weather, could we only get it, the kitchen garden work will be very heavy. Of course with the long spell of dry weather weeds ought to be few and far between. Cauliflowers must now be planted out of pots and frames, also Cabbage plants to follow those planted in the autumn. Plant out plenty of Lettuce, and as the early Potatos come through the surface draw a little soil over the tops, and when too high for that a little litter lightly sprinkled on will keep off a lot of frost. Do not omit to sow succession rows of Peas and Spinach, sow Radishes in more shady borders, they will then be of better flavour. Keep a sharp eye on the early sowings of Turnips, as they are much liable to be attacked by birds and by the Turnip fly.—*G. H. S.*

Turnips.

Those sown in the earliest frame are now ready for use, and they must be kept well supplied with water, or they will soon run to seed—abundance of air must also be given. The above remarks also apply to the later frame containing those to keep up a supply until the earliest are ready for use, on a warm border. These if not already sown must be attended to without delay. Early Milan is the best for this purpose, as well as for frames. It is a good plan to make small but frequent sowings at this time of the year, as during hot dry weather they are so liable to run to seed which spoils them for use. For summer use the old White Stone and Veitch's Red Globe are serviceable varieties.—*G. H. S.*

Beetroot.

A small sowing of one of the early Turnip-rooted varieties should be made now for early use. Do not sow thickly as it entails so much thinning, which harms those plants which are allowed to remain. —*G. H. S.*

Gleanings from the World of Science.

Carbonic Acid in the Soil.—The atmosphere always contains a certain, though small and variable, percentage of carbon dioxide. Several scientific observers and experimenters, including Boussingault, have shown that cultivated soils contain in the first 14 in. of their depth as much carbonic acid as exists in the same horizontal area of the atmosphere to a height of 7 ft. to 110 ft. Of course the atmosphere gets its carbon dioxide from decaying vegetation and animal matter, and this constitutes the source from which living plants obtain their carbon. The carbonic acid in the soil is of immense value to plants indirectly but not directly, inasmuch as they cannot utilise it for building up their tissues. It serves to disintegrate and dissolve substances of plant food in the soil, and which rain water of itself is unable to do. The source of carbonic acid in the soil is the decaying remains of plants that have previously grown there, as well as what may be applied in the form of farm-yard manure and other decaying vegetable matter or humus. The more of the latter in the soil the richer it will be, provided the other essential conditions are equal. Besides the use of carbonic acid in dissolving the ingredients of plant food, farm-yard manure in a decayed state is serviceable in the retention of soil moisture, and when comparatively fresh serves to give heavy soils more porosity.

Effect of Dry Cold Weather on Plants.—Spring flowers, whether in a state of nature or inhabitants of the garden, are feeling the effects of the long spell of cold and piercing east winds. Daffodils where sheltered look handsome though dwarf, but in open and exposed fields they are even dwarfer. Some of them, such as Narcissus Johnstoni and its forms, have suffered more severely and are not flowering half so freely as in ordinary seasons. None of them are very durable in the cut state, even in water, thin textured flowers becoming shrivelled up in the course of six days, whereas in moister seasons they will last twelve to fourteen days under the same conditions. Primroses, both wild and highly coloured garden forms, become withered and browned at the margins as if scorched with fire, and their beauty is soon marred in the more exposed positions. The blooms of Coltsfoot (Tussilago) that expanded at their proper season are now ripening seed, but belated blooms have their ray florets changed to orange in exposed positions. Nepeta Glechoma and Lamium album in sheltered positions amongst grass or on the lee side of hedges are flowering beautifully, although dwarfer than usual, but in open exposed positions they hardly dare show any flowers at all. The leaves of the Nepeta even turn purplish-red.

The New Onion Culture.—Such is the title of an old method of Onion culture when put into practice on a large scale in America, as related by Mr. T. Greiner in a small book on "Onions for Profit." While the writer was making experiments on new Onions and wishing to make every seed count, he discovered several things that were new to him. These new discoveries he arranges under five headings (1) that few plants stand transplanting better than Onion seedlings; (2) that the crop matures earlier by several weeks if the seedlings have been raised under glass and put out in spring; (3) the bulbs are larger and a greater number of bushels can be obtained per acre by those means; (4) weeding is reduced to a minimum; (5) the crop is more profitable than when the seed is sown in the open ground in the usual way. Although, as the writer acknowledges, gardeners in this country have long been accustomed to the raising of small quantities of Onions under glass for exhibition purposes, and growers in some parts of the United States have pursued the same system with Onions for bunching, yet he takes upon himself the honour of being the first to adopt the system for extensive field culture. Many other progressive growers have also adopted this method of culture with eminent success. The market gardeners in this country might well give the system a trial.

FLORICULTURE.

Auriculas.

According to Mr. R. Dean, the perfect man in Auricula growing must be difficult either to imagine or describe. If any one is a steadily successful exhibitor for a series of years, the thing is a dreary monopoly. If he fail once or twice to secure every high honour, the days have ceased "in which he held his own." It may be, as it is in the Southern Auricula schedule, that the classes are not so open to all as they were in earlier years; and it may be that the show does not, every season, catch the strength of a collection in bloom. But these are chances and changes not dreamt of in Mr. Dean's philosophy, and need no more be allowed for than ripples of the sea in the course of an Atlantic liner!

Perhaps I know my Auriculas better than "R. D." can, and therefore may be allowed to state that Kirkby Malzeard days have not been their best. There are other tests than that of exhibition, which is one not always practicable; but presuming (which I do not) that Mr. Dean would care to examine all the prize lists of the Southern Auricula Shows, it would hardly appear that Auriculas at Lowfields have fallen, to the depth of his inferences, below those of Kirkby times.

"Mr. Douglas is candid," says "R. D." "in regard to his practice. He makes no secret that he employs artificial heat." I do not take up the inferred comparison further than saying that I have been candid also about my practice, not omitting my failure with, and objections to, giving the Auricula artificial heat rather than a more natural protection against unseasonable cold. Mr. Dean could certainly see the heating apparatus in the houses where I used to flower Auriculas at Kirkby, for when these went out to summer quarters those houses were occupied with Peach and Nectarine trees in pots. Mr. Simonite and I tried concurrently the experiment of heat for Auriculas and gained nothing but harm by it; therefore we discarded it. I am not at all sure that our Reading friends are as partial to heat for Auriculas as they may have been at first. In fact I have the most authentic information that, with a single exception, not one of them has any heating apparatus for Auriculas. Yet, that they have, is largely the grounds on which Mr. Dean "substantiates his assertion" that artificial heat both is, and must be, resorted to by any grower who would "hold his own" at the National Shows! That is the way "how not to do it," and the idea is exploded in the North.

We ought to have had better sense! We ought to have known and recollected that the Auricula expects cool nights in March and April, though for the sake of its flowers it should feel no frost. A night minimum of 40° is quite safe, and I find that even 35° does no harm, but of course 40° leaves a wider margin of safety. That it is not well for the Auricula to be misunderstood on the point of artificial heat was shown by the letter of a correspondent "H." in these pages recently. He had concluded, from Mr. Dean's remarks on the question, that we were foolishly trying to force Auriculas, like Rhubarb and other vegetables, and wondered why we should choose to subject a hardy Alpine plant to such treatment. "H." did not seem to know that the edged Auricula, as we have it, is not to be found wild on any Alpine height, but is a pure creation of culture, far removed from its wild ancestry, both in properties and constitution. Still, he had been perplexed on its cultural requirements.

"Heat" of another kind than that of fire or water, appears in Mr. Dean's last communication—the unfortunate heat of friction. With a few not complimentary nor exactly "parliamentary" words we hear of his severance from the National Auricula Society. It is, he says, a society of "pettifogging" ways, and of "obscure" existence. So, with respect to the position he held in it, Mr. Dean is extinct. Seemingly, not without some touch of reluctance and remorse, for he had aforetime asked permission to withdraw his resignation, and it was kindly granted him. Does he include that act of mercy among the "pettifogging" ways of the society, which he is pleased to rather awkwardly call "obscure," considering his own long connection with it? He deems its obscurity to largely lie in its numerical smallness. But smallness and obscurity are not convertible terms. Mere size is no test of quality in a society any more than it is in the florist Auricula. Where the growers of a plant are few their society cannot be a very large one.

Does "R. D." comprehend the case? A scarce plant, few growers, fewer experts on its points and quality, the necessity of the flower being judged by those conversant with what are virtues and what are faults in it? There are many good judges of a more popular and more common flower, but not so of such as the Auricula or the Tulip. In the northern section of the National Auricula Society we choose the judges from among ourselves, on the show day. The flowers are waiting all around, and everyone knows well enough whose plants are there, and which they are, for all have had a look round as the plants were unpacked. There is at any rate nothing "obscure" here, and the very openness of it all is probably shocking to Mr. Dean, who seems as full of suspicions as the London air is of smoke or fog. But this freedom is safe, because we have men whom we can trust for special knowledge and for fairness.

The thing is strange to him who reckons not the exigencies, necessities, and the amenities of these "obscure" florist societies. There are few strangers among us. All seem known to some, and Mr. Dean's comparison with the ways of great and general shows is, as regards those of the florist Auricula, only as a scarecrow upon which the birds of discernment will come and sit. It looks plausible in the abstract; passable as a lay figure, having some queer semblance, stiff or limp as it may please you, to a thing alive or real. If Mr. Dean had given names in the instance he adduces to illustrate his views (names not obscure to Auricula men,) the matter would have exposed itself. I have myself both lost and won under my old friend that same judge, and his colleague. Mr. Dean nearly, if not quite left the colleague out! Our judges prefer not to be single-handed, and we do not leave them so.—*F. D. Horner, Lowfields, Burton-in-Lonsdale.*

Quality in the Alpine Auricula.

A fine Alpine Auricula, apparently perfect in every other respect, was passed by the Floral Committee of the Royal Horticultural Society at its last meeting, because, so it was stated by the one or two experts who have seats upon that body, the pistil was just visible above the anthers. The latter filled up the tube—they were not below the level of its opening, but were all that could be desired. Still, the pistil protruded just above them, but to such a limited extent as to be visible only to any one looking attentively at the flower, because so small and unobtrusive. But its presence sealed the fate of the variety as far as its chances of obtaining an award on that occasion. I may say further of this particular flower that the pip was large, of perfect shape, very smooth, laying itself out symmetrically and flat, without the necessity for anything in the way of dressing; that the ground colour was dark plum, shading to mauve; that it belonged to the creamy-white centred section, of which there are but very few good varieties, and therefore deserved consideration on that ground. But nothing, no properties however distinctly prominent and pronounced, availed against the defects of the pin eye, and it was passed. I was all the more astonished because of late years awards have been made to a good number of Alpine Auriculas in which the pistil was seen surrounded by the anthers, and possessing the further serious defect of a jagged edge, or with the segments distinctly notched. So much then for the preamble of their statement.

A little discussion upon the points of quality in an Alpine Auricula may prove advantageous just now, at the time the Auricula Shows are being held. I have never to my knowledge seen them distinctly put forth, and it is desirable some attempt be made to give clear and distinct expression to them. As a matter of course it is necessary in laying down the properties of all Alpine Auriculas to estimate them from an exhibitor's point of view. In doing so it is necessary also to state that the Alpine Auricula for exhibition purposes is divided into two sections—golden centres and white and cream centres. In all the white centred flowers the centre is almost invariably the weakest point, and it is subject to three defects, viz:—it is not pure, and therefore liable to change in certain stages of the development of the bloom. It becomes pallid and actually dies before the marginal colour fades, and it is occasionally too narrow in width when compared in breadth with the marginal colour. Let any fancier of the Alpine Auricula closely scan the white centred flowers that will be staged in the Drill Hall, Westminster, on Tuesday next, and the defects just mentioned will be more or less apparant. One main fault of the cream-coloured flowers is that the tint is not uniform; while the centre may be of a bright cream in a young pip, in a more developed one it will approach to a white, which is an aspect of confusion. Mr. Gorton's Diadem is a case in point, and so in regard to the cream centred flowers. As in that of the white centres, it is highly important the colour of the ground be uniform, and in matured pips as in young ones. It is also important that the centre be flat, and not convex, as in the case of some varieties; it should be perfectly smooth, and, as a matter of course, quite destitute of meal, as this is the one supreme characteristic which differentiates the Alpine from the edged and self show varieties.

What proportion should the width of the centre bear to the marginal colours? I use the term colours because the traditional Alpine Auricula as an exhibition flower should have a shaded margin. In the North the unshaded margin is clearly regarded as a defect if not a disqualification, and herein lies also a marked point of difference between the alpine and the show self Auricula. In the case of the latter it is essential the margin be uniformally of one tint; in the case of the Alpine, a darker ground colour should shade to a lighter one on the circumference of the pip. I think that if the diameter of the zone of colour forming the centre, whether white, cream, yellow, or gold, be of the same width as the marginal colour it is too obtrusive, and therefore, I think a better proportion would be a little over one-third in the diameter of the centre, and a little under two-thirds in the diameter of the margin. To reach something like a proper conclusion I placed a few named Alpine Auriculas side by side for the purposes of comparison, and drew my conclusions therefrom. This is a matter fairly open to discussion, and I hope it will be well considered by growers.

I think the deeper the yellow or gold in the centre the more effective is the flower generally, and especially so where any tint approaching crimson is present in the marginal colour. Gold appears to me to supply the best contrast all round.

As a matter of course, a stiff, erect truss-stem is important, and whether a support be employed or not, it is a matter of moment. Some Alpine Auriculas otherwise perfect, have the pedicels or footstalks of the flowers too long, with the result that the truss becomes irregular in appearance, and its symmetry spoilt. This a matter of importance from the exhibitors' point of view, because effectiveness counts for something in a collection of plants.

Taking the items of quality in their order, I am disposed to place highest, first, a circular margin, without a trace of indentation; second, smoothness and flatness in the pip; third, the thrum eye; fourth, uniformity and durability in the colour composing the centre; fifth, relative proportion in the diameter of the zones of colour, and sixth, symmetry in the truss of bloom. What do others say?—*R. D.*

MR. E. S. DODWELL.

That advantage be taken of the celebration of the golden wedding of Mr. and Mrs. E. S. Dodwell, to present them with some token of regard and reverence from their numerous circle of admirers and friends, is eminently proper and appropriate. In doing so honour is paid to the head of the family, who through a long series of years has ever attracted to himself the confidence and regard of the great body of florists, and particularly of those who appreciate and cultivate the Carnation. A tribute is also paid to the father of the Carnation world who for more than half a century has been associated with the development of this popular flower, and has more than any other living man led the Carnation on from stage to stage of improvements; raising it to higher levels of excellence, extending and popularising its types, and drawing to it a large number who interested in its characteristics and culture have made it equal with the Rose in the estimation of the flower-loving public.

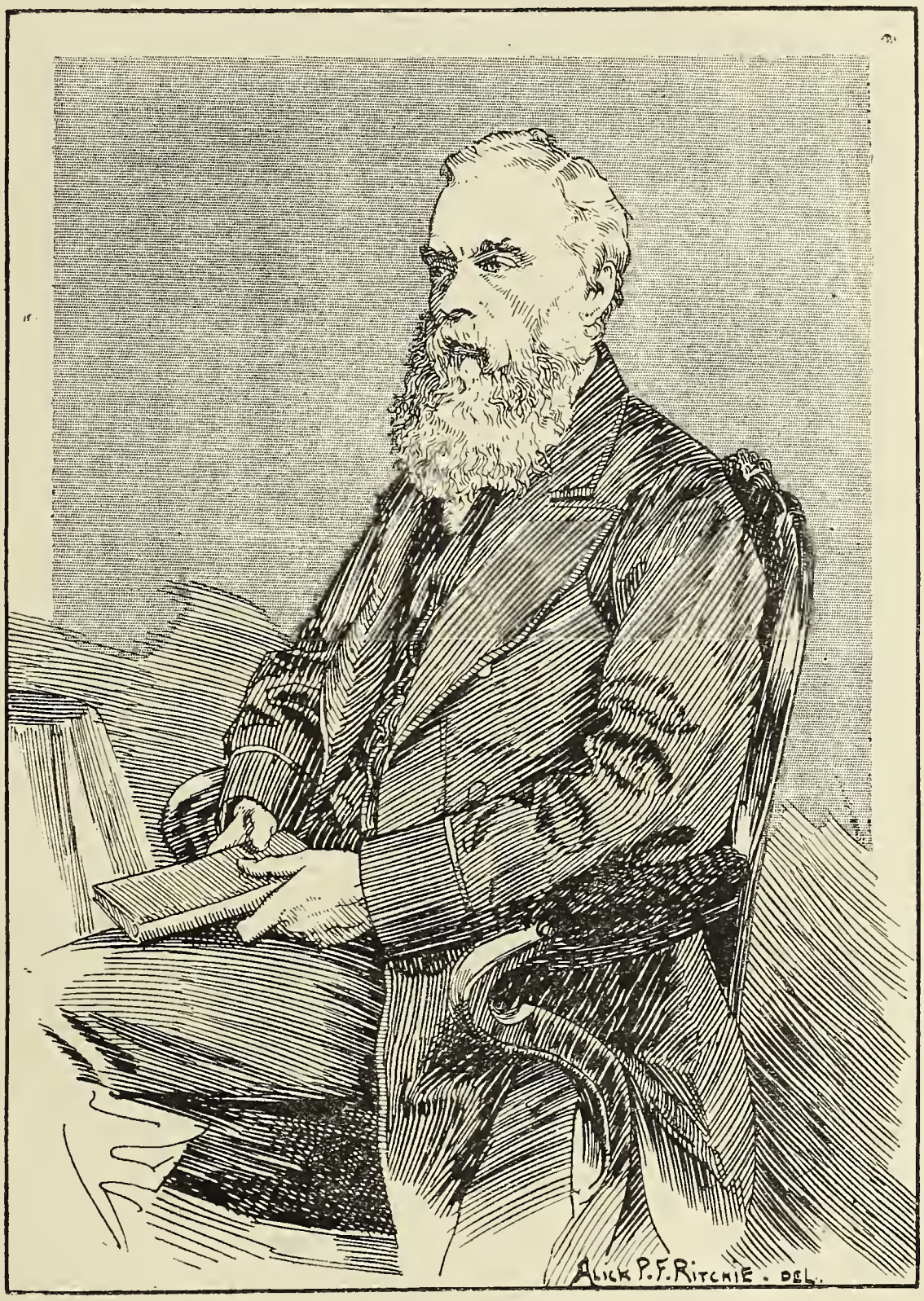
To have been associated — and successfully and honourably associated — with the development of a particular flower for half a century, is an occurrence as unusual as it is remarkable. We can, by means of early pictorial representations of the Carnation, imagine what it was like when our dear old friend

first took it in hand: small, ill-formed, spare of petals, thin of substance, impure, imperfectly marked and with fimbriated petals. From such crude materials has there been evolved in course of years types of such beauty and high quality that something akin to miraculous agency might be imagined to have happened by those who do not correctly estimate the possibilities of floral development, and that to which our old friend has attained to day is only a prophecy and foretaste of what is stored up for realisation by another generation. We inherit to-day a type of flower far beyond the most sanguine ideal imagined half a century ago, and as advance is made towards the ideal, there is the promise of even greater possibilities to be attained in the years to come.

At Derby, later in point of time in London, and now at Oxford—let us hope for years to come—Mr. Dodwell has grown and improved his favourite flower. Just over forty years ago, at an important floricultural dinner at Nottingham, Mr. E. S. Dodwell was called upon to reply to the toast of his health as the then secretary of the Midland Horticultural and Floricultural Society, and in doing so he laid down the principles upon which and by which he has acted as a florist throughout his career. He accounted for the success he had achieved in the fact that he had "honoured floriculture — that he had rendered to Flora respect, as well as worship." He has with life-long fidelity and constancy respected his vocation, with the result that it has caused him to be respected; and the measure of respect increases in volume as he draws nearer towards the termination of his work. Can any better evidence of this fact be afforded than the throng of admirers and visitors which gathers in the Stanley Road on the occasion of the annual festival of the Oxford Carnation and Picotee Union? The circumstances which some years ago terminated Mr. Dodwell's connection with the London Carnation Society, though regretted at the time, proved to be of great good, for out of them arose the prosperous Oxford Carnation and Picotee Union, and later in point of time another equally successful organization —the Midland Carnation and Picotee Society—and both of these have acted and re-acted upon the southern society, and made it stronger and more successful. Had a paper from the pen of Mr. E. S. Dodwell appeared in the recently-issued "Carnation Manual" of the National Carnation and Picotee Society, little else could be desired in relation to this work.

As the author of "The Carnation," Mr. Dodwell has furnished to the devotees of the flower a work of the highest importance. It deals with the Carnation from a somewhat unique point of view, and yet the novice can find in it simple cultural details suited to his requirements. A recent edition of this work is valuable as setting forth the development of the popular modern yellow ground, increasing our knowledge, and adding zest to the interest it has already so largely inspired.

It has been said by a modern writer that the new commandment that evolution gives to the world, is that every individuality is a trust for the benefit of all. It is a talent, not given to be folded in a napkin and buried in one's personality, but to be restored with usury to the race from which it came. We think in regard to his valuable work in connection with the Carnation, Mr. Dodwell has exemplified the truth conveyed in the quotation just given. All that he has accomplished is the property of the present generation of florists. The world of floriculture is richer for his life and work, and when both ceases there will be the suspension of forces which have gladdened the earth with knowledge, friendship and beauty.



Mr. E. S. Dodwell.

THE ARD-CAIRN NURSERIES.

A correspondent of a Dublin daily paper remarks that flower growing as a profitable Irish industry has not hitherto received the attention it deserves. Of late, however, the subject has attracted notice in the south of Ireland, and the recent visit of Lady Aberdeen has done much towards bringing public attention to bear upon it. Still, nine out of every ten people are ignorant of the importance of the industry, and are totally unaware of its profitable character. "Our climate in the south may have its drawbacks from the tourists' point of view; but it is unexcelled for flower culture in the open air, and rivals even Scilly itself in this respect. In a recent interview with Mr. Dorien-Smith, 'the King of Scilly,' published in the *Pall Mall Gazette*, that gentleman admitted that flowers could be grown equally well in Ireland as in the Scilly Isles. That also is the opinion of Mr. Baylor Hartland, the well-known seed merchant, of Patrick Street, Cork, who has formed his opinion from experience.

"About three years ago Mr. Hartland established a nursery at Ard-Cairn, near the village of Ballintemple, midway between Cork and Blackrock. His object was to see whether our suitable climate could be turned to good account in producing flowers for the London and other markets. The soil is a pure yellow loam resting on limestone, and the experiment has turned out more successfully than even Mr. Hartland, who is an enthusiast, anticipated. In the course of three years he has established the fact beyond yea or nay that flower culture can be made a very profitable industry in the south of Ireland. His experience, therefore, may be considered of interest to the public, and with the view to obtaining them for publication I visited Ard-Cairn to-day, Mar. 27.

"Ard-Cairn is very prettily situated, with a slightly northern aspect, overlooking the valley of the Lee. The gardens cover an area of ten acres, and eight of these are under Daffodils and Narcissus, the flowers which have made the fortune of Scilly. Owing to the lateness of the season the blooms are nearly all gone, the earlier sorts, such as Ard Righ, Princeps, Golden Plover, and Countess of Annesley, having been shipped to the markets of England and Scotland. The flowers already sent away from these gardens weighed more than two tons, and they were disposed of at a very fair price. The later varieties are now in full bloom, and the beds of Horsfieldi, the first Daffodil Mr. Hartland fancied some fifteen years ago, form a very pretty prospect indeed. In the eight acres there are about two million bulbs, and as the market at present stands these are value for about £5,000.

"Of the climate Mr. Hartland speaks enthusiastically. For the cultivation of Daffodils and Narcisscus it is the finest in the world, he says. After the climate, the next question of importance is the market and the facility for transit. Mr. Hartland is quite satisfied on these points. He can send all his flowers, packed in flat baskets, by the mid-day mail from Cork via Dublin and Holyhead, and they are on sale at Covent Garden and other centres at nine o'clock on the following morning. He speaks highly of the facilities offered by the Great Southern and Western Railway, both in the way of cheap rates and rapid transit. Mr. Hartland finds that, as a rule, he can beat the Scilly Islanders in the matter of quick transit to London. From Cork the time is only eighteen hours, while from the Scilly Islands it is sometimes two days.

"It is not by the profitable sale of blooms alone

that Mr. Hartland makes his gardens pay. He carries on a large trade in bulbs, which he sends to all parts of the world, chiefly to America. Germany, Australia, New Zealand, and even Japan. In America particularly there is a great demand for bulbs, and a New York merchant has just purchased a plot of 20,000 from Mr. Hartland. These will be sent packed in barrels to the States, and the commodity is one that is admitted duty free. For the production of blooms for the market and of varieties suitable for early forcing Mr. Hartland has of Ard-Righ, or Irish King, 150,000; Princeps, 100,000, and Countess of Annesley, 30,000."

THE GHENT QUINQUENNIAL.

Once more have horticulturists from all parts of Europe met in the ancient capital of West Flanders, in honour of the Royal Society of Agriculture and Botany of Ghent; once again has that Society made a display in every way worthy of the marvellous horticultural resources of the country, and once again also have our Ghent friends been prodigal in their hospitality and unbounded in the warmth of the reception which they accorded to their foreign visitors. The thirteenth quinquennial has indeed been a grand success in all but one important particular. The exhibition is more extensive than heretofore, in many respects more completely representative in character, and generally may be said to display up to date the special classes of subjects for which the Belgian nurserymen are world-wide famous. Would that we could say the great effort of our friends is likely to be as successful financially as heretofore; but that cannot be, so much has the attendance of the paying public been influenced by the labour troubles and political excitement which has unfortunately prevailed in Belgium during the week.

At all the previous quinquennials at which it has been our privilege to be present the principal pictorial display was made in the large hall of the Casino, and who does not remember the noble groves of Palms and other tropical fine foliaged plants, and the magnificent central oval bed of Indian Azaleas, so long the familiar *pieces de resistance?* But on this occasion the old scene of so many triumphs has a powerful rival in a large annexe which takes the form of the letter T, which Mr. Edward Pynaert has laid out with rare skill in a gardenesque style, and wherein are located an immense array of gorgeous Indian and Ghent Azaleas, Rhododendrons and other showy flowering plants, most artistically relieved from any formality of outline or undue glare of colour by the use of handsome Palms and other fine foliaged plants, to which we will refer presently. The best Azaleas are decidedly to be seen in the annexe, but the central bed in the large hall is again, as on many previous occasions, given up to large specimens, which are showing the effects of age and are by no means so fine as we have seen them. Patches of brilliant colour are provided in other parts of the hall by large groups of Anthuriums, which are shown in greater numbers than we remember to have seen before, but, although including a great many seedlings, there is nothing strikingly novel among them.

The groups of Palms in the various competitions are, needless to say, both numerous and strikingly imposing, and many a handsome specimen is to be seen in the prize collections shown by the brothers De Smet, Mr. de Ghellinck de Walle, Mr. Arthur De Smet, Mr. K. J. Ruyk, who has lately taken over the business so long associated with the name of Mr. Aug. van Geert, and others. The brothers De Smet have also a magnificent group of specimen Cycads, tall plants, in perfect foliage. Mr. Em. De Cock has also a group of eight superb Kentias, and near them is a noble plant not often seen, the Geissois racemosa, of New Caledonia, whose handsome bold, lustrous foliage renders it a strikingly handsome object. Dracænas and Crotons are not shown so grandly as we have seen them here, and do not appear to be receiving so much attention as they have done.

The display of Orchids is the most remarkable for extent and quality that has been seen in Ghent, and very beautifully are most of them disposed in the concert and reception rooms upstairs. In the large central room the centre is occupied by a large circular table which contains groups of one hundred plants each from the famous private collections of Mr. Jules Hye-Leyson, and Mr. G. Warocqué. Both are worthy of the highest praise, but Mr. Hye-Leyson rightly takes the Gold Medal given by the King of the Belgians, Mr. Warocqué taking a Gold Medal also, but of lesser value. Very choice in the former's contribution were a very deeply coloured form of Cochlioda Noetzlianum, the rare Phajus Cooksoni, Cypripedium tesselatum porphyreum, C. Lawrenceanum Hyeanum, and C. Laurebel Hyeanum, from the same cross as Sir Trevor Lawrence's plant but of a darker colour. We noted specially among Mr. Warocqué's plants the scarce Odontoglossum citrosmum album and a beautifully spotted O. Pescatorei. Mr. Edward Pynaert takes the Gold Medal for a collection of Cypripediums with a very good group, all good species or forms, and including C. Sanderiana with three fine flowers, C. Chamberlainianum, and C. Burberryanum, etc. Mr. C. Vuylsteke and Mr. A. A. Peeters have each collections of very choice Odontoglossums; and in other classes Mr. G. Vincke, Messrs. Vervaet & Co., and Messrs. Pitcher & Manda, Hextable, also secure awards with interesting contributions. Of hardy Orchids Mr. C. G. van Tubergen, of Haarlem, has an exceedingly pretty little collection.

The new plant classes introduced us to nothing of a specially striking character, illustrating only the fact that really meritorious new plants are as scarce in Belgium as they are at home. The centre of interest in this department was, of course, the battle-royal between Mr. F. Sander, of St. Albans, and Messrs. Linden, of Brussels, which resulted in the victory of the former. The competition was for six new plants not in commerce and introduced by the exhibitor, but most of the subjects have been seen and described before. Mr. Sander had Strobilanthes Dyeriana, Alsophila atrovirens, Alocasia Watsoniana, Ludovia crenifolia, Dracæna Godseffiana, and Dracæna Sanderiana, the latter being in our opinion the best commercial plant of the set, and in a small state will make a valuable decorative plant. It has narrow lanceolate green leaves margined with silver-grey, and is decidedly attractive. The Messrs. Linden had in their group the most distinct and beautiful new Orchid in the exhibition in Eulophiella Elisebethæ, the striking wax-like and prettily-coloured flowers of which will render it a special favourite with Orchid growers. The other plants in the group were Tradescantia Reginæ, Stenandrium Lindeni, Hæmanthus Lindeni, salmon-red, and very good, Smilax argyrea, and Tradescantia superba. In other classes for new plants Mr. Ed. Pynaert, Messrs. Jacob, Makoy & Co., Liège, Mr. L. De Smet, Mr. C. G. van Tubergen, all secure premier awards; and among a large number of Amaryllises staged none claimed more attention or gained greater admiration than a superb collection from Messrs. James Veitch & Sons, which were deservedly awarded a Gold Medal, though not entered for competition. The Azalea classes as regards new varieties call for no special comment, but the collections of Hyacinths from Holland, for so late a period, were especially fine, notably so the groups from Messrs. Krelage & Co., of Haarlem, and Messrs. Byvoet, whose King of the Yellows were superb, showing that to get this fine variety at its best it must not be forced.

In the very fine annexe previously mentioned a row of large handsome Palms and other plants runs round the entire structure and gives the building a light and elegant appearance. In the corners of the main part of the building are large collections of forced hardy Rhododendrons in grand bloom from Mr. Ed. Pynaert and Mr. E. DeCock, and in the centre of the extreme end of the building the Count de Kerchove de Denterghem has a group of thirty superb Azaleas the plants ranging from 4 ft. to 5 ft. over, and magnificently bloomed. Smaller half specimen Azaleas are shown in hundreds, and in bold blocks of colours well set off with elegant Palms towering above them. Other striking features are the gloriously coloured Ghent Azaleas of Mr. Ed. Pynaert. A pretty lot of hardy and semi-hardy bulbous and tuberous rooted plants from Mr. van Tubergen; the gigantic specimen Palms of Mr. K. J. Kuyk, notably a splendid example of Kentia Fosteriana; fine masses of ordinary Clivias from various sources; the Ghent Azaleas from the Brothers De Smet; and a singularly interesting group of Araucarias from Messrs. Jacob H. Makoy & Co., which includes some ten distinct species and varieties. The Indian Azaleas of Mr. Ad. D'Haene, the Ghent Azaleas and white flowered greenhouse Rhododendrons of Mr. Arthur De Smet; and the smaller Indian Azaleas of Mr. J. Vervaene, all claim a word of high commendation; and particularly so does a collection of half standard Oranges, Citrus sinensis, from Mr. Alexis Dalliere, the neatest grown and best fruited set of plants we have ever seen.

In the grounds the standard and Pyramidal Bays are very fine, as also are the groups of Conifers, Skimmias, and Kalmias, the latter especially being magnificently bloomed. There is also an extensive exhibit of greenhouses &c., but generally of poor construction. Here in a span-roofed structure are placed the contributions of several exhibitors, including those of Messrs. William Cutbush & Son, of Highgate, who have a pretty lot of small New Holland plants, Heaths and Epacrises, and also examples of their fine strain of Mignonette.

THE BATTLE OF LIFE.

This heading might apply to human life or to that of the lower animals; but its applicability to plant life is equally pertinent. Nature everywhere appears in a state of continual discord and strife when closely scrutinised by the eye of an intelligent observer. Even the songs of birds, which are usually regarded as tokens of joy, may be a challange to combat or the war song of the victorious jubilant over the defeat or the slaughter of an enemy of their own species, just as often as the song of affection when serenading a mate. In the meadow where grass, flowers and weeds seem to grow in harmony and perfect concord, every inch of ground may be keenly contested and a hand to hand struggle for existence going on. No eye can see the changes that are taking place, no ear can detect a tumult or noise of any kind save for the animal inhabitants, the wind or other natural causes; yet the struggle is not less real nor less deadly. Mayhap in an old pasture the plant inhabitants may appear to have settled down in a state of equilibrium, neither encroaching upon the other; but even that apparent equilibrium may only be a modified one, because when one species may have ceased to oust another one, the members of a species compete with one another for the necessary food and the space in which to grow. When foreign plants get introduced amongst old inhabitants, and the conditions are highly suitable to them, it often happens that they more or less completely exterminate the natives and appropriate the soil to themselves, as in the case of the Thistle in Australia, the Cardoon in South America, or the Opuntia at the Cape.

The battle of life in the garden more directly concerns us, and to that I shall devote the remainder of this paper. When ground for a garden has been fenced off or even walled round, the gardener must not suppose that because certain of the larger enemies are excluded that the plants will have it all their own way. On the contrary, when he has fenced his garden and planted it, he has only made a paradise in which his plants indoors and outside may be afflicted with a hundred and one pests and plagues. Where nature is left to manage the plants in her own way, she does so to perfection, the naturalist would say; but in the case of cultivated plants it is rarely the case that her aim or object coincides with the views or requirements of man. The latter desires to make two blades of grass grow where only one grew before, or he desires larger and sweeter Apples, and a greater quantity of them than grew on the Wild Crab, while his hearting Cabbages, Cauliflowers, Broccoli, Carrots, Parsnips, and many other vegetables are merely monstrosities in the eyes of nature, just as all his double flowers are, and which if left to take care of themselves for a year or two would either revert to the type or die out completely. Man has therefore taken all these things under his special care and for his own purposes, and must therefore take the responsibility for their safe keeping. In all this he may be selfish, but such is the case.

Thanks to the teachings of science we are not now so superstitious, when our crops get destroyed with insect pests, or Potatos get destroyed with the Potato murrain, or Turnips and Cabbages get finger-and-toe, as to believe that all these evils are merely sent to plague us because of our wickedness, our selfishness or some other imaginary offence. All are due to natural causes, many of which are perfectly within our control, while others are less so although we know the cause perfectly. Some plants die without our being able to assign a cause, but the list is

getting smaller every year as science progresses. I shall now proceed to enumerate some of the evils or difficulties with which cultivated plants have to contend.

NEGLECT.

This may be wilful or not on the part of the gardener; and in the former case my advise is, that if a plant is worth growing at all, it is worth growing well; and if not then throw it away is it because not only, an eyesore in itself but a disgrace to the rest of the establishment. Yet how few gardeners have the courage to do it! There are gardeners and gardeners, however, and some of them are not sufficiently in love with their plants or their profession, and plants lose by it in many ways. Who has not frequently seen Cabbages, Cauliflowers and others of the tribe struggling for existence in the seed beds when timely thinning and timely transplanting would have enabled them to get half grown in the same time? This applies even more forcibly to annuals which are sown directly in the positions where they are to bloom. An old custom was to mix the seeds of several species together and sow them in lines for effect. The seedlings generally came up densely crowded, with ten to thirty plants in the space that should have been allotted to a single individual. The result of this, as might be expected, was that the stronger growing kinds killed the weaker ones partly or wholly. Seeds are often sown thickly in the belief that many of them are bad; but this should not prevent their being thinned, and in fact is no excuse for the gardener's inattention at the proper time. Weeds are often better adapted to succeed on any given piece of ground and if allowed to grow would soon appropriate every inch of space to themselves, destroying the cultivated plants to their own advantage. This is battle to the hilt, or nature *versus* culture, which it is the cultivator's duty to prevent.

Starvation is another enemy to plant life, and takes many forms. The want of water is one of them, and when this takes place in the open air to any serious extent the cultivator may be unable to cope with the difficulty; but even here much can be done to prevent it by prevision and carefulness. An inadequate supply of water to pot plants can more directly be laid to his charge. How, when, and why water should be given and the necessary amount are things to be learned by constant practice and unremitting attention. They cannot be acquired in a day from any single plant or class of plants, but the requirements of the hundreds of plants now in cultivation may exact the closest observation of a man for a lifetime. Hundreds of plants are killed by too much water or too little. Plants may be starved for want of potting at the proper time, and if they do not die outright, they may be ruined for life. Calceolarias, Cinerarias, annuals of various kinds and many other soft-wooded and fast-growing plants run up with a single, unbranched stem, finally producing a few comparatively worthless flowers. Timely potting and repotting would (all other conditions being equal) have produced handsome prize-taking specimens. Many hard-wooded and bulbous plants, on the contrary, would have given the desired results by being fed with liquid manure or some other stimulant in the shape of a more or less concentrated plant food, when it happens that the pots are crowded with roots. On the other hand, Hippeastrums and Eucharis do not flower well until the pots get more or less densely crowded with fleshy roots in a relatively small quantity of soil. By crowding in the early stages and neglect to repot at the proper time such things as Chinese Primulas, the foliage presents a yellow and starved appearance later on, and herbaceous Calceolarias get leggy and worthless.

Another picture of neglect might be drawn in the case of fruit trees in the orchard or garden, not old nor young, but just at what we might term the fruitful middle-age of their life, or should be. How often do we hear complaints of the trees being fruitless, scraggy, lichen-covered, and ill-favoured generally, without any real attempt being made to ascertain what is the matter with them, or to remedy the evil. If the ground is wet and boggy it wants draining, and the renewed vigour of the trees will throw off the old hide-bound bark together with the lichens upon them, without any special application being given to remove the same. When the land lies low and does not permit of an outlet for the drains the soil should be elevated in mounds or ridges and the trees planted thereon. I have, however, seen trees planted on such land, and the soil raised in mounds over the roots. This is the misapplication of a scientific principle making the original evil doubly mischievous. More often, however, the trees are starving for want of food on a poor, worn-out soil, and, notwithstanding the removal of plant food in the form of fruit, year after year the idea of supplying the deficit is seldom conceived, and more rarely acted upon. The trees complain in silence, and their owners do so aloud instead of helping themselves by helping the trees. The wood of Apple, Pear and Cherry trees removes large quantities of potash and lime, more particularly of the latter from the soil, but the quantity of potash and phosphoric acid removed by the fruits is nearly three times as great, and, seeing that this is wholly carried away from the land, the deficit cannot be otherwise than serious in many cases, especially in poor land. Lime is, moreover, a valuable constituent, but gardeners would do well to know when. It is safer and most beneficial to apply it in the form of chalk or old mortar rubble than as quick lime. The latter soon destroys all the vegetable matter in poor soil.

MISTAKEN KINDNESS.

The various forms taken by the enemies of plant life is marvellous when one comes to think of it. Well-meant but mistaken kindness is difficult to combat, because difficult to discern. When the care of plants is undertaken by man, but especially when grown under glass, they are placed under conditions which do not prevail in a state of nature, consequently there must be a compensation in other ways. The amount of ventilation that should be given to hot-houses relatively to the temperature, and that again to the amount of light conducive to the well-being of vigorous plants in hot-houses, is quite a science in itself, and requires much practical care as well as thoughtful study in order to ensure success. It is highly mischievous to plant life to allow the temperature to greatly exceed the maximum required and then to open the ventilators widely in order to lower the temperature. The harm done during the early spring months is greater in proportion to the degree of cold of the outside air. Growth is checked or the tender foliage may even be injured. Sun scorching is an allied evil from the same cause. Ventilation should be increased as the temperature rises in order to prevent rather than reduce excess. Where the heat has to be raised artificially during the day when forcing is being done, it should be accomplished early in the day and in proportion to the amount of light, so as to utilise its influence to the fullest extent possible. A high degree of heat should never accompany a dark or foggy day in winter even when forcing. In severe frost and windy weather it is safer to have the thermometer a degree or two below any given standard than at or above it. Plants are safer during foggy weather in a low temperature than a high one. We can expel the vapour of a fog, but not the poisonous impurities in the atmosphere, otherwise plants in stoves or warm Orchid houses would be safe, whereas they are more liable to suffer than those in a greenhouse. The obstruction of light is an evil we cannot prevent during fog, but when the blinds are drawn down over the roof to exclude frost, they get frozen in position and cannot be removed next day till half the day and its light is gone.

The evil of obstructing the light is seen in many ways, but one or two instances in the case of propagation may be taken. When soft cuttings are newly put in to root a certain amount of shading is beneficial; but it is often carried too far even when a moist atmosphere is secured by close frames and bell glasses. Light is fully as necessary to the well-being of a plant without roots as one having them; yet I have seen batches of hardy plants, and also an extensive batch of Verbena cuttings completely destroyed in one week by perpetual shading night and day. Second trials with judicious shading only during the hottest part of the day were successful, and the experience if dearly bought was eminently valuable.

There is no such thing as mistaken kindness in the misapplication of manures. An amateur in the foolhardy attempt to force his Fuchsias, Pelargoniums, and Hydranges into vigorous growth and fine condition for exhibition purposes, by means of frequent and heavy doses of strong liquid manure, killed the lot. A gardener killed his Chrysanthemums by an overdose of a highly concentrated and readily soluble artificial manure; and no doubt similar instances are numerous, but failures are seldom recorded.—*J. F.*

(To be continued.)

GARDENING MISCELLANY.

PRUNUS PISSARDI.

THERE has been a considerable amount of discussion as to the affinity of this beautiful shrub or small tree since it was introduced and first figured in the *Revue Horticole in* 1881, *p.* 190. There are two examples of it in the garden of the State School of Horticulture and Agriculture at Ghent. They represent the two types introduced by chance by M. A. Chatenay, at Sceau, who received them from M. Pissard, director of the garden of His Majesty the Shah of Persia. One of the trees has pale foliage shaded with brown, while the other has leaves of a beautiful dark red. Both are grown under precisely the same conditions, and the leaves of the pale variety revert to a dark green after a time, but otherwise the two are identical. The fruit of the dark variety is of a rich dark red, but the colour of the fruit of the pale one is not mentioned by the *Bulletin d'Arboriculture*, &c., in its March number, which gives a coloured illustration of a fruiting branch of the tree as we know it in Britain. In an article relating to its history in that periodical, it is named Prunus Cerasifera var Pissardi, or in other words it is considered a variety of the Cherry or Myrobalan Plum, the native country of which is unknown.

ADONIS VERNALIS.

IT is generally acknowledged that Adonis vernalis is one of the prettiest of spring flowers, yet how seldom we see it in gardens. Surely it cannot be on the score that it is difficult to grow, for it is by no means particular as to soil, growing in any moderately friable loam or on the rockery. It is, however, very impatient of disturbance at the roots, more particularly in spring, as it ought to be well rooted before the advent of dry weather. The bright yellow petals are very numerous and would appear golden were it not that the mass of stamens in the centre are several shades darker. The finely cut foliage of this plant is also a feature in its favour. The species is grown in some quantity by Mr. T. S. Ware, at the Hale Farm Nurseries, Tottenham, where a whitish variety, A. v. albida, is also grown. A double variety has also turned up, but although sometimes as perfectly double as Caltha palustris flore pleno it is not constant or not yet fixed, and reverts to a semi-double and single condition.

IRIS ATROPURPUREA.

THE flowers of this species are borne singly, seldom in pairs, on the top of stems about 1 ft. high, and are notable for their rich dark colour, or rather mixture of colours. The leaves are slender, glaucous, and 6 in. to 8 in. long. The falls are of a velvety brownish-purple, with a black blotch on the disc, and the yellow claw is bearded nearly all over with brown-tipped, yellow hairs. The standards are broadly obovate, folded over the centre of the flower, and of a rich brownish-purple, ornamented with numerous darker veins. The stigmas are yellowish and heavily mottled with brown. The species belongs to the Oncocyclus group of Irises which is largely represented in Palestine and the surrounding districts. It has been flowering for some time past in the nursery of Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

NARCISSUS TRIANDRUS CONCOLOR.

THE variability in the size and form of the flowers of this little Daffodil is not the least feature of its beauty and interesting character. Although occasionally grown upon rockwork or planted out in frames, they are certainly seen to best advantage when grown in pots where they may be brought more nearly on a level with the eye. When large quantities are grown the best way probably would be to plant the bulbs in frames so that they might be protected from rain and snow during the winter months, as they are in the nursery of Messrs. Barr

& Son, Long Ditton. Some in bloom at the present time are notable for the great width of the clear yellow crown, which is relatively small. Other flowers have shorter and longer crowns, differing occasionally also in the shade of colour. The segments are if anything a shade or two darker in colour, being bright yellow and reflexed, giving the crown all the advantage of prominence.

APPLE JACQUIN.

THE fruit of this new variety is above the medium size, ovate or conical, smooth, and of a bright yellow, at least at this season of the year. The eye is small, closed, and set in a deep plaited cavity. The stalk is half an inch long, of medium thickness, and set in a narrow, rather deep cavity. The fruit evidently keeps well and in all probability will be most suitable for culinary purposes. It emits a strong and peculiar odour, almost reminding us of some of the Quinces. A First-class Certificate was accorded it by the Fruit and Vegetable Committee of the Royal Horticultural Society on the 11th inst., when shown by Messrs. T. Rivers & Son, Sawbridgeworth.

ANDROSACE CORONOPIFOLIA.

WHILE this belongs to the Primrose family it may be described as an annual or biennial according to treatment. If seeds are sown as soon as ripe, the seedlings form little rosettes by autumn and flower freely the following spring. If sown in spring they would mostly bloom late in the season. The flowers are of medium size compared with those of A. lanuginosa and A. sarmentosa from the Himalayas, but they are very numerous, and being produced in umbels on slender stems they have a very graceful effect. They are pure white with exception of a yellow eye, and are produced in succession from umbels that arise as branches from the base of the primary stem. The spathulate leaves are more or less deeply toothed and arranged in dense rosettes, giving rise to or suggesting the specific name. The plant may be successfully grown either in the open border or in pots. We saw it grown in the latter way recently in the nursery of Messrs. Barr & Son, Long Ditton, who collect the seeds as soon as ripe and sow them immediately for the following spring blooming.

IBERIS SEMPERVIRENS GARREXIANA.

THE common perennial Candytuft is one of the most useful, showy and conspicuous of spring flowers. It grows in almost any position on the level ground and elevated amongst the stones of a rockwork even in positions that are often very dry. It certainly has most effect when elevated so as to hang over the ledges of rockwork, where it is very conspicuous even at a distance. The variety I. s. Garrexiana has much larger and finer flowers, and that which we noted in the nursery of Messrs. Barr & Son, at Long Ditton had as large flowers as the plant we have seen under the name of I. G. superba. The habit of the plant is dwarf and tufted till it gets very old and assumes a trailing aspect particularly on rockwork. It is, however, easily raised from cuttings and the young plants soon make very attractive little tufts covered with bloom in April, and such may be planted in autumn for spring bedding.

PRIMULA DENTICULATA NIVEA.

THE purple and lilac-flowered forms of this Himalayan Primula in various shades are well known in gardens, but the pure white variety is less often seen. We noted it in the nursery of Messrs. Barr & Son, at Long Ditton, where it was grown in a cold frame in company with other Himalayan and European species. It turns up in sowings of seed, but whether it would reproduce itself true is a matter that probably remains to be investigated. The heads of white flowers are pleasing in contrast with those of the more highly coloured types.

AURICULA GOLDEN QUEEN.

THE flowers of this variety are golden yellow with a creamy paste and it comes therefore under the class termed selfs. The leaves are large, obovate, crenate and vigorous. From a florist's point of view it would not be reckoned a first-class flower, but for border decoration the same restrictions do not apply; and it has all the appearance of a vigorous grower with bold flowers. It may be seen in the nursery of Messrs. Barr & Son, at Long Ditton.

ELÆAGNUS LONGIPES.

WHETHER seen in spring or again towards the end of summer when the fruits are ripe, this shrub has always an interesting or even showy appearance. At the present time it is laden with its small creamy white flowers that are paler internally. The leaves fall in the autumn, consequently the flowers receive all due prominence, so that a good sized bush is a handsome object even at a distance when isolated from other plants so that it can be seen. The berried fruits are about the size of a small cherry and orange red, dotted with rusty scales. They are mild and sweet with a slightly astringent taste, and edible; hence the plant is often called E. edulis which is considered a more appropriate name. The plant is now a mass of bloom in the nursery of Mr. T. S. Ware, at Tottenham, and is therefore a suitable associate for spring flowers of a herbaceous kind. It is a native of Japan and perfectly hardy.

NARCISSUS TRIANDRUS PULCHELLUS.

THE numerous flowers of this variety, when it is grown strong, serve to give the plant superiority over the type which has white flowers. In this case the reflexed segments are clear yellow and the short wide corona is of the palest lemon colour. Each stem bears four to six drooping flowers, hence the name Angels' Tears sometimes applied to the species. The flower stems varies from 6 in. to 12 in. high as a rule, but this stature is even exceeded in an unheated house in the Hale Farm Nurseries, Tottenham, where the bulbs are planted out in the sandy soil of a bed. In the open air the plants are altogether dwarfer.

ORCHID NOTES AND GLEANINGS.

Orchids from Broomfield.

A BOX has reached us from Mr. Wells, Broomfield, Sale, containing a charming lot of Orchid flowers in season. Dendrobiums and Odontoglossums were most in evidence, and were bright and rich in colour. A few others might also be noted, including a twin flowered scape of the scarlet Sophronites grandiflora, a raceme of the fragrant Angræcum Sanderianum, a massive looking flower of Maxillaria Sanderiana, and two well coloured blooms of Trichopilia crispa marginata, with white edges to the sepals. Richly coloured were the flowers of Dendrobium nobile nobilius, and the blooms of the Broomfield variety of D. nobile, although not very dark, were of large size, well formed, and of wonderful texture. Accompanying them were some flowers of D. Ainsworthii roseum. Two varieties of D. Wardianum were conspicuous for the size of their flowers; but we were most taken with the form with dark purple tips to the segments, while the other was really good. Two distinct and richly coloured forms of Odontoglossum triumphans were notable for the elongated character of the lip, while the ground colour and the tips of the segments in one case were of a deep golden yellow, almost orange. O. Rossii majus was also in good form, particularly the variety roseum. O. Hallii was very dark and of good texture. O. Rossii Humeanum had been fine, but was past its best. Of two varieties of O. Andersonianum, one was notable for the breadth of the petals and lip, and the size of the flower generally. The spotting of Odontoglossum Cervantesii decorum was very pretty, but not so extensive as we have seen it. A flower of Vanda tricolor was also richly blotched.

THE undermentioned Orchids were exhibited at the meeting of the Royal Horticultural Society, on 11th inst., and were accorded Awards of Merit.

Dendrobium Niobe.

THE seed parent of this hybrid was D. tortile, crossed with the pollen of D. nobile—no doubt a fine variety, judging from the rich colour of the progeny of the flowers. The stems are 12 in. to 18 in. long, stout and subcompressed like those of D. tortile. The sepals are oblong, the petals much broader and oblong-oval, and all are of a deep purple. The lip is white with a rich crimson blotch in the throat and a purple tip. The flowers are long and borne on purple pedicels. The hybrid was exhibited by Messrs. J. Veitch & Sons, Chelsea.

Cattleya guatemalensis.

THIS was originally figured in the *Floral Magazine*, *I*, *t*. 61, (1861), and is stated since to have disappeared from cultivation. It is supposed to be a natural hybrid, and as it was found on the stem of a tree in company with Cattleya Skinneri and Epidendrum aurantiacum, those species were considered its parents. The sepals are oblong revolute at the tips and of a coppery bronze. The petals are much broader, elliptic and rose, shaded with orange along the centre. The lip when spread open is rhomboid with round and short side lobes; the lamina is rich purple, shaded with orange at the tips, while the tube is pale orange externally and orange yellow internally, closely striped with crimson red. The column is very small. Three flowers on a scape were exhibited by the Rt. Hon. Joseph Chamberlain (gardener Mr. H. A. Burberry), Highbury, Birmingham.

Cyrtopodium punctatum splendens.

THE stems of this Orchid attain a height of 2 ft. to 3 ft. or more, with long arching leaves. The flower stems and the young growth are contemporaneous and collateral, both arising from the base of the old stems. The bracts are large and yellow, transversely barred with brownish purple. The sepals are oblong, yellow, shaded with green, and blotched with deep reddish brown. The petals are obovate and bright yellow. The lateral lobes of the lip are obovate and coppery crimson, while the terminal one is transversely oblong, emarginate, corrugated at the edge, and coppery crimson with a central yellow blotch. The crest is also yellow. Three large plants with a profusion of flowers, were shown by Mr. G. Wythes, gardener to the Duke of Northumberland, Syon House, Brentford.

Odontoglossum crispum Ruckerianum Crawshay's var.

MANY of the forms of O. Ruckerianum far exce those of the originally named type in the beauty of their flowers. That under notice turned up in the importation made by Messrs. Fred. Horsman & Co., in 1891. The sepals are lanceolate, undulate, white suffused with rose, and having two very large reddish-brown blotches. The petals are similar in form and colour, but finely toothed at the edges, and the blotches are smaller, rounder and more numerous. The lip has a triangular base, from whence it is gradually narrowed to the top, and is white with a reddish-brown blotch in front of the crest, and bright yellow at the base. This handsome variety was exhibited by De B. Crawshay, Esq., (gardener, Mr. Sidney Cooke), Rosefield, Sevenoaks.

WHAT TO DO IN THE GARDEN.

Cycads.—The best known species, namely Cycas revoluta succeeds very well in the atmosphere of a greenhouse or conservatory when growth is completed; but when the plants show signs of throwing up fresh growth it will greatly assist them and ensure a finer crown of young leaves by putting them in the stove, than would be the case in a cool, airy house with a dry atmosphere. Heat and moisture also make the leaves of a rich, dark green colour.

Crotons.—As the cuttings which have been put into the propagating pit become properly rooted, they should be gradually inured to the atmosphere of the stove and accustomed to full sunlight, which not only gives them greater constitutional vigour but makes them more highly coloured. The larger of the plants may be repotted into 48-size pots as soon as the pots they are in get filled with roots.

Old plants of Bouvardias.—Old plants where they are intended to be grown on again should be hard cut back, kept rather dry for a time till they commence to break and then shaken out, reducing the ball so as to get them into smaller pots. When warm weather comes, and all danger of frost is over, they may be planted in the open ground in friable soil, fully exposed but sheltered. Here they will make nice growth with a little attention in the matter of stopping and watering, and when lifted and potted up in autumn will give a supply of flowers before the young plants come into bloom.

Solanums.—If not already done no time should be lost in having the plants cut back, in preparation for starting them into fresh growth. Where the pruning has been effected and the plants are starting into growth all that need be done is to water and keep them growing till they may be placed in cold frames to harden before finally planting them in the open for the summer months.

Hardy Cypripediums.—Several of these are well worthy of cultivation in pots for greenhouse or conservatory work, or in any other plant house where they may be kept cool. While pushing up their flower stems they should be lightly sprayed with the syringe once or twice a day. The choice species for this purpose are C. spectabilis, C. macranthum, C. acaule, C. montanum, C. Calceolus, C. pubescens and C. parviflorum.

Hardy Primulas in pots.—Many of these have been in flower for some time past. The cold east winds have been very trying to them, and yet they must have ventilation. The sashes, where they are kept in frames, should be tilted up all along the side contrary to that from which the wind blows so that the wind may not blow directly upon them. Continue to supply them with plenty of water so long as they are making vigorous growth.

Dahlias.—Continue to pot off the young plants as soon as they are rooted, and plunge the pots containing them in the cocoa nut fibre of the propagating bed till they become thoroughly established. Those plants which have now attained some size may be relegated to cold frames as soon as the weather permits.

Gladioli.—If not already accomplished, all the corms, old and young, should be planted out. Small corms planted in good fresh soil will make large ones in the course of the summer, and many of them will flower.

Vines.—Plenty of artificial warmth should be given the earliest house whenever the Grapes commence to colour. By this means a liberal amount of ventilation may be given so as to ensure a free circulation of the air. It is not desirable that the east winds should play upon them to any extent; but if the houses are conveniently and properly sheltered by houses and walls, judicious ventilation should be productive of no material harm. An airy atmosphere will impart flavour to the berries.

Peaches.—The final thinning of both fruit and wood should be given the trees in the earliest house, where the fruit will ripen about the end of next month. The shoots intended for bearing next year should be tied in at full length, while all supernumeraries that would tend to crowd the trees to no purpose should be cut out.

The Orchard House.—There should be no complaints of a bad season for the setting of the fruit this year, as sunshine was plentiful and the atmosphere dry. Some cultivators move their trees out of doors on the approach of fine weather, and leave them there to ripen the fruit. If the position is sheltered and the trees well attended to in the matter of watering success is certain, and the fruits are much more highly coloured, even if they do not ripen so early. Plums succeed better under glass all the season, and ripen better than if placed outside like Apples and Pears.

QUESTIONS AND ANSWERS.

*** *Correspondents are requested, in order to avoid delay to address all communications to* "THE EDITOR," *or* "THE PUBLISHER," *and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed* "*Bambusa, London.*"

NAMES OF PLANTS.—*R. C. Kingston*: Chlorophytum elatum, often grown under various other names. *J. West*: 1, Fritillaria Meleagris; 2, Fritillaria latifolia; 4, Primula rosea; 4, Pyrus Maulei; 5, Cardamine pratensis flore pleno. *A. Fisher*: 1, Amelanchier Botryapium; 2, Elæagnus longiges also called E. edulis; 3, Saxifraga crassifolia cordifolia; 4, Narcissus poeticus ornatus. *W. M. C.*: Kerria japonica flore pleno. *J. Potts*: 1, Amelanchier Botryapium; 2. Alyssum saxatile; 3, Sanguinaria canadensis; 4, Valeriana dioica; 5, Narcissus moschatus tortuosus; 6, Coronilla Emerus.

SPARROWS AND SWEET PEAS.—*A. G.*: The dry weather, the absence of insects and the scarcity of food generally must be held accountable to a great extent for the trouble that sparrows are giving everywhere just now. If you have no wire netting to place over the lines of Sweet Peas, you could adopt the simple expedient of stretching lines of black cotton thread over and along the lines of Peas at a height of two to three inches above the surface of the ground. The sparrows cannot see these threads when hopping over the ground, and when they strike against them take alarm directly; or if they do see the threads they regard them with suspicion and keep at a respectable distance.

PLANTING OUT AZALEA MOLLIS.—*Geo. Ward*: We should have no hesitation in planting out the Azaleas you mention and which have been forced, provided you harden them off thoroughly in the first place. If you retain them in pots till the advent of showery weather, there will then be less danger of the young foliage getting injured by exposure. We understand you intend to leave them in the beds permently; then if planted now the roots would be thoroughly established before winter, and flower fairly well next year in early summer, but even better the year after. If peat is not plentiful mix plenty of leaf soil in a half-decayed state with the natural soil.

WHITE-FLOWERED RANUNCULUS FICARIA.—*Viator*: The white-flowered variety has been grown in gardens for many years, although it is not generally known even amongst the collectors and cultivators of herbaceous plants. When fully expanded under the influence of the sun it is pretty, but more especially by contrast with the yellow one. It is not so rare then as at first sight would seem, but is worth adding to your collection. Another point you might ascertain, namely, whether your plant is really the white variety or only a specimen with the old flowers bleached white, as frequently occurs, especially during cold and dry weather with frosty nights.

WOOD ASHES AND POTATOS.—*Omega*: Wood ashes are rich in potash, and that is one of the most valuable manures you could apply to Potatos. The smaller the twigs that are burned the richer in potash the ashes will be. They also constitute an excellent manure for heavy soils where farmyard manures would be less advisable; but where the soil is light the ashes may be given in addition to the farmyard manure.

MUSHROOMS AMONGST RASPBERRY CANES, ETC.—*Bettys*: The specimens of fungi you send us are those of a species of Coprinus, probably C. comatus, which springs up with great rapidity and often in great quantity upon manure beds and heaps of farmyard manure as well as on ground that has been heavily manured with it. The Mushrooms or Toadstools are sometimes eaten when quite young, but more dangerous when old, and at the best rather suspicious, so that we cannot recommend them without this admonition.

ARTIFICIAL MANURE FOR ORANGES.—*Omega*:—In the way of artificial manures you could not do better than use Thomson's or Standen's manures because they are good all round plant foods. Liquid manure might be given in a weak condition while the plants are making their growth, and even that could be alternated with a light sprinkling of guano. The temperature at which the plants should be kept in winter may range from 45° to 65° according to the state of growth, that is, whether they are resting or growing. Unless you want your plants to be growing and developing flowers and fruit, 50° would be a good minimum night temperature. If the trees carry young fruits which you wish to hurry forward then the night temperature may be gradually raised to 65°, attending them carefully in the matter of water at the root, and in syringing overhead twice a day.

RINGING PEAR AND PLUM TREES.—*Joseph J. Grossie*: The plan of ringing fruit trees is an old and rather a barbarous practice, and we should not adopt it in the case of valuable trees. However, the plan is simply the cutting out of a ring of bark, all round the stem and right in to the wood. This should be done towards the base of the stem and just below the branches. If the ring is not very wide and the trees are vigorous, it would heal over again in the course of two or three years, more or less according to conditions. As to the width of the ring, that varies according to the view of the practitioner. A quarter of an inch to half an inch wide should be quite sufficient; the narrower width would act as a check for a time and might give the desired results for a year or two. We should suspect, however, that the branches of your trees want thinning out to encourage the proper ripening of the wood by exposure to light and air. They may also be starving in a poor soil. If so we should mulch with farmyard manure and water heavily at intervals from the time the trees come into bloom especially in dry weather.

COMMUNICATIONS RECEIVED.—N.S.—S.H.S.—J.T. — T.B. — A.J.B. — F.D.H. — R.D. — R.S. — G.Mc.A.

TRADE CATALOGUES RECEIVED.

J. CHEAL & SONS, Lowfield Nurseries, Crawley, Sussex.—Spring Catalogues of Dahlias Chrysanthemums, Bedding Plants, Phloxes, Violas, &c.

E. H. KRELAGE & SON, Haarlem, Holland — Descriptive list of Bearded Herbaceous Irises.

LONDON SEED TRADE.

April 18th, 1893.

MESSRS. HURST & SON, of 152, Houndsditch, and 39, Seed Market, Mark Lane, report an increasing demand for agricultural seeds. Trefoil and Alsike realise higher figures. Red and White steady. Italian Ryegrass firm. Perennial Ryegrasses cheaper. Mustard and Rape steady.

COVENT GARDEN MARKET.

April 19th, 1893.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Tasmanian Apples per case	5 0	10 0	Melons	each	
Grapes per lb.	2 0	4 0	Strawberries, per lb.	2 0	5 0
Grapes, new, per lb.	4 0	5 6	Pine apples.		
Kent Cobs...100 lb.			—St. Michael's, each	2 6	6 0
Peaches ... per dozen			Apples...per ½ sieve	1 0	3 6
			Plums...per ½ sieve		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Asparagus per buudle	1 6	5 0	Horse Radish, bundle	2 0	4 0
Artichokes Globe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, French, per lb.	1 6	2 0	Mushrooms, p. basket	1 3	2 0
Beet ... per dozen	2 0	3 0	Onions ...per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	5 0	Seakale ...per bkt	1 6	2 0
Celery ...per bundle	2 6		Small salading, punnet	0 4	
Cucumbers ...each	0 4	0 8	Spinach ... per strike	1 6	
Endive, French, doz.	2 6	3 0	Tomatos ... per lb.	1 6	2 0
Herbs ...per bunch	0 2	0 6	Turnips ...per bun.	0 6	

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Anemones, doz. bnch	1 0	3 0	Mignonette... 12 bun.	2 0	4 0
Azalea, doz sprays	0 6	1 0	Narcisse, various, doz. bnchs	2 0	4 0
Arum Lilies, 12 blms.	2 0	4 0	Pelargoniums, 12 sps.	0 9	1 0
Bouvardias, per bun.	0 6	1 0	— scarlet ...12 bchs.	4 0	6 0
Carnations, 12 blooms	2 0	4 0	Primula, double, bun.	0 6	1 0
Chrysanthemum, dz bn	3 0	9 0	Primroses doz. bchs	6 0	1 0
Camellias doz blooms	1 0	2 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Cyclamen doz bloms	0 4	0 6	Roses, yellow, dozen	2 0	4 0
Daffodils, var. dz. bch.	1 6	9 0	— French, per bnch	1 0	4 0
Eucharis ...per doz.	3 0	6 0	— Red ... doz. blms.	1 6	4 0
Eupborbia Jackminafolia, doz. sprays	1 0	4 0	— Saffrano...per doz.	2 0	3 0
Gardenias 12 blooms	1 6	4 0	— Tea ... per dozen	1 0	3 0
Heliotropes, 12 sprays	0 6	0 9	Tuberoses, per doz	1 0	1 6
Hyacinths per box...	1 0	3 0	Tulips, red, per doz.	0 6	0 9
Lilac, White, French, per bunch...	3 0	4 6	— White, per doz. ...	1 0	1 6
Lilium Harrisii, doz. blooms	3 0	4 0	— Yellow, per doz....	1 0	1 6
Lily of the Valley dz. sps.	0 6	1 6	Violets, Parma, French per bunch ..	3 0	4 0
Maidenhair Fern, 12 bs.	6 0	9 0	—Czar, French, bun.	1 6	2 0
Marguerites, 12 bun.	2 0	4 0	Small „ doz. bun.	1 0	1 6
Mimosa (French) p. bb.	1 0	1 6			

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Azaleas... per doz	24 0	42 0	Genesta ...per doz.	9 0	15 0
Cyclamen per doz ...	9 0	18 0	Hyacinths, doz. pots	8 0	12 0
Cyperus ...per doz.	4 0	12 0	Lily of the Valley doz. pots	9 0	18 0
Cineraria ...per doz.	8 0	12 0	Marguerites, per doz.	6 0	12 0
Dracæna term., doz.	24 0	36 0	Palms in variety, each	2 6	10 0
Dracæna viridis, doz.	9 0	18 0	Palms, Specimen ...	15 0	63 0
Deutzia ...per doz.	6 0	9 0	Primula Sinensis per doz.	4 0	6 0
Dielytra ... per doz.	6 0	9 0	Pelargoniums ... doz.	12 0	18 0
Erica, various, doz.	12 0	18 0	— scarlet ...per doz.	12 0	18 0
Evergreens, in var. doz	6 0	24 0	Tulips—various— per doz. pots	8 0	12 0
Ferns, in var., per doz.	4 0	18 0			
Ferns, small, per 100	6 0	10 0			
Foliage Plants, doz.	12 0	60 0			

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FLOWER SHOWS, 1893.

Revised to date.

MAY.

9.—R.H.S., Drill Hall.
11,12.—Crystal Palace Flower Show.
13.—Opening of Gardening and Forestry Exhibition at Earl's Court.
17.—Royal Botanic Society.
18, 19.—Orchid Show at Earl's Court.
19.—Orchid Show at Old Trafford.
24.—Midland Counties Pansy Show at Tamworth.
25,26.—R.H.S., Temple Show.

JUNE.

3.—Leicester and County Pansy Show.
6,20.—R.H.S., Drill Hall.
14,15,16.—York Floral Fete.
20.—National Rose Show at the Drill Hall.
21.—Royal Botanic Society.
28.—Rose Show at Earl's Court.
28.—Richmond (Surrey) Flower Show.
28.—Windsor Rose Show.

JULY.

1.—National Rose Show at the Crystal Palace.
1.—Chingford Flower Show.
4.—Bagshot Rose Show.
4.—Diss Rose Show.
4.—Gloucester Rose Show.
5.—Ealing Flower Show.
5.—Royal Botanic Society Evening Fête.
5, 6.—Lee, Blackheath, and Lewisham Horticultural Society.
6.—Bath Rose and Begonia Show.
6.—Royal Horticultural Society of Ireland.
6.—Farningham Rose Show.
7.—Hitchin Rose Show.
8.—Reigate Rose Show.
10.—Helensburgh Rose Show.

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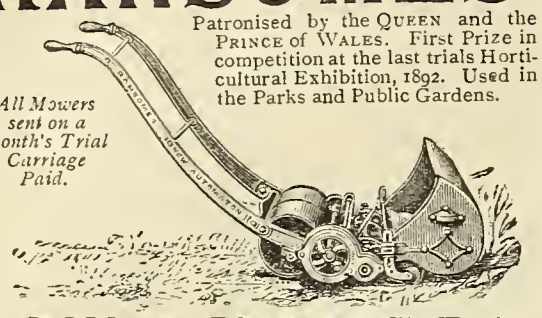

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.
TUESDAY, May 2nd.—Sale of Imported Orchids at Protheroe & Morris' Rooms.
FRIDAY, May 5th.—Sale of Imported Odontoglossum Alexandriæ at Protheroe & Morris' Rooms.

The Gardening World.
Edited by BRIAN WYNNE, F.R.H.S.
SATURDAY, APRIL 29th, 1893.

ADDISON'S GARDEN.—We are indebted to an eminent publishing firm, the Messrs. Hatchard, for a reprint of Addison's short essay on his garden, published in *The Spectator* of 1712. That is to the modern gardener a remote date, and could Addison revisit a good garden now, with its wondrous wealth of flowers in variety and from countries far, far beyond Addison's most sanguine floral dream, he would probably think a reprint of his original essay worthy a second edition and a revised one. Not that for one moment would we quarrel with the delightful essayist in his estimate of garden beauty, or of the flowers which he loved.

But some 170 years is a very long time in the history of gardening, and indeed the past fifty has seen an advance equal probably to all that was accomplished in the previous long period of 300 years. It is difficult for us to realise the comparative poverty of garden flowers in 1712, but the fact that Addison found such beauty in the wild flowers of the woods and hedgerows, which he transplanted to his garden, naturally leads to the inference that exotic garden flowers were scarce. Profound indeed was the enthusiasm which induced Addison to declare that he preferred Blackbirds to Cherries. In this utilitarian age the sentiment—what there is of it—lies rather the other way. As the primary object of a fruit garden is to produce fruit, so are Cherries to be regarded as of more value than birds.

Addison's idea of the formation of a winter garden exclusively out of evergreen trees and shrubs is a pretty one, but all the same he loved to see the putting forth by deciduous things of their spring leafage. Even in this direction alone what wealth, both in leaf and flower, have we added to our hardy trees and shrubs since the days of Addison and *The Spectator*.

THE FROST AND THE BLOOM. — How anxiously do we look for reports as to the general effects of the recent too severe frosts upon the bloom of hardy fruit trees. It may seem an incongruity to dread the effects of spring frosts upon hardy trees, but we have no tree in cultivation, or even wild, which has flowers absolutely frost proof. So far there can be no doubt but that the Apple bloom has been unharmed. It is in its full glory some three weeks earlier than often has been the case, and if it should, in spite of such precocity, yet escape uninjured now, we should have early Apples, very early, and late Apples of great size and very fully developed, as the fruits would have such a long season to develope in.

We are told that the Plum bloom has not materially suffered. That may be, and we hope that it is so, but it is yet early to tell how far the germs of the fruits have been harmed. We had a truly grand fruit bloom, as we had a marvellous bloom on the Blackthorn; but then all the sterner for the short time it lasted was our unvariable Blackthorn winter. However, there should be a good Plum crop all the same.

Pears, because the bloom is so erect, seem to have very much suffered in places, and especially in the Western counties. Perhaps in some others, so erratic is often the action of frosts, no harm has been done. Still we look for the worst results with these fruits. Cherries too have suffered a good deal. A few weeks will show how much the hardy Gooseberry and Currant, too, in low-lying places have been severely handled, but higher up little harm has been done. It would seem everywhere that a low-lying place brought danger, just as a higher elevation brought comparative safety, to most kinds of fruit bloom.

INSECT PESTS.—We now find on every hand so many forms of insecticides and so many diverse methods of applying them, that if all be *bonâ fide* there should be little difficulty in soon fully exterminating all our insect enemies, and ridding vegetation, and especially fruit, of the greatest of troubles. Somehow there arises a rather sceptical doubt as to the virtues or capacities of all these diverse articles to accomplish all ascribed to them, and that belief is supported by the fact that in spite of tens of thousands, literally, of specifics for the physical ills which afflict humanity, such ills seem to be just as plentiful as ever.

We believe there are some persons so sceptical as to have grave doubts whether insects are, after all, so harmful as represented. These of course can have no faith in anything, and may be disregarded. But at least we may not forget that if insects be our bane, hitherto the small birds which many are so fond of destroying, have proved to be the best antidote. It may be that these insect pests have been elevated into a notoriety they do not altogether merit. All the same there is much wisdom in the old adage, prevention is better than cure, and if by making certain applications or using various compounds it be possible to entirely prevent the attacks of the pests, it is in such case very much wiser so to do than to wait until the evil has been done and then strive to cure it.

Of course, all these diverse insecticides and methods of application are very much on their trial even now, for if in a few years it be found that harmful insect life is as abundant as ever, then must the reputations of these compounds suffer appreciably. We have a right to anticipate that in time constant applications of insecticides will reduce insect life. Certainly it is of the first importance, and especially in relation to fruit culture, that such should be the case, as few things serve so much to keep down fruit-growing enterprise as does the fear, which is now very natural, that insect pests may prove too strong antagonists.

JUDGING AURICULAS.—Whilst we are quite content to leave to our readers the dispute concerning the application of heat to the growth of show Auriculas, which has such capable advocates as the Rev. F. D. Horner, premier grower, and Mr. R. Dean, premier critic, we do think that something should be said as to the grave objection taken by the latter to the using of one well-known northern grower, and not infrequently exhibitor, by an official of the Auricula Show as an active helper, and then setting him to judge the very flowers, in company with others, which he has helped to dress and stage.

It is an excellent axiom—one we are sure that Mr. Horner will not dispute the wisdom of—that it is better to avoid not only evil but even the appearance of it. Now if there be one thing more than another which has from time to time raised troubles and disputes in connection with horticulture, it is this very subject of the complete impartiality of judges, and all wise committees have felt that it is better to err on the side of pure impartiality than to seem to favour bias of any kind. What is so generally good all round seems to us to be equally good for the Auricula Society, and to that belief we must adhere, notwithstanding the special pleading of personal friends.

We do not for one moment assume that he is biassed. What we do say is that if competitors in the classes he is called upon to judge feel aggrieved, the practice of making him at once a friendly helper and dresser first of one competitor, and then a judge of the merits of all the other competitors' flowers, stands condemned. Our estimate of the practice comes late. Whatever may be done this year, we hope at least no other cause will be offered to compel further similar reflections.

Epping Forest.—We have already announced that Mr. Frank M'Kenzie, the third son of the late Major M'Kenzie, was a candidate for the appointment of Superintendent of Epping Forest, in succession to his father, since whose death he has performed the duties of the office. Last week Mr. M'Kenzie's application was successful. The new superintendent had assisted his father for the past thirteen years, and for the last two years has held the office of assistant-superintendent.

Allotment Gardening in Cornwall.—Cornwall is just now being pointed to as the county where may be seen the advantage of cutting up large farms into smaller allotments for the cultivation of fruit and vegetables. It is not always that these small allotments are cultivated for the sake of pleasure either, and many an industrious miner, after the toils in the bowels of the earth are over, finds, with his family, his time fully occupied in the garden, with the result that not only does the produce pay the rent but something besides. There are many Strawberry and fruit allotments, and in others nurseries for plant growing and vineries, and Tomato and Cucumber frames are a source of income which maintain many a thrifty family, and all this is constantly going on and being yearly enlarged upon. It is a fact that in Cornwall it pays the landlord better to cut up a farm into allotments than to let it as a whole.

Euphorbia heterophylla.—This sub-shrubby species of Euphorbia was introduced to European gardens from South America in 1806, but has never been extensively cultivated, if at all, outside of botanic gardens in this country. *L'Illustration Horticole* states that it merits a place as an ornamental plant in the greenhouse. The stems are shrubby, and if properly attended to in the matter of pruning in the early part of the year it forms a neat branching bush and flowers in September. The flowers are green, but they are surrounded by bracts of a beautiful carmine. It is all but hardy, if not quite so, in the south of England, but may not flower very freely in the open air.

Primroses and Polyanthuses at Bedfont.—We had an opportunity to see Mr. R. Dean's stock of these lovely spring flowers in glorious bloom the other day. They are indeed beautiful, and also in wonderful quantity. Generally the plants carry large heads of bloom, indeed, it is not until they are some eighteen months old that they show the true nature and wondrous beauty of these hardy flowers. It is the rule to sow seed in the autumn, house the seedling plants in frames all the winter, and then dibble them out into the open ground in the spring. So treated they make really splendid clumps the following year, and masses of several thousands of these present a charming sight. The Bedfont quality is well known. It is of both Primroses and Polyanthuses, unequalled, and the colours are wondrously varied. When it is understood that by sowing seed anyone can soon have these flowers in quantity we expect to see them everywhere.

The Golden Wedding of Mr. and Mrs. Dodwell.—Mr. Dodwell writes: "Will you kindly allow me in your column for personalia, on behalf of my wife and myself, to return our most grateful thanks to our many friends for their congratulations and gracious sympathy on the occasion of our golden wedding. Very devoutly we thank them and thank God for this pleasant sunlight of our evening days, and we hope we shall be permitted to have the joy of personally tendering our thanks to a large company on August 1st (will they kindly note the date), the day appointed for our Annual Carnation Feast, Stanley Road, April 21st, 1893.

Aristolochia gigantea.—A double page and coloured illustration of this huge flowered Aristolochia is given in *L'Illustration Horticole, Pl* 171—172. It is a native of the Guianas and Bolivia, where it has recently been rediscovered by M. Fl. Claes, an old student with a diploma from the School of Horticulture of Ghent, and one of the collectors sent out by L'Horticulture Internationale. It came originally from the provinces of Bahia and Minas Garaes in Brazil. The flowers are of huge demensions, heart-shaped, and measuring 22 in. in length and 18 in. in width. In colour they resemble those of A. gigas Sturtevantii, but are entirely devoid of the long tail characteristic of that species. In order to avoid confusion in the names of the two species it has been suggested that the species under notice should be recognised as A. grandiflora, which is really its proper name by right of priority.

The White Ground Picotee.—I note at page 515, a contributor writes, "The White Ground Picotee of the present day, with its heavy or narrow laced edge, has been refined and brought to its present state of perfection from the old pounced or spotted Picotees within the last twenty years." This is scarcely accurate in point of time. We had attained the refinement and precision of markings in the late forties and earliest fifties—say forty years ago. It is not of much moment, but I know you would like your historical record to be accurate."

Gardener's Royel Benevolent Institution: A New Departure.—On Friday evening last a meeting was held at the Redland Park Hall, Bristol, for the purpose of advocating the claims of the Gardeners' Royal Benevolent Institution. Mr. J. H. Lockley (late High Sheriff for the county), presided, and was supported by T. Walls, Esq. (Town Councillor), Dr. Shaw, E. Webley, Esq., and many others. It was explained that Mr. Harry J. Veitch (treasurer of the society), who had been announced to deliver an address, was unable to be present through pressure of business. The chairman in his opening remarks said Mr. Veitch had shown his sympathy with the society in a practical way, and they had his wishes for a very successful meeting. He pointed out the advantages offered by the society in its provision for old-age pensions. He said he admired the thrifty man who endeavoured to make provision for old age without assistance, although, of course, he knew there were many people who had not really the power to set aside sufficient to procure for them at an advanced stage of life an old-age pension. The Gardeners' Institution stepped in

and did a good work. The sum of £20 a year, at which old-age pensions were fixed, meant 8s. a week; and the majority of societies in Bristol, some of which had been in existence for 150 years, rarely apportioned to a man or woman who had reached the eligible age a larger amount than this. If this society could be induced to open a branch in Bristol and the neighbourhood he felt quite sure of this—that by the gardeners themselves showing they had an interest in the institution, which was established for themselves, there would be no lack of outside interest to help them. Mr. George J. Ingram (secretary), followed with an address on the principles, objects, and needs of the institution, after which it was unanimously resolved, on the notion of T. Walls, Esq., seconded by Dr. Shaw, that an auxilliary of the Gardeners' Royal Benevolent Institution be formed for Bristol, Bath, and neighbourhood, and that J. H. Lockley, Esq., be its president. Messrs. Garraway, Wetley, Parsons, and Vallance also addressed the meeting, and after hearty votes of thanks had been accorded to Mr. George J. Ingram for his address, and to J. H. Lockley, Esq., for presiding, the proceedings terminated. We are pleased to state that Mr. Lockley has intimated his intention to become a life member and an annual subscriber to the funds, and that many other annual subscribers have handed in their names, so that this new branch of the Institution starts under good auspices.

Electrical Potato culture.—In order to test the conclusions of M. Spechnew, a French horticulturist, M. E. Lagrange, has cultivated Potatos in a field divided into three parts, all of the same soil and exposure. One section was cultivated after the manner of Spechnew, the Potatos being planted between plates of zince and copper connected above the soil by wires so as to form earth batteries, with a current through the ground where the Potatos were growing. The second section was cultivated in the ordinary way, without electricity. The third section was provided with small lightning rods thrust into the soil between the Potatos until their ends were on a level with the tubers. The yield of the third section was much better than that of the other two sections, and was obtained fifteen days sooner. The ratio of the crops in the different sections were as 78, 80, and 103. The first section, although poor in roots, gave an exceptionally vigorous foliage.—*Mark Lane Express.*

Fruit Trees along the Waysides.—The administration of public works in France, after much advising and solicitation, at length in May, 1880, invited the surveyors to make trials of fruit trees along the sides of the national highways in twenty-three departments of east and south-east region principally. As stated by the *Bulletin d'Arboriculture*, the Minister of Public Works now gives his evidence as to the value of such plantations. The trials have been conclusive. The fruit trees not only have not always succeeded, where multilated and robbed by marauders, not producing sufficient to be remunerative, but furthermore, by their too dense shade, they have contributed to the deterioration of the roads by maintaining too much humidity. It is necessary that the trees should be grown quite isolated and be kept in proper form so as to avoid excessive shade. The admistration has therefore renounced the generalising of plantations of fruit trees, save in one or two departments (Meuse and Sarthe), where Medlars and Nuts only are admissable.

The Birmingham and District Amateur Gardeners' Association is, we learn, rapidly becoming a strong and popular organisation. During the four months of its existence it has enrolled 120 or more members. In June and July the members have arranged for trips to Kenilworth and vicinity, and to the grounds of a distinguished amateur gardener in the neighbourhood of Tamworth. At a recent meeting Mr. F. T. Poulson, sanitary inspector under the Staffordshire County Council, read a paper on "The Alpine Auricula," than which no plant lends itself better to town culture. Mr. Poulson produced the original type, and several of the finest varieties of the Auricula now in cultivation, illustrating what has been done by careful selection and crossing, to evolve a floral gem from a plain-featured and unpretentious parent. He described the Alpine section as the companions of the poor, and said that many excellent varieties had been reared in the homes of the poorest classes.

Clivia with striped leaves.—In 1889, as stated by *L'Illustration Horticole*, M. F. Collumbien, a Ghent horticulturist, observed that the leaves of one of his Clivias were lightly striated throughout their length with pale yellowish-green upon a dark green ground. The flowers of this plant were of the ordinary or common type, and he fertilised them with the pollen of another flower. The first sowing was made in 1890, and gave three plants better, but still imperfectly, variegated. The same mother plant having flowered in 1891, the flowers were fertilsed with their own pollen, and the seeds sown early in 1892. A more decided variegation soon showed itself, and a dozen young plants at the present time have their leaves variegated throughout their length with yellow and white bands of greater or less width. The variegation has been compared to that of Phormium or New Zealand Flax, and all the plants are healthy and robust, with broader and shorter leaves than those of the mother plant.

HERBACEOUS PLANTS IN FLOWER.

Androsace sarmentosa.—Where the pots or pans containing this interesting Himalayan species have been kept under the protection of a frame during winter, the plants are now in flower. They form dense rosettes of leaves, from amongst which the flower stems arise to the height of three inches or thereby, bearing an umbel of warm rosy purple flowers with a small yellow eye. The specific name of the plant refers to its habit of sending out short stolons or runners producing rosettes of leaves at their ends, which, rooting in the soil, form young plants which may be detached from the old ones.

Dracocephalum grandiflorum.—The flowers of this species are large relatively to the size of the plant, reminding one of Salvia patens at a little distance; but they are of a different shade of blue, apparently somewhat tinted with grey and structurally different. The crumpled leaves are also somewhat hoary and closely set upon the stems, which rise to a height of 6 in. or 8 in. by the time the plant comes into bloom. It is not so common as its merits deserve.

Phlox canadensis.—The habit of this plant is closely similar to that of P. amœna, but it is twice as large in all its parts, except, perhaps, in the flowers. The latter, however, are both distinct, showy, and well worthy of the cultivator's attention. Their bluish-purple colour is of a shade that is seldom seen, except, perhaps, in the genus Phlox, where it may be detected in the garden forms of P. panniculata, P. suffruticosa, also in P. divaricata, and occasionally in P. stolonifera. The leaves of P. canadensis are lanceolate, hairy, and sessile, and the whole plant does not much exceed 9 in in height. It would prove suitable for rockwork or in the ordinary border if the soil is friable and well drained.

Trillium grandiflorum.—Apparently this is the most widely planted species of American Wood Lily in British gardens, although there is still plenty of room for its extension. In half-shady, moist peaty borders it succeeds well in the more southern counties; but it thrives equally well in borders of friable soil in the north, quite independently of peat. It would also be very suitable for planting under the shade of deciduous trees where the ground is naturally tolerably or moderately moist in summer.

Geum chiloense.—Already the flowering season of this plant has commenced, and where there is freedom for continued growth all through the summer, a succession of bloom will be kept up. The warm moist weather of autumn often has the effect of starting it into a second growth, and likewise flowering. The flowers are scarlet, as those cultivators well know who grow it under the name of G. coccineum. There is a double form, which flowers as freely as the single one. The pinnate leaves are similar to those of G. montanum. The true G. coccineum is a European plant, a native of Greece, whereas G. chiloense comes from Chili.

Scilla amœna.—The flowers of this species are similar in colour to those of S. sibirica, but they behave in a different manner. The segments are flat and spread widely, while a greater number of flowers are produced upon a stem. S. sibirica is quite out of season, however, before that under notice comes into bloom, and which forms therefore a natural succession to the early species. There is ample room therefore for both species in gardens, as S. amœna is now at its best.

Saxifraga muscosa atropurpurea.—The bright red flowers of this variety are now beginning to be very attractive where the plant forms a close carpet upon the rockery. Like the type, it is always very dwarf, but owing to its compact habit it does best when allowed to ramble somewhat, or fresh patches may be formed every year, or every second year, either in spring before the plant comes into bloom, or later on when the flowering season is past. As the trailing shoots root freely, all that is necessary is to break up the patches into little tufts, and water till established should the weather prove dry.

Gentiana acaulis.—After all this is evidently the most easily managed of the dwarf-growing species in the dry atmosphere of the southern counties. The clear atmosphere appears to have been favourable to it notwithstanding the dryness of the spring. When once established the best plan evidently is to leave it alone, as it apparently likes the ground about it to be firm, as would naturally be the case in the pastures, where it grows in a wild state. The flowers are also the largest of the dwarf kinds and also of a large proportion of the tall ones.

Helonias bullata.—The heads of rosy-purple flowers of this species are very attractive during the months of April and May. Although the blooms are small individually, they form dense pyramidal masses on stems arising from the centre of an equally dense rosette of leaves. It likes a cool peaty border, and proves perfectly hardy, while it is by no means common.

Arnebia echioides.—Amongst early-flowering Borageworts few are more choice or attractive than this plant with its large, clear yellow flowers and five, quaint, black or maroon spots that disappear gradually as the flowers get old. It is hardy, easily propagated from cuttings, and should have a fairly moist but well-drained, position on the rockery.

THE ROSE GARDEN.

I commenced pruning on March 2nd, but mine is a warm and sheltered position in the south, and, unless under similar circumstances, I would not advise others to begin so soon. I commenced with some Chinas on a wall. These were very early, and are also more hardy in their young growth than many other classes of Rose. They need very little pruning, simply cutting out the weakest wood where it is too abundant, and slightly shortening back the remainder. Roses to bloom early, and be of most service, should not be too double in form, or they are apt to open badly. Thin varieties, like the Chinas, burst quickly, and are not so much affected by the showers usually so prevalent early and late in the season.

The Banksians and hybrid Chinas, like Sir J. Paxton and Charles Lawson, are among our most showy early Roses, and are already somewhat forward in growth upon walls. Like the Chinas, they are very hardy during the cold weather we often experience in spring. Frost does not harm them nearly so much as in the case of early Teas on walls, I know a house where these two varieties have been perfect pictures, year after year. Last season, on June 17th, when we had a very severe frost, these plants were in full growth, and the first of the blooms were expanding; nevertheless, the house was completely clothed in Roses as usual. Gloire de Dijon, Cheshunt Hybrid, and Maréchal Niel, growing upon a more sheltered part of the same house, were much injured.

Although these hybrids of Chinas and Bourbons are strong growers, they do not need the same pruning as other extra vigorous varieties. I find these are best if the whole of the wood be left each summer, and somewhat thinned out at the present time. Under these conditions they will form a large quantity of well-ripened shoots, about 1½ to 2 ft. long, and I prefer this upon these varieties to the more lengthy shoots they would otherwise throw. Pruning of these should now be finished and the young shoots loosely tacked into their place, having previously removed about a third of their length. You can clothe your wall more evenly with young wood of this description than when it consists of a few extra strong growths.

The Banksians, such strong growing Teas and Noisettes as Maréchal Neil, Rêve d'Or, Reine Marie Henriette, &c., on the other hand, do better when grown upon the long-rod system. This is best attained by removing the bulk of the flowering wood as soon as the blooms have been secured. You thus

throw more strength into the summer growth, and afford more light and air towards its better maturation; a very important point in growing this class of Rose. I did not prune these until quite the end of March, and then only removed the points of such long shoots; as, if properly matured during last autumn, they should bloom from almost every eye. In nailing these up, fasten the growths as horizontally as your space will allow, when they will break more uniformly. Very vigorous growers of this class, also make grand specimens as standards. The long growths will droop in a most graceful manner according as the weight of foliage and bloom increases. They are by far the best class to cultivate as standards, as their vigour keeps the standard briar stock in a healthy condition.

It often happens that climbing Roses are somewhat bare at the bottom and leave a considerable amount of wall space uncovered. I would suggest that this be remedied by planting such good growers as Marie van Houtte, Souvenir d'un Ami, Anna Ollivier, and Madame Lambard. These will soon cover the lower portions, and the necessary moving of soil and additional manure needed to plant them will also aid the older Roses to a great extent.

The last four Roses may be taken as a type of strong-growing Teas, and may be pruned in the same manner as Abel Carrière, Mrs. John Laing, Général Jacqueminot, and Alfred Colomb from the hybrid perpetual section. Cutting the strongest shoots back to 9 in. and the weaker ones to 3 in. will be found a fairly good guide. Varieties that grow much weaker than these should be cut back harder.

As regards the most suitable time for pruning Roses in sheltered districts like my own, the bulk of it may be done during March, but I leave the more tender Teas until the second week in April. Let those in the Midlands commence a week later throughout, and the northern rosarians wait an additional week.

When the prunings are collected, I like to lightly fork in the manure that was applied during winter and to mulch with a fresh layer. During the middle of May, when the plants are pushing into growth rapidly, this second layer may be forked in; after this, keep the hoe going, as stirring the surface soil helps them very much.—*Experience.*

ONIONS FOR PROFIT.*

The author of this little book, in his introduction, says that those who desire to make the culture of Onions pay will have to leave old ruts and adjust their methods to fit modern conditions. The writer being a cultivator, and one who has applied old methods to a new purpose on a rather extensive scale, must be held to speak from practical experience on the subject. In a review of soils he says that Onions can be grown, on any soil, from sand up to clay or even manure; but what he terms a sandy muck he would consider an ideal soil if it can be arranged for sub-irrigation. The deep, rich, and well-drained, brown loams of river bottoms, or in other words well-drained and rich alluvial soil, he continues are admirably adapted for Onion culture. Land that has lain for some time in pasture should have a year's preparation with some other crop, such as Potatos, to mellow it. Although Onions can be successfully grown upon the same piece of ground for many years it is advisable to change the location of the crop every year or every two years wherever disease makes its appearance. What he describes as the new method of Onion culture is the raising of seedlings under glass in early spring and planting them out in the field later on. The new method is the application of this principle on a large scale, the advantages of which he describes. Another feature of this Onion culture is the diminution of hand labour by the use of various machines for preparing the ground, weeding, planting, &c. The various kinds of manures that are especially adapted for Onions, irrigation and general cultivation, the harvesting and storage of the crop, as well as many other matters, are treated of in turn. There are fifty-four wood-cut illustrations in the pamphlet or little book. The whole is treated in a practical way, and making allowance for difference in climate, some of the precepts might be adopted in this country, both in private gardens and by Onion growers of a larger scale.

* "Onions for Profit." An Expose of modern methods in Onion Growing, by T. Greiner. Published by W. Atlee Burpee & Co., Philadelphia, 1893.

EARLY GOOSEBERRIES.

Perhaps you will put on record through the medium of your paper that I have this day (April 20, 1893) brought you a handful of Gooseberries, most of them measuring three-quarters of an inch in length by half an inch in breadth, and some of them even larger. They were grown in the open air at Didsbury, and gathered by me this morning. You may gather a quart off the same tree if you care to do so. They are nearly a fortnight earlier than the earliest on record. I find that on April 30, 1871, and 1882, we had Gooseberry pie, the weather being then very warm, but 1893 beats them easily. Is there any connection in these intervals of eleven years between sun-spots and Gooseberries? I can handle the latter, but I know nothing about the former.

In this district old-fashioned Tories and orthodox Churchmen used to consider that Chester Races (held in the first whole week in May) was the proper place and time for the first Gooseberry pie, as Easter, the first great festival of spring, was the proper time for roast lamb and bitter herbs in the guise of mint sauce. It has often happened that even in the most favoured districts of Cheshire near to the sea there were scarcely any Gooseberries fit to gather at race time. This year they will be common enough long before then, for as the trees are in full leaf and heart they can stand frost if it comes. The tree I gathered these from is certainly an exceptional one, for it is about fourteen feet across, and ten feet to the top. It grows in an exceptional spot at the bottom of the churchyard wall, and that may account for the large size and delicious flavour of the fruit.

This very fine weather is doing more good for the country than most people imagine. Calves and lambs have done rarely. We have not lost a chicken from natural death. We had twenty-two ducklings hatched this morning from twenty-two eggs. There are more goslings than we have had for years. Old deeds relating to land at Didsbury contained a clause reciting that geese were subject to "tithe." How should we argue the matter if anyone claimed tithe of geese now? Anticipating old May Day our cows are now sleeping out at night, for the oak trees are showing green. Don't let us have any inquiries about that absurd old rhyme about the Oak and Ash, or croakings about the weather that is to be. The present glorious weather shows no signs of altering, and is once again proving the old truth that "Drought ne'er breeds dearth" in England. I turned out two tame long eared owls last week. If they sit on the fence and wink at anyone I hope he or she will not throw stones at them.—*Fletcher Moss, The Old Parsonage, Didsbury, in the Manchester City News.*

THE BATTLE OF LIFE.

(*Concluded from p. 535.*)

Pruning.

The knife and the saw in unskillful hands are capable of doing much, and often irreparable, injury to plants. There must be a right and a wrong way to prune even when that is necessary, but the same methods of the art are not applicable in every case, otherwise little skill would be needed. When and wherever practised, let it be "an art that doth mend nature" not baffle and offend her. When trees are grown against walls in the open air, a system of pruning is necessary to keep them as close to the wall as possible, otherwise the shelter and increased heat—the primary benefits obtained by the use of walls—are frustrated. The method, furthermore, will vary according to the species of tree, so that the necessary skill and knowledge in each case must be acquired by close attention and diligence on the part of the beginner.

Old and sometimes only moderately old wall trees are a disgrace to the garden where they are allowed to remain crowded with old and greatly elongated spurs year after year, without any attempt to shorten or thin them at the annual pruning. If they were moderately fruitful there would be an excuse for the practice, but the reverse is more often the case, especially with Pear trees, which can neither produce good sized fruits nor many of them under the conditions. Sunlight is too greatly obstructed and the heat obtained by refraction and radiation is diminished. Standards and bushes on strong growing stocks are often pruned on the orthodox principle to limit their size and retain a certain shape, and the severe restriction often rewards the cultivator with a plentiful supply of plant stakes but little or no fruit. The natural size and habit of the trees should be more studied, so that their natural dimensions and good crops of fruit may assist in preventing the trees from an excessive production of useless wood. Such trees should merely have the weak and useless as well as the badly placed shoots cut away while yet in a small state.

Cutting away large stems and branches, removing barrow-loads of strong annual shoots and attempts to train crooked branches after they get old are merely forms of coercion. A curious case of coercion once came under my notice. Some large trees were blown down by the wind and the owner, no doubt sorry to lose them, had the heads cut off and by the aid of men and ropes had them set upright again, and after nailing on the bark wondered why they refused to grow!

Ornamental trees and shrubs are often badly mismanaged either for want of proper and timely thinning, planting in unsuitable positions, and severe pruning or mutilation. Choke-muddle shrubberies are evidences of the two former, and the shrubs in some of the public gardens and recreation grounds of London and its suburbs are instances of the latter. Lilacs, Privets, and other flowering shrubs are headed down in a manner that neither exhibits sense nor judgment, for they cannot flower as they ought. Isolated Euonymus bushes and others are cut into formal and meaningless masses. When trees are planted in the streets where there is no room for them to attain their natural dimensions, there are reasons for restricting them; but when they are meant for the ornamentation of recreation grounds, they ought to be allowed to assume their natural form instead of being mutilated like old worn out and inverted brooms.

Where space is ample and the trees are of various kinds, they should not be pruned all after one pattern like the trees in a toy shop. Every tree should be allowed to assume its natural form, whatever that may be, and restrictions put on those branches only which grow too strongly, tending to make the tree malformed or lop-sided. Pruning is hardly the name for this sort of work, nor is pruning, in the real sense of the term, necessary. Beauty of form can be discerned only in those trees or shrubs which are allowed to grow and assume their natural forms. The real beauty of different species of trees consists in the diversified forms of their leafage and the general contour and habit of the whole. All these facts are items for the rising generation of gardeners to study and become thoroughly conversant with.

Insect Enemies.

It is not my intention to enumerate all the insect enemies of plant life and give remedies for them, as the subject is too vast for a tithe of it to be comprehended in a paper like the present. It is my object rather to indicate the necessity of gaining a sufficient insight and knowledge into the habits of the principal enemies of plant life as they come under observation or fall to the lot of the young gardener to experience, as to enable him to cope with them effectually on scientific principles. The endless nostrums and complicated concoctions that are often brought forward for the destruction of various plant enemies would make a hen-aphis laugh, if she could, at the futile attempts made to eradicate her progeny. Aphides give most trouble to soft wooded plants grown under glass whether for fruit or flowers. Judicious ventilation to keep the plants healthy and strong, with a free use of the syringe and clean water, will often prevent a deal of injury that might otherwise occur. A vigilant eye will detect the founding of colonies and effect their destruction before they have time to become established. This is far more effectual and serviceable to the plants themselves than any remedy that can afterwards be applied when the young expanding buds and tender leaves have been drained of their life-blood, so to speak, before their tissues have had time to expand or get hardened. It is just at this time the injury is done, and if the evil is allowed to proceed for a time unchecked, many soft wooded plants are ruined for life, and the gardener only reaps disappointment for his trouble in growing them. It is the duty of those who have the immediate care of the plants to detect and destroy the stray individuals that give rise to colonies, not waiting for the head gardener to tell him that his plants are being destroyed by aphides or any other pest.

The same rules apply to fruit trees, whether under glass or in the open air, and as different species of tree have different insect enemies, so is it the duty of the cultivator to become sufficiently acquainted with their life histories in order to deal with them effectually. It sometimes happens that remedies are applied or thought of after the mischief has been completed and the insects safely resting in the soil in the pupa or chrysallis state. In such cases the imaginary battle is fought after the enemy has safely left the field leaving the plants discomfited. Plant enemies have their own enemies in the shape of parasites that often destroy them in large numbers if allowed to do so.

"So, naturalists observe, a flea
Has smaller fleas that on him prey;
And these have smaller still to bite 'em;
And so proceed *ad infinitum*."

It is a grand mistake then on the part of the cultivator to destroy everything that creeps or flies, many of them are his best friends, if he would only learn to know it. Parasites of plant enemies have been successfully imported from one part of the globe to another thousands of miles apart.

In the application of remedies, man frequently proves a greater enemy to plant life than the insects he intended to destroy. Insecticides are in many cases very injurious to plant life as well as to insects, if improperly used or applied too strong. Accidents are frequent either through carelessness or ignorance. It is true that experience has often to be gained as the result of many failures, but the careful young cultivator will learn to profit by the knowledge and experience of others, and while experimenting for himself to ascertain the strength of his mixture he will take care to use some plant or plants, of the same kind on which he is about to operate, of no value. Paraffin is one of the most effective insecticides, but it is at the same time one of the most dangerous to plant life. Young and tender foliage will stand less of it than leaves of a rigid and leathery texture. The oil floats on the surface of water, so that the latter must be constantly and violently agitated with the syringe all the while it is being used on plants, otherwise some of the plant or plants will be syringed with pure paraffin and the rest with clean water. It is quite as dangerous to use too much paraffin for naked vine rods in winter as in summer while in growth, as the spongy bark absorbs and retains the oil. I know a gardener who thus killed his vines and would never use paraffin upon vines afterwards, although the skillful operator may do it with impunity.

Paris-green and London-purple are arsenites of copper and therefore while powerful insecticides they must be used with very great care, according to the precise directions of those who have made experiments on a more or less extensive scale. Their use first originated in America, where they are largely used at the present day for the destruction of orchard caterpillars. Paris-green has been chiefly employed in this country at the rate of one pound of the powder to 160 gallons of water in the case of Plums and Currants, 200 gallons to the pound of Paris-green for Gooseberries, and 300 to 320 gallons of water to the same amount of powder for Apples and Pears. A pound of London-purple is sufficient for an acre of plants, if properly used. To this add 150 gallons of water for Apple trees; 200 gallons for Plum, Pear, and Cherry trees; and 300 to 400 gallons of water for Peach and Nectarine trees, which are the tenderest of all. The powder in either case merely forms a mixture with the water, and must be well stirred all the time it is being used to prevent it settling in the bottom of the machine used. It should be applied to the trees just as the buds are opening and again after the young fruits are set, but not while the blossom is open. It is of no use spraying trees that are affected with plant lice, plant bugs or other insects that pierce the tissues of plants with a beak in order to suck the juices. Only those insects will be killed which have mandibles and eat the leaves that will be destroyed by them when eating the foliage. It is unsafe to use stronger mixtures for the respective trees than the above, otherwise the foliage will get destroyed and man himself again becomes the most mischevious enemy to plant life. Beware of making risky experiments on your own account upon valuable trees or plants. Possibly you may have heard of the gardener who was boasting to some of his companions that he had discovered an infallable remedy for killing red spider on vines, and that he would communicate the secret to no man, but retain it for his own special benefit. Yet this gardener was on the outlook for a situation. Soon afterwards his late employer came along, and being questioned why the services of such a valuable servant were dispensed with, replied that the gardener did indeed kill the red spider, but discovered at the same time how to kill the vines by burning sulphur on the flues.

Fungoid Enemies, &c.

The question is often asked what causes fungoid diseases. The question itself is rather an ambiguous one, because the fungus itself causes the disease. The rapid spread of the latter is probably what is meant. Here again, man must in many cases bear the blame. Plants of certain kinds are grown together in quantity, thus offering a rich and extensive field for the operation of the enemy; but the real crux of the question comes in when, by improper treatment, bad ventilation and an undue amount of moisture, the plants are weakened, thin skinned and liable to severe attack of fungoid enemies when perchance a few stray spores find this happy hunting ground assiduously prepared for them. Species of fungi which live on the surface of plants can, as a rule, be easily destroyed by applications of flour of sulphur; but when the fungus lives in the interior of the tissues, it cannot be destroyed without at the same time destroying the host plants. All that can be done in this case is to prevent the spread of the evil. A better object to aim at is the entire prevention of the evil, if possible, by proper methods of culture. Out of doors fungi are more difficult to deal with than under glass. So far as can at present be seen the Bordeaux mixture is the most valuable of recent discoveries in the way of preventative fungicides. It consists of six pounds of sulphate of copper dissolved in water, to which four pounds of lime is added, and the water made up to twenty-two gallons. More recently double the quantity of water has been used in America, with apparently the same beneficial results. Various modifications of this are also used and all are employed in the form of a spray.

Cherries, Strawberries, and other tempting fruits of that kind, that are liable to be completely eaten by birds, must be netted as soon as they commence to change colour, not after half of them have been eaten. Late crops of Raspberries, Currants, Gooseberries and others must also be netted in good time otherwise birds may determine that they have been left on purpose for them. Now, the question remains, What punishment is to be awarded to those gardeners who did not, could not, or would not fight the battle of life for the plants under their care. The young and inexperienced we will let off with an admonition, and when they find their tasks difficult, let us encourage them to try again, and take as their motto, "Often beaten but never conquered."—*J.F.*

THE VEGETABLE GARDEN.

Celery.

For the general crop the plants should now be ready to prick out into cold frames. A hard surface of ashes is a good place to put the frames on. In the bottom of the frames put a few inches of rotten leaf soil, and two inches of soil for the surface; prick out the plants about four to six inches apart and keep them well watered until they are large enough to transfer to the trenches, these can be prepared now at any time, so as to be ready when wanted. Single rows are the best, and plenty of good rotten manure should be forked in the bottom of each trench, and see that the plants (which will lift with a good ball of earth, if pricked out as described above) are well watered during their entire growth, or good crisp Celery will not be obtained. Plenty of manure and water are the two things necessary for the cultivation of good celery. A few sprinklings of nitrate of soda will assist growth a good deal.—*G.H.S.*

General Work.

During the next week a good many seeds should be sown, and especially should the main crop of Beetroot be got in. Any Potatos not already planted should be attended to, Scozonera and Ialsify, should be sown, also Chicory and Dandelion. Watering is taking up a great deal of time just now. We had a slight shower during a thunder storm last week, but it is now nearly eight weeks since rain fell to do any good.—*G.H.S.*

Gleanings from the World of Science.

Owls as Vermin-destroyers.—We have on previous occasions referred to the devastation caused by voles or field mice in the southern districts of Scotland. *Natural Science*, while reviewing a book entitled "Ornithology in Relation to Agriculture and Horticulture," mentions a fresh fact in the history of this question of field mice. Last year on those farms in the infested districts from whence specific information was obtained, as many as 301 nests of the short-eared owl (Asio accipitrinus) were discovered, and supposing that as many more remained unnoticed, while allowing seven young to each nest, we should then have a total of 4,214 young birds on those farms. Previous to 1892 the owl in question was known to breed in small numbers, but the great abundance of their natural food has attracted them from great distances, and since their setting down in the infested district the mice plague has greatly diminished. As many as twenty-seven to thirty-seven dead voles have been found by the side of a single nest in one day. The mouse-eating kestral has also multiplied in the district. These facts should be sufficient to rouse the British public to the necessity of restricting the indiscrimate slaughter of useful birds.

Combined Insecticides and Fungicides.—As spraying for the Apple grub and Apple scab has naturally to be carried on at the same time, it occurred to the officers of the Cornell University Agricultural Experiment Station that both the insecticide and the fungicide might be mixed to save time in their application. The results are recorded in *Bulletin* 48. The mixtures were the Bordeaux and Paris green, and Bordeaux and London purple. There were four applications given, the first one on the 13th of June, soon after the blossom had fallen, and the fruits were harvested early in October. In the experiment with Bordeaux mixture and Paris green upon the King Apple there was a gain of 34·7 per cent. of good Apples as compared with those which had not been sprayed. When sprayed with Bordeaux mixture and London purple there was a gain of 30·7; while the percentage of grub eaten Apples varied from one to three. Similar experiments were made on the Baldwin Apple, and in the first case there was a gain of 22 per cent. of good fruits, while in the spraying with Bordeaux mixture and London purple there was only a gain of 7 per cent. The season, however, was a wet one, and the effects of the spraying were greatly counteracted. There was a considerable gain in the number of good Apples by the use of Paris green alone, both in the case of the King and Baldwin varieties.

The Golden Rod as a Weed.—About eighty species of Golden Rod (Solidago) are known to science. Most of them are natives of Eastern North America, and only one is indigenous to the Old World, including Britain. A few years ago a great discussion was carried on in America about the adoption of a national flower, and the Golden Rod was proposed as the best for the national emblem, but without reference to any particular species. It is rather amusing in the face of this fact to find that the authorities at the Cornell University Agricultural Experiment Station are now discussing the question of Golden Rod Weeds. Some authorities on American weeds reckon that ten of the species of Golden Rod must be considered as such. In the central counties and the dairy regions of New York only four are considered of a weedy character, namely, Solidago nemoralis, S. rugosa, S. canadensis, and S. lanceolata. They grow naturally on the margins of fields, cultivated land, on the banks of streams, and on moist land from whence they spread over the grass fields or pastures, driving out other and useful kinds of vegetation. The two last named species are cultivated in British gardens where they prove ornamental, particularly S. canadensis, but although they have to be considerably reduced in size at the winter digging they never stray over the grass nor other parts of the garden.

A Dean's Choice of Occupation.—"If I had not been brought up a Dean," says Dean Hole, of Rochester, "there are three other avocations I should have liked to have followed—master of a pack of hounds, head gardener in a large nursery, or a bookseller. I think the last is the best office of the three."

FLORICULTURE.

The large-flowering Pelargonium.

It is difficult, if not impossible, to over-estimate the value of the show or large-flowering Pelargonium for summer decorative purposes or for exhibition. Scarcely can another soft-wooded plant be named so readily managed, so free of bloom, and so durable as the show Pelargonium. That it has fallen somewhat into neglect as an exhibition subject is quite true, for we do not now witness the grandly grown and flowered specimens we used to see twenty years ago. I can remember the time when specimens were grown to such a size at the Royal Nursery, Slough, that they could be got out of the house only by taking a portion of the glass side away, the doorway not proving sufficiently wide to enable plants to be brought out in the ordinary method. I have known a clever tyer engaged for three days on one exhibition specimen. But, apart from the value of the large-flowered varieties as show specimens, they have such value also as summer decorative subjects that too high praise can scarcely be bestowed upon them.

As a matter of course it will be obvious that any one commencing to grow the show Pelargoniums at this season of the year would be under the necessity of obtaining plants from a nursery. These could be had in 48-size pots, the plants bushy and likely to produce useful and attractive heads of bloom, and supply what is known as good "bottoms" for another season.

Upon the autumn treatment of the showy Pelargonium much of the probable success of the future depends, and it is mainly at that season of the year young plants are purchased by those having a suitable house in which to grow them. Such young plants received in October or November need every assistance which can be given them, to encourage them to grow into size; any delay in repotting when necessary, or if the plants are permitted to become unclean and infested with green-fly; any neglect that militates against their well-being is fatal to a good head of bloom at the proper season.

If the plants are sent from a nursery—say the first week in November—they should be cleansed from any dust gathered during the transit, the surface soil gently stirred and the plants then placed in a light and airy part of the house to recover from the effects of the journey. This done, the roots should be examined, and if they have filled the pots, a shift into a size larger one is necessary, using a compost made of good mellow yellow loam, enriched with an equal bulk of well decomposed stable manure, and the addition of a fair sprinkling of silver sand. This should be turned over two or three times before using, and any insects likely to be injurious picked out. Repotting done, a small stake can be placed to each plant, and the water that is needed given, with air and light in abundance. In a month or so, another shift will be necessary if the plants are kept in a moderately warm house, and they can be placed in the next larger size, the same compost being used. In these they can remain until the end of February or early in March, when they can be repotted into pots in which they will bloom, adapting the sizes of the pot to the strength of the plant, but in no case over-potting, because it cannot be too closely borne in mind that it is necessary the pots be well filled with roots by the time the plants come into bloom. To overpot at this stage will be injurious to the plant. Even with the best treatment plants that are well established in their pots will show a little yellow upon the lowermost leaves, and some clear but weak manure water may then be given with great advantage, say twice a week, and be continued until the flowers are ready to expand. But anything like forcing should be avoided, but a little fire-heat is decidedly beneficial in damp, dull, foggy weather, and also when the temperature sinks as low as forty degrees.

I again allude to the importance of cleanliness, such as the removal of decaying foliage, the washing of any leaves which become dust-covered. Air is necessary on all favourable occasions, even during winter, taking care that cold draughts of air do not play direct upon the plants, and at all times keeping them clear of damp. No flower is more easily cultivated than the Pelargonium, at the same time, we fear we must say, none is more mismanaged.

As soon as the flowering season is over the plants may be placed in any situation, so that they be not exposed to heavy rains, this being done for the purpose of ripening the wood, water being at the same time somewhat sparingly given. The importance of hard well ripened wood cannot be over-estimated. At the end of July, or early in August, or later, according to the month when the plants flower, cutting down takes place, and in doing so the operator has to keep in view the desirability of laying a good foundation to the future specimen. The plants should then be put into a greenhouse or frame, kept dry, and exposed to sun and air, but protected from rain. In about a month the buds will have begun to push, and then repotting is necessary, turning them out of the pots, shaking the soil from the roots, and pruning the latter by cutting away the long straggling ones. They should then be placed in pots just large enough to take the roots and be kept in a frame closely shaded for a few days, and then inured to the light, air being given. Water should be sparingly given, and care should be taken to avoid wetting the foliage during the winter months. A shift into a size larger pots will soon be necessary, and a compost such as that before mentioned employed. When growth sets in in spring, the supply of water must be increased to suit the requirements of the plants.

A dozen fine show varieties, equally well adapted for ordinary decorative purposes will be found in the following: Ambassador (Foster), Amethyst (Brehaut), Chief Secretary (Foster), Claribel (Hoyle), Crusader (Turner), Excellent (Foster), Fortitude (Foster), Illuminator (Foster), Magnate (Foster), Prince Leopold (Foster), Royal Review (Foster), and The Czar (Foster). The decorative varieties, as they are termed, may be similarly treated; and a dozen fine varieties are as follows: Dighy Grand, Duchess of Albany, Duchess of Bedford, Edward Perkins, Kingston Beauty, Lady Isabel, Magpie, Mons. Desmoulin, Mrs. Ashby, Rosetta, Spotted Beauty, and Triomphe de St. Madne.—*R. D.*

National Auricula Society.

The annual exhibition of this society, held at the Drill Hall on Tuesday, far exceeded our expectations in regard to numbers, having regard to the unusually bright, dry, forcing weather of the past five weeks which growers have had to contend against. On the score of quality there is not much to say, for, as only could have been anticipated, it was generally poor. Still, we had a show, and under the peculiar circumstances of the season, that is something to be thankful for. It was a northern florists' day, and the Rev. F. D. Horner again held his own against all comers in the principal classes.

For twelve show Auriculas, dissimilar, the Rev. F. D. Horner, Burton-in-Lonsdale, was well first, with bright fresh examples of the following varieties: —Doris (Horner), a rich plum purple self; Achilles (Simonite), green-edged; Charmer (Horner), ruby red self; Dusk (Horner), plum-black self; Alexander Meiklejohn (Kay), Magpie (Horner), white-edged; Monarch (Horner), green-edged; Shirley Hibberd (Simonite), a promising green-edged, and subsequently selected as the premier Auricula in the exhibition; Geo. Lightbody (Headley), green-edged; Heatherbell (Simonite), white-edged; and Chlöe (Simonite), green-edged. Second, Mr. T. E. Henwood, Reading; third, Mr. James Douglas, Great Gearies, Ilford; fourth, Mr. A. J. Sanders, Cobham; and fifth, Mr. J. Weston, Ravenholme, Balham, S.W.

For six distinct varieties the Rev. F. D. Horner was again first, with Ladybird (Horner), white-edged; Alex. Meiklejohn (Kay), Rev. F. D. Horner (Simonite), Magpie (Horner), Grayling (Horner), green-edged, and Dusk (Horner). Mr. T. E. Henwood again came in second; Mr. A. J. Sanders, third; Mr. James Douglas, fourth; and Mr. J. Weston, fifth. For four Auriculas, distinct, the premier award went to W. Smith, Esq., The Links, Bishop's Stortford, who staged Mrs. Dodwell (Woodhead), white-edged; the Rev. F. D. Horner, Mrs. Potts (Barlow), and George Lightbody (Headley); Mr. Leonard Brown, Brentwood, coming in second, and Mr. Patterson, Ashburn, Sunderland, third. The first award for a pair also went to Mr. W. Smith, for the Rev. F. D. Horner and Richard Headley; Mr. Leonard Brown being again second, with Mrs. Dodwell and Rachel; and Mr. C. Phillips, Reading, third.

The single classes were more sparingly contested than usual, and there was nothing special among the plants staged. In the green-edged class the Rev. F. D. Horner was first, with his namesake; Mr. Henwood, second and fifth, with the same variety; Mr. Horner, third, with Attraction; Mr. W. Smith, fourth, with the Rev. F. D. Horner; Mr. C. Phillips, sixth; and Mr. Patterson, seventh, with unnamed plants. Grey-edged: First, the Rev. F. D. Horner, with George Lightbody; second, Mr. Henwood, with Lancashire Hero; third, Mr. Henwood, with Richard Headley; fourth, Mr. W. Smith, with George Rudd; fifth, Mr. Patterson, with the same variety; and sixth and seventh, Mr. Douglas, with George Lightbody. White-edged: First and second, the Rev. F. D. Horner, with Magpie (Horner); third and fourth Mr. Henwood, with Mrs. Dodwell (Woodhead); fifth Mr. W. Smith, with Smiling Beauty (Heap); sixth, Mr. A. J. Sanders, with Conservative (Douglas); and seventh, Mr. Patterson, with Acme (Reid). Selfs: first and second, Mr. W. Smith, with Black Bess (Horner); third, Mr. Henwood, with Mrs. Potts (Barlow); fourth, the Rev. F. D. Horner, with Pink, a seedling quite novel in colour; fifth, Mr. Henwood; and sixth and seventh, Mr. Douglas, with Mrs. Potts.

With fifty plants, Mr. C. Turner came in first with almost an entire group of Alpines, his show varieties being over, and Mr. Douglas was second, Mr. W. L. Walker, Reading, being third.

The Alpines were brighter and fresher than the show flowers, but still had mostly passed their best. With twelve varieties, Mr. Turner was first, with Mrs. Harry Turner, Dash, Countess, Roland, Patience, Hubert, Winifred, Hotspur, F. Knighton, C. Turner, and two seedlings. Second, Mr. C. Phillips; third, Mr. Douglas; fourth, Mr. W. L. Walker; and fifth, Mr. A. J. Sanders. Six Alpines: first, Mr. C. Phillips, with Saturn, Mrs. Frank Barrett, Mrs. Martin, Mrs. G. W. Palmer, Baroness Burdett-Coutts, and Mrs. J. F. Blandy. Second, Mr. Turner; third, Mr. Douglas; fourth, Mr. Walker; fifth, Mr. A. J. Sanders. Mr. Paterson had the best four Alpines, in Gorton's Diadem, and Turner's King of the Belgians, Mrs. Dodwell and Philip Frost.

The gold-laced Polyanthuses were more vigorously shown than usual, and Mr. J. Weston had the best six in Cheshire Favourite, Lancer, John Bright, Lancashire Hero, George IV., and Napoleon III. The best three consisting of Napoleon III., John Bright, and William IV. George IV., shown by Mr. Patterson, was the best single specimen, followed in order by Napoleon III., John Bright, and Cox's Prince Regent. Mr. Douglas had the best fancy Auriculas, and also beat Mr. Dean with border Polyanthuses and Primroses with bright fresh lots.

MAXILLARIA SANDERIANA.

The finest of all the species of Maxillaria yet discovered is M. Sanderiana introduced from the Andes of Ecuador about ten years ago. The accompanying illustration, for which we are indebted to Messrs. J. Veitch & Sons, Chelsea, will give an idea of the habit of the plant, which is, of course, greatly reduced in size. The single flower given at the top of the illustration would represent a bloom of moderate size. The scapes are shorter than the leaves, but they vary, some being taller than others, and bear a solitary flower of massive proportions and wonderfully fleshy or almost leathery in texture. The ground colour of the segments is white, and the sepals are blotched with dark crimson, while the blotches run together in a mass at the base of the lateral ones. The petals are similarly blotched to the upper sepal, but smaller. The lower surface of the lip is almost of a uniform dark crimson, and the side lobes are blotched on the inner face towards the base, and the rest is white. The terminal lobe is beautifully crisped, but must be seen in the living state to be recognised. The species was discovered by Edward Klaboch in 1883 or 1884 at an elevation of 4,000 ft. on the Andes of Ecuador. It has already found its way into many British collections, where it proves of easy cultivation and striking when in bloom.

The Carnation: its History, Properties, and Management, with a descriptive list of the best varieties in cultivation. By E. S. Dodwell. Third edition with supplementary chapter on the Yellow Ground. London: Gardening World Office, 1, Clement's Inn, Strand, W.C. 1s. 6d.; post free, 1s. 7d.—Ad.]

INSECT PESTS AND THEIR EXTERMINATION.

By the invitation of C. D. Wise, Esq., a number of gentlemen met at Toddington on Saturday last to witness a further trial of the Stott Co's. Horticultural Appliances. The new pump was tested in every possible way. For caterpillar, two distributors were used, thus the water was impregnated with the contents of two six-celled machines. The other delivery from the pump had a six-celled machine, and with this red spider, black and green fly were soon placed *hors de combat*. The various sprayers were fully put to the test, the new adjustable one and the straight double sprayer gave special satisfaction, some specimens of caterpillar taking longer to destroy than others. Killmright was then mixed at the rate of 2 oz. to the gallon, and many of the gentlemen's gardeners having found a good supply, these were dosed. Many were killed by contact immediately, others required a second dose to finish them.

Luncheon was served at the Mansion House, Mr. C. D. Wise taking the duties of president in the absence of Lord Sudeley, who wired that he was unavoidably detained in London. After luncheon, Mr. Wise thanked the gentlemen present for their attendance, remarking that the fruit-growing interest was well represented by the Evesham Fruit Growing Association, representing Gloucestershire, Mr. C. Lee Campbell and others, Herefordshire, and Mr. Best, Worcestershire. They had had a most interesting trial, and he would go further and say that for some little time they had been using Killmright in the houses, and found it thoroughly effectual on red spider, aphis, black fly, and mildew on the Roses. Mr. Joseph Martin then proposed a vote of thanks to Lord Sudeley for giving them an opportunity of meeting together and seeing for themselves what could be done. He remarked that it was not only what they had seen, but he had been talking with the gardeners, and they were satisfied it was right both in theory and practice. Mr. Stott supported the vote of thanks to Lord Sudeley, and remarked that there were very few pests indeed that could not be overcome if the growers would persevere; the accounts he received were the same from all parts of the country. Mr. Wise remarked that they had previously used quassia and soft soap, but they found Killmright to cost one quarter the amount and was far more effectual. The visitors were subsequently driven round the orchards.

Maxillaria Sanderiana.

ASPARAGUS KALE.

There are three varieties of the common Cabbage (Brassica oleracea) to which this name is applied; and three of them come under the race of Kale or Borecole (B. o. acephala), while the fourth is a variety of the race of true or hearting Cabbages (B. o. capitata). The true name of this sort is the Portugal Cabbage or Couve Tronchuda, the midribs of the leaves of which are made to do service as a substitute for Asparagus. The first three varieties mentioned have, however, a better right to the title of Asparagus Kale, seeing that the young stems or sprouts produced in spring are the parts eaten. The young leaves may of course be eaten as well, just as in the case of Sprouting Broccoli and Cottagers' Kale; but the stems alone when divested of their leaves may well be compared to Asparagus, and even form an excellent substitute for it. Another practice is to cover the plants in spring with Sea Kale pots, so as to blanch the sprouts which arise from the stem of the previous year.

About the first week in April is a good time to sow seed in the southern counties for the first or most advanced crop. A fortnight earlier would be more suitable for cold and northern districts. Another sowing may be made for the sake of succession about the first week of May, and in the case of Buda Kale particularly a sowing may be made about the end of August to prolong the supply as late as possible in spring. Any good garden soil will meet the requirements of Asparagus Kale. If of a light or sandy nature, good supplies of well-rotted farmyard manure dug into it at the autumn or winter digging will ensure the success of the Kales in question. Such a soil would be favourable to their proper keeping in winter; but both are wonderfully hardy and suffer very little even in rich soils. The seeds should, of course, be sown in beds and transplanted when strong enough into their permanent quarters like any other of the races of the Cabbage. After they are established in their permanent quarters, all that is necessary is to keep the ground clean during the summer and autumn months. Nothing should be removed from them till spring; and if a good growth is encouraged in the meantime, the produce will be all the heavier when gathered in spring.

The Egyptian Kale is one of the sorts used as substitutes for Sea Kale and Asparagus, hence the name of Asparagus Kale given to it by some cultivators. The striking feature of this Borecole or open-headed Cabbage is its dwarfness, the main stem seldom exceeding 6 inches in height. The side sprouts given off in spring however, attain a length of 12 in. or more, and boil quite tender. They may be blanched if so desired.

The so-called Jerusalem Kale is similar in habit to the last-named, but the margins of the leaves are curled instead of being plaited. They are also tinged with purple when young. The spring developed sprouts may also be blanched. The variety is also known as Delaware Greens and Delaware Kale. A stronger growing sort is that known as Buda Kale, with stems 18 in. to 2 ft. high, from the sides of which a great quantity of sprouts is produced in March and April or even later in seasons when vegetation is less forward than the present. The leaves of the sprouts are comparatively small, glaucous, and they as well as the shoots bearing them are often tinted with purple. The stems or sprouts boil quite tender even if allowed to grow till they are 12 in. long. They may then be cut in half, the leaves removed if so desired and the shoots tied together like Asparagus and then boiled. Every part of these shoots boils quite tender, is remarkably rich in flavour, and proves palatable to anybody fond of greens.

It is questionable as to which of the above three the name of Asparagus Kale should belong, if indeed it has a right to be applied to any one of them in precedence to another. The Buda Kale is perhaps as frequently grown as either, and proves very useful on account of its hardiness, and the quantity of sprouts it will produce in spring. The severe frost and snow we had about Christmas and the early part of January had no impression upon it, so that cultivators who have not yet given their attention to it may well add it to their list of vegetables and devote a piece of good soil to it in an open situation, along with other better known sorts of Kale or even with Brussels Sprouts to which the spring developed shoots would naturally form a succession. Besides Buda Kale and Asparagus Kale it has a considerable number of synonyms thus proving its popularity in various countries, some of which have a colder climate than Britain.—*F.*

The Dundee Chrysanthemum Society will hold its annual exhibition in the Kinnaird Hall, Dundee, on November 22nd and 23rd.

THE HALESIAS.

Among the many beautiful trees indigenous to the United States, none, possibly, are less known than the Halesia. With the exception of our native Yellow-Wood, no tree presents a more graceful or lovely appearance when in flower than Halesia tetraptera. The flowers are similar to the Snowdrop in their formation, and consequently the common name for it is the Snowdrop or Silver-bell tree. A medium-sized specimen of H. tetraptera when in flower is densely covered with these drooping blossoms from the base to the crown, and the general effect produced by this mass of blossoms is surpassingly beautiful.

It is a native of this country, and is found in shady woods growing near the banks of rivers, from the Carolinas to Texas; notwithstanding this, it is entirely hardy in our Northern States, at least as far north as Boston. Its congener, H. diptera, is rather more tender, but when established stands as well as the other species. It forms a medium dwarf tree, fifteen to thirty feet high, when full grown.

The wood is hard and brittle, and the bark of a dark colour and irregularly fissured; the leaves are ovate, lanceolate and sharply serrated. The blossoms do not hang long upon the tree, and are succeeded by an acid fruit containing a four-winged seed of rhomboid form, which resembles in its formation a fairly hard-shelled nut, and when sown requires at least two years for germination. The blooming period of H. tetraptera is in the latter part of May or early June.

The Halesia may be found in a few nurseries in the country, for it is yet uncommon and not generally grown. It is, however, worth general cultivation, and, grown either as a bush or in tree form, is a striking object in the shrubbery or as isolated specimen.—*T. L. Temple, in American Gardening.*

GARDENING MISCELLANY.

SAXIFRAGA MILESI.

There are several white forms and species of Himalayan Saxifragas belonging to the Megasea section of the genus. The chief distinction of that under notice seems to be the elongated character of the white petals. They are narrowly-obovate, tapering into a long, narrow claw, while those of several others of the Himalayan and Siberian forms are shorter and rounder. The calyx likewise is green, not pink or reddish. The leaves are obovate, ciliate, serrate, and notable for the great size they attain under favourable conditions. The lamina of the leaf of a small plant we measured in the nursery of Messrs. Barr & Son, Long Ditton, Surrey, was 9 in. long and 6 in. wide.

VEGETATION IN CORWALL.

Another week of drought and burning sunshine has done much to hinder the growth of vegetables. Nevertheless there is nothing as yet absolutely to complain of. Early Potato growers have had a fine time of it, and the quantity sent to market has been prodigious for April; indeed, "the oldest inhabitant" cannot remember a period corresponding to the present. Green vegetables are, of course, much parched, but still many scores of tons are daily being despatched to the London markets. Growers of Potatos are sadly grumbling at the want of remunerative prices this season as corresponding to those of recent years, but some are under the impression that the supply has overleaped the demand, or else that the public do not favour the consumption of the half-grown vegetable as they used to. Perhaps education has something to do with this, and the more enlightened and thoughtful become the public the greater the change from the old order of things.

SHORTER HOURS FOR GARDENERS.

Referring to the efforts being made elsewhere to secure the later half of Saturday as a half-holiday for gardeners, I mention the interesting fact that when recently at Claremont, Esher, on a Saturday, I found it to be the rule for work in the gardens to cease at our o'clock. That may be a rule in some other gardens, but I do not think I have met with any similar cases. It might be possible perhaps to gather information on that point. One thing is certain, what is possible in one large garden can be found equally possible in another, provided there be a desire to make the arrangement. As to the lower employés desiring it, there can be no doubt, and probably were the head gardener to consent all difficulty would be surmounted. It does seem to be very much more a case of will than of difficulty.—*A. D.*

MUSCARI FLAVUM.

We are so much accustomed to the sight of blue-flowered Grape Hyacinths, and occasionally white ones, that a different shade of colour is quite welcome. As the name implies, the flowers of M. flavum are yellow. When the sky is overcast and cloudy during the spring months the flowers are not particularly bright, but that defect can hardly apply this year. They are oblong, or almost cylindrical, narrowed at the mouth and clear yellow with slender, longitudinal green veins and six brown teeth at the mouth. The leaves are glaucous, deeply grooved and broad compared with those of the common M. botryoides. By way of contrast this distinct-looking species should find its way into every collection where a feature is made of the Grape Hyacinths. In the open air, all last much longer in good condition than when forced under glass. We noted the yellow one in the nursery of Messrs. Barr & Son, Long Ditton, Surrey.

TULIP VAN VONDEL.

While all the varieties and forms of Tulipa Gesneriana may be grown for bedding purposes, there are some which are even more suitable because more effective than the rest. The flowers of Van Vondel are large and brilliant red, with a white or pinkish band along the centre. The segments are pointed, so that on the whole the blooms resemble those of T. elegans on a somewhat smaller scale; this is more particularly true of the stems than of the flowers, because there is not so much reduction in the size of the blooms as there is in the dwarfing of the flower stems. This latter feature is no doubt due in a measure to the exceptionally dry weather in March and the first half of the present month. A quantity of this variety planted out in the nursery of Messrs. Barr & Son, Long Ditton, was very effective the other week when we examined the beds.

KNIPHOFIA SARMENTOSA.

There are about sixteen species of Kniphofia, most of which have been introduced to cultivation. That under notice is new and not perfectly hardy, although it may safely be wintered in a cold or unheated frame. The plants are, however, amenable to pot culture, and, by reason of their flowering in autumn and winter, would prove serviceable for the decoration of the greenhouse or conservatory. Some plants are indeed still in flower in the nursery of Messrs. Barr & Son, Long Ditton, Surrey, where they have been kept in a cold frame. The flowers are tubular, slender, and bright red with yellow projecting anthers; they may be compared to those of K. Macowani for size, but they are altogether darker in colour. The plant itself is dwarf, with narrow, channelled, green leaves of moderate length.

NARCISSUS NELSONI AURANTIACUS.

As yet this Daffodil is anything but common in cultivation, although it is certain to find many admirers in the future. The segments are broad and pure white, as are all those of this type. The corona is about equal to the segments in length, or somewhat under it, and of a bright orange, whereas in the type it is yellow. The effect which a dry season like the present has upon it is wonderful. As in the case of all other Daffodils where the orange hue predominates in the corona, this colour fades so as to be hardly recognisable compared with the same thing in other years. Late planting has, however, some effect in counteracting that of cold and dry weather in early spring. Although the flowers are better under the system of late planting, the bulbs derive no advantage. We noted some of this beautiful variety in the nursery of Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

GENTIANA ACAULIS.

Hitherto we have been accustomed to look upon this species of Gentiana as having only flowers of one colour, namely, that of a deep bright blue. An exhibit of cut flowers, at a recent meeting of the Royal Horticultural Society, by G. F. Wilson, Esq., showed a considerable amount of variation ranging from a pale bright blue through several shades to that of the type. From this again the different flowers verged towards a shade of violet-purple. At all events there was a considerable amount of purple in them, producing a shade of colour one would hardly have expected in this species, and which is by no means common in any of the cultivated species. The exhibitor must have a means of getting these rare things which is not open to the general public, and also succeed better with their cultivation than most cultivators in the rather dry climate of the southern counties.

FRITILLARIA PALLIDIFLORA.

Some of the Fritillaries of more recent introduction requires a little care in their management, in the selection of situation, soil and other matters, but such is not the case with F. pallidiflora, which is finding its way into many gardens, although it was introduced as recently as 1880 from Siberia. The stems spring up rapidly during the month of April, soon reaching a height of 12 in. to 16 in., and in the case of comparatively young or small bulbs, bearing from three to six large, bell-shaped flowers. The latter are pale yellow with green nerves and tesselated with brown or black spots internally. The leaves are oblong-elliptic and of a deep glaucous hue, giving the plant a characteristic hue independently of the flowers. Cold and frosty nights have no deterrent effect upon the growth of the plant, nor do the flowers receive injury in any way. It is therefore a suitable spring-flowering subject for the herbaceous border.

OROBUS VERNUS PURPUREUS.

This richly-coloured variety owes its appearance to the standard or upper petal, which is deep purple. The wings are blue as in the ordinary form. It is an attractive spring flowering plant and has not been checked, apparently, in any way either by the drought or frost of the past six weeks. The ordinary form is often used for forcing purposes, and its flowers come somewhat paler when so treated. By using that under notice the flowers would be somewhat darker even under that treatment. A quantity of it has been flowering for some time past with Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

TULIPA CILIATA.

One of the more striking features of this plant is the leafy character of the flower stem, which is about 14 in. high, and bears four to five leaves at different levels, and all at some height from the ground. Each stem bears one to three flowers according to the strength of the bulb. The flowers are of medium size compared with those of T. Greigi or some of the forms of T. Gesneriana, but they are nevertheless sufficiently large to be useful for bedding purposes; and as the elliptic segments are bright scarlet they are very showy. The filaments are black, and the ovary bluish in its early stages. The leaves are glaucous and very interesting botanically, from the fact that they are finely pubescent all over and ciliate. We noted it amongst a collection of species in the Hale Farm Nurseries of Mr. T. S. Ware, Tottenham. The dry weather has been more favourable to Tulips generally than to some other classes of bulbs.

A SHOWY BASKET PLANT.

Although not an Orchid, Utricularia montana to the uninitiated looks very much like one when in bloom. It also forms an excellent associate with Orchids, such as Dendrobiums and Cypripediums, where a moist atmosphere is maintained during the growing season. The plant may be grown in pots, but baskets are far more suitable to allow the plant to display its natural habit. As the compost in which it should be grown consists largely if not chiefly of sphagnum, the open basket allows its being freely aerated, while the flower stems which come out at the sides more frequently than at the top are allowed free play. The large white flowers, with their yellow palate, and the long succession of bloom they keep up is ample reward for any trouble that might be incurred in growing the plant. In a specimen we

noted at Clare Lawn, East Sheen, the residence of F. Wigan, Esq., (gardener Mr. Want), the numerous flower stems proceeded almost horizontally from between the woodwork of the basket.

ADIANTUM HENSLOVIANUM.

This by no means common species is a native of some parts of South America, such as Columbia and Peru. Few cultivators can boast of growing it. and fewer that they grow it well. That it can be grown well, however, there can be no doubt, as a fine specimen in the garden of F. Wigan, Esq., (gardener, Mr. Want), Clare Lawn, East Sheeu, will amply testify. It is grown in a 24-size pot which is completely filled with fronds, mostly young and in a beautifully healthy condition. The fronds are two to three times pinnate with lobed or deeply incised pinnæ. At present they are light green, but will become much darker as they get matured, with brown stripes and rachis. We occasionally see the plant with a few leggy and thinly placed fronds, but any defects that may exist in this respect are all hidden when the plant is well grown.

STREPTOCARPUS AND GLOXINIAS.

Few would probably question that these two races of garden plants look well when associated together, but they can never become permanent associates, as the first, coming originally from the Cape, like a comparatively dry atmosphere, while the Gloxinias like a comparatively warm and moist one. A fine batch of Streptocarpus has been flowering since the end of March in one of the houses at Clare Lawn, East Sheen, where the night temperature at present is kept at 60°. The plants have been kept in this house since last summer, and have flowered splendidly. The individual blooms are relatively large, and represent the great variation of a strain as far as colours are concerned, in blue, mauve, white shades, blotched and lined in the way characteristic of this beautiful class of plants. The second flowering batch of Gloxinias was placed here to test their suitability for associating with Streptocarpus under the same conditions; but it cannot be said that the Gloxinias altogether like it. They are last year's seedlings and have flowered very well, but they do not look quite happy with the change from a warmer atmosphere. We noted some very fine varieties amongst them, but particularly a maroon-purple self.

TULIPA LEICHTLINII.

The general aspect of this Tulip is like that of T. Clusiana, but the flowers are much larger. The flower stems vary from 6 in. to 12 in. in height, bearing a single flower, and linear-lanceolate, glaucous leaves. The three outer segments of the flower have a broad red stripe down the back with white edges. The rest of the segments are creamy white, or even purer as they attain the fully expanded stage. Amongst a collection of species it is both highly interesting and beautiful, and might be grown to advantage on the rockwork where its peculiarities would be more directly brought under the eye. Amongst a collection of varieties of the common T. Gesneriana, it would of course be entirely lost, and its true merits overlooked. It was flowering finely a short time ago in the Hale Farm Nurseries at Tottenham.

CARDAMINE PRATENSE FLORE PLENO.

The double form of the common wilding of our meadows we consider one of the choicest of spring flowers, but although it is practically a very old plant it is seldom met with in gardens. Why this should be so is difficult to say. Many appear to be under the impression that it is difficult to grow. Such is not the case, while it flowers profusely bearing several stems from the same crown. The wild form flowers best in damp meadows, so that when planting the double form in the garden, a moist position should be selected on a border where the soil remains tolerably moist during the summer months. Propagation is easily effected by division of the crowns, or by layering the leaves on the soil and keeping moist in a cold frame till young plants develop. These may then be pricked into a box, leaving plenty of room for the tiny plants to grow, and they will flower freely the following spring if allowed the shelter of a frame all the winter. Of course no such trouble is necessary with old plants, as they are perfectly hardy.

ONE USE OF SPARROWS.

There is a stretch of Gooseberry bushes in front of my house; for years back I have not been troubled with caterpillars upon them, and hellebore is an almost forgotten article. Often I wondered what the cause was, for caterpillars were once the plague of the place. At times a flight of young cuckoos would come and settle on the bushes. Day after day they came and enjoyed themselves, feeding on the grubs and insects that lurked there. As they came only far on in the season, freedom from the plague could not be ascribed to their friendly visitations. I have discovered that my thanks are due to the humble sparrows. In the early part of the year quite a flock of them spread themselves over the bushes. Eggs and young of the caterpillar disappear before them. One morning I noticed a bush in a bad way with the pest. In the evening I came that way again —the caterpillars were gone. The sparrow had done his work well. In the early spring mornings the chattering and chirping of the sparrows sitting on the eaves and even on the window sills is sometimes deafening. This often tempted me to make war on them, hitherto I have refrained; as I have discovered their use it is not likely my ultimatum will be given. The sparrows don't confine themselves to the Gooseberries, but carry their crusade further afield. They keep, in fact, my whole place free from the crawlers. Even in the butterfly state they pursue them. Often have I seen a sparrow dart out and snap a white gleaming butterfly on the wing. With a clear conscience I can thus allow the little chirping rascals a few Peas in the summer time for their good offices. —*G. D.*

TWO NEW CARNATIONS.

Blooms of the two new Carnations, Florence Emily Thoday and Pride of Great Britain, have been sent us by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham. The first-named is a most attractive flower, of large size, pure white and of great substance, with the petals entire and somewhat incurved at the margins. It is also perfectly double, but having a long and stout calyx tube is not particularly liable to split. The blooms emit a sweet though not powerful odour, and adds this quality to a flower which is otherwise bound to find favour with a large number of growers. Pride of Great Britain is a magnificent bloom, both as regards its huge size and rich yellow colour, in fact it is the darkest self yellow we have seen. One defect it has, namely, the short calyx tube of Souvenir de la Malmaison, and therefore liable to split. But if cultivators can overcome this difficulty in the one case, they can also do so in the other. The side flowers will doubtless be less defective in this respect. It may further be stated that both varieties have been forced under glass, so that they may reasonably be expected to be even better when grown under more favourable conditions. We take it for granted that both varieties are Tree Carnations.

SOCIETIES.

Royal Horticultural, *April 25th.*—The meeting was well attended on Tuesday last, when the principal features in the way of exhibits consisted of Orchids, forced Roses, Daffodils, collections of herbaceous plants generally, including some fine masses of Primula Sieboldi. The Roses were unusually plentiful for this season of the year, and evidently indicates plenty of sunshine and conditions otherwise favourable for plants under glass. An interesting group of Orchids was exhibited by Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking. His Masdevallias were most interesting, including M. Arminii, M. Shuttleworthii xanthocorys, M. Gelengiaua, also Bulbophyllum Sillemianum, B. Lobbii Diamense, and Dendrobium revolutum. The rosy-purple flowers of Masdevallia Arminii were most abundant. A larger collection was shown by Messrs. F. Sander & Co., St. Albans, including such uncommon things as Oncidium roraimensis, Odontoglossum Roeblingianum, Pescatorea Klabochorum, Maxillaria Sanderiana xanthoglossa, and others. A Silver Banksian Medal was awarded the group. A smaller collection was shown by Messrs. W. L. Lewis & Co., Southgate, including Cymbidium tigrinum, Maxillaria Harrisoniæ, a large flowered form of Odontoglossum læve, and others. A flowering piece of Cycnoches pentadactylon was shown by W. W. Mann, Esq. (gardener, Mr. J. Simon), Ravenswood, Bexley. An interesting piece of Lycaste Pœlmani was exhibited by Messrs. Seeger & Tropp, East Dulwich. The sepals were coppery-red, and the petals yellow. Dendrobium nobile Statter's var. and some others were shown by Thos. Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, Manchester. Sophronites grandiflorum superbum, Cattleya citrina, and some Dendrobiums were exhibited by E. G. Wingley, Esq. (gardener, Mr. C. Harris), Dukenfield, Cheshire. Cypripedium Wallisii was shown by C. E. Goodhart, Esq. (gardener, Mr. W. R. Padbury), Beckenham. Some Orchids, including Lycaste Skinneri var. and Cypripediums, were shown by Mr. J. Pitt, The Gardens, Panshanger. Some half-a-dozen fine forms of Odontoglossum crispum, highly coloured, blotched, or otherwise, were shown by De B. Crawshay, Esq. (gardener, Mr. S. Cooke), Rosefield, Sevenoaks. That named O. c. Miss Florence Bovill was dark purple. Cypripedium niveum and others were shown by Messrs. Condor & Raphael, King's Langley, Herts. An interesting group of Orchids, including Odontoglossums, Cattleyas, Cypripedium bellatulum in fine colour, and Stanhopea Amesiana were exhibited by Messrs. Hugh Low & Co., Clapton. A hybrid Dendrobium named Nestor was shown by Mr. Charles Winn, Selby Hill, Birmingham. Lælia Latona and Lælio-Cattleya Ascania, both hybrids, were shown by Messrs, J. Veitch & Sons, Chelsea.

A Silver Banksian Medal was awarded to Messrs. Barr & Son, King Street, Covent Garden, for a large collection of Daffodils, Tulips, Pæonia hybrida, Doronicum plantagineum excelsum, forced Spiræas, and other subjects. A collection of Daffodils was also shown by Mr. G. H. Cammell, Brookfield, Sheffield. A Bronze Banksian Medal was awarded to Messrs. E. D. Shuttleworth & Co., Albert Nursery, Fleet, Hants, for a collection of Daffodils and other spring flowers, including Lithospermum prostratum, Gentiana acaulis, Saxifrages, Phloxes, and others. A similar award was made to Messrs. J. R. Pearson & Sons, Chilwell, Notts, for a varied collection of Daffodils. A Silver Flora Medal was awarded to Mr. Wm. Rumsey, Joyning's Nurseries, Waltham Cross, for a group of forced Roses in pots, and also cut blooms. A group of double Deutzias was exhibited by C. E. Smith, Esq. (gardener, Mr. J. Quarterman), Silvermere, Cobham. Some finely-flowered Azaleas were shown by Messrs. H. Lane & Son, Berkhamstead. A Silver-Gilt Floral Medal was awarded to Messrs. Wm. Paul & Son, Waltham Cross, for a large collection of Roses. A Silver Banksian Medal was awarded to Messrs. Paul & Son, Cheshunt, for Roses and various hardy plants. A Silver Banksian Medal was awarded to Messrs. E. D. Shuttleworth & Co. for a group of stove and greenhouse plants, including fine pieces of Azalea indica, Bernherd Andrea alba, also Dracæna Doucetti, D. Lindeni, some Orchids, and Auriculas. A Bronze Banksian Medal was accorded to J. C. Tasker, Esq. (gardener, Mr. P. Perry), Middleton Hall, Brentwood, for a group of Cannas in pots. He also received a Silver Banksian Medal for a group of forced Roses in pots, including hybrid perpetuals and teas. A similar award was made to Messrs. B. S. Williams & Son, Upper Holloway, for a group of Amaryllis and Anthuriums, with a large plant of Rhododendron Aucklandii in the centre. A Silver Banksian Medal was awarded to Messrs. J. James & Son, Woodside, Farnham Royal, for a group Calceolarias, all very dwarf and most varied in colour, with large flowers. Some white and yellow varieties of Richardias were shown by Mr. F. Bullen, Hither Green, Lewisham. A collection of cut flowers of Roses and Pansies was shown by Mr. A. Smith, Prospect House, Downley, High Wycombe. A Bronze Banksian Medal was awarded to Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, for a collection of varieties of Primula Sieboldi, in many shades of colour, Bruce Findlay, Miss N. Barnard, and Lilacina marginata being fine types. A similar award was made to Messrs. J. Peed & Sons, Norwood Road, London, for a good strain of Gloxinias set up in a group with Maidenhair Fern. A new species of Strobilanthes named S. Dyerianus, with fine foliage, was shown by Messrs. J. Veitch & Sons. Epiphyllum Gartneri, Abutilon Souvenir de Bonn, Vanda teres and Calla aurata, and others were shown by Messrs. B. S. Williams & Son. Leschenaultia biloba major, Calla Little Gem, Daphne Cneorum major, and others were

shown by Messrs. Wm. Cutbush & Son, Highgate. A Silver Banksian Medal was awarded to Mr. J. Walker, Thame, Oxon, for Maréchal Niel Roses and Pelargoniums. Some boxes of Daphne Cneorum majus were shown by Mr. H. Knowles, Horsell Nursery, Woking. A collection of hardy Alpine plants grown in pans was exhibited by the Guildford Hardy Plant Nursery, Mill Mead, Guildford, including fine pieces of Dracocephalum grandiflorum, Haberlea rhodopensis, and others. A Silver Banksian Medal was awarded to Mr. Frank Cant, Braiswick, Colchester, for some boxes of cut Roses.

At a meeting of the Fruit and Vegetable Committee, a small collection of Apples was shown by Mr. J. G. Dean, Limpsfield, Surrey. Small exhibits of Strawberries were made by Messrs. J. Veitch & Sons, by Lord Foley, (gardener. Mr. Miller), Ruxley Lodge, Esher, and by W. A. Wykeham Musgrave, Esq. (gardener, Mr. Munday), Thame Park, Thame. A Melon named Hamilton's Defiance was shown by W. R. Inglis, Esq. (gardener, Mr. G. Smith), Reigate Hill. Melons, Tomatos and Strawberries were also brought up from the Royal Gardens, Windsor, a Cultural Commendation being awarded for the Strawberries. Asparagus Connover's Colossal, a box of the Amsden June Peach, and a box of Sharpe's Victor Potato were shown by Mr. Geo. Wythes, gardener to the Duke of Northumberland, Syon House, Brentford.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers Calendar.

THE WEATHER AND WATERING.—Never do I remember such grand weather for the proper development of the flowers, or for giving them such depth of colour, as we are now getting. The only drawback with us is a lack of rain water for watering. Orchids do not thrive nearly so well on hard water, even if the precaution is taken to let it stand some time after being drawn from the main fully exposed, to become to some extent softened. It is therefore very important when convenient to save as much rain water as possible, for watering the plants only, using the hard water for damping down.

CATTLEYA HOUSE. — The Vandas, Cattleya Mendelii, &c., are quite three weeks earlier than in previous years in coming into bloom, and we have found it necessary to afford the Vandas extra shade, so as to keep the temperature down, instead of having to give too much top air, at the same time keeping plenty of moisture about by means of a syringe. A light airy position causes them to flower very freely, but at the expense of a few of the bottom leaves, which most growers are anxious to retain. Our V. suavis has sixteen flowers to a spike, and, being a fine variety, is a great favourite.

POTTING AND WATERING.—Push this work along so that all may be finished by the end of this month. Watering and syringing will now take up the greater part of the growers' time if the collection be a large one, and where there is not much help, some forethought is required or all the plants may require attention at the same time. We try to get all the watering done by 11 a.m., so that the houses can be made spick and span for anyone to view them with ease and pleasure. To do this we have to water the plants in pots one day and those hanging in baskets the next. Of course during the growing season there are some plants that require watering almost every day, but they are so few that this can be easily managed. Where there is a house set apart for those in flower no such precautions will be required, but it is not all of us who can boast of such a house.

COOL HOUSE.—We have just now a grand lot of Odontoglossum crispum in bloom, and but for these we should dispense with fire-heat at night. As it is, the pipes are just warmed, so as to prevent the flowers from becoming spotted by excessive moisture. We syringe these freely overhead, being careful not to wet those fully expanded. As these are mostly hanging from the roof, wetting them is easily avoided. Keep the temperature as low as possible during the day, and keep a sharp look out for yellow thrips, or a lot of damage will be done to foliage and flowers. Tobacco water we find a safe and certain insecticide.—*C.*

Saccolabium ampulaceum.

THE flowers of this species represent a type that is not very common in collections, although that under notice cannot be considered rare. The flowers are borne on a close, erect raceme, and have spreading, obovate, rich rosy purple sepals and petals. The lip is a small strap-shaped organ with a longer spur, and is of the same hue as the sepals and petals. It differs from the closely allied S. Hendersonianum in the greater development of the lip, small as it is. That of the last named is reduced to its spur with three small teeth at the mouth of the latter, representing the three lobes in a very reduced state. S. ampulaceum is a native of the tropical Himalayas and requires warm treatment. Mr. Young, Orchid grower to F. Wigan, Esq., Clare Lawn, East Sheen, says that it is easy to grow and requires merely to be kept rather dry in winter with a more liberal supply in the growing season.

Sobralia rosea.

THE habit of this plant, and likewise the appearance of the flowers both in size and colour, very closely resemble those of Sobralia macrantha. But several of the species have a considerable sameness, and even S. rosea presents botanical differences from S. macrantha. The spikes are said to bear four flowers, all open at the same time, but we question if this always happens. The flowers last four or five days, so that the younger ones may open before the older ones wither up; and herein we have a difference, for those of S. macrantha last only two or at the most three days in dull weather. The ovate leaves of S. rosea are scurfy or furfuraceous on the under surface, whereas those of S. macrantha are quite smooth. The outer face of the sepals is of a silvery white, but the rest is of a deep rosy purple with the throat of the lip white. There is a healthy piece of it flowering just now in the collection of F. Wigan, Esq., (grower, Mr. W. H. Young), Clare Lawn, East Sheen.

Variability of Phalænopsis speciosa.

WHEN true to character the sepals of this species are of a rich rose purple, faintly marked transversely with white striæ, and the upper one is white at the base. The petals have a similar ground colour, but they are white at the base, apex, and edges. The ridged lip is purple with a copious white beard upon the ridge. Now on the same plant, and even the same raceme of bloom, occasionally both of the petals will be white, sometimes only one of them, and one of the sepals may be wholly white, as we noted the other day in the collection of F. Wigan, Esq. (grower, Mr. W. H. Young), Clare Lawn, East Sheen. Alongside of this was a vigorous and healthy plant of P. s. Imperatrix, bearing two racemes of bloom, while a third was cut off in its early stages to prevent too great a strain upon the resources of the plant. The flowers are large and wholly of a deep rich purple, with exception of the small orange coloured side lobes of the lip, and the white beard on the terminal lobe. The large, healthy green leaves, show that the cultural treatment is in accord with the needs of the plant. Moreover there is always something in the Phalænopsis house, which is well looked after.

WHAT TO DO IN THE GARDEN.

Adiantums and shade.—The Adiantums are frequently overshaded, so that even after the fronds have attained full size they are thin in texture and will scarcely bear exposure to a dry atmosphere. No one could imagine the beautiful reddish colour assumed by A. concinnum, A. c. latum, and A. tinctum, and others when fully exposed to light and sunshine in a moderately high temperature. A. Farleyense also requires less shade than it gets and also assumes a rosy tint when the fronds are young.

Rockeries in ferneries.—The plants upon rockwork should now be adjusted before they have made much growth, in order to get the rockwork in trim for the season. Where the plants are getting too large and overcrowding their neighbours, this should be rectified. Several of the fine-foliaged Begonias, but particularly of the B. Rex type, associate well with Ferns and enjoy the damp atmosphere.

Cycads.—All Cycads, including Cycas revoluta, C. circinalis, Zamia Skinneri, and others of that class should be placed in a warm atmosphere where they will be treated to plenty of moisture. Under these conditions they will make more rapid progress in developing their fronds and be much finer than in a cool structure. Cycas revoluta is more likely to be overlooked in this respect than the others.

Anthuriums.—As soon as the spathes get so far past their best as to cease to be ornamental, they should be removed and the plants placed in stronger heat to encourage fresh growth. To this end supply them with plenty of moisture when they show fresh signs of activity, and syringe them frequently to keep up the atmospheric moisture.

Show and fancy Pelargoniums.—Both these classes of Pelargoniums are now rapidly advancing to the flowering stage. The chief points to be attended to at present are judicious but ample ventilation, exposure to light, and abundance of moisture at the roots. The pots are now well filled with the latter, so that the soil is always in a thirsty condition. Give weak liquid manure frequently.

Peaches.—Disbudding, tying down the extension shoots, and the thinning of the superfluous fruits will still continue to be the order of the day in the succession houses. As soon as the fruits have finished stoning and commence their second swelling in the earliest house, they may be hurried forward, if desirable, by taking advantage of sun heat and closing early in the afternoon so that the temperature may run up to 80° or 85°. Syringe the trees well to keep red spider in check. Where trees are grown upon open walls a good set has been made so that it will be less necessary to retard the late house than in former years.

Melons.—As the earliest crop advances to maturity, different treatment will be necessary from that practised during the growing period. Whenever the fruits begin to show their netted character, which they assume at maturity, less atmospheric moisture must be given and a greater amount of ventilation to encourage the development of flavour. Syringing at closing time should be left off lest the fruits should get cracked. This is more likely to take place where the crop is light than where it is heavy.

Cucumbers.—Shading is necessary only on bright days, and then only during the heat of the day. Moveable blinds are therefore the best, because they can be run down when the sun gets hot and run up again directly the sun declines in power. A good syringing will keep the plants from injury, even if the blinds are drawn up early in the afternoon.

Celery.—Preparations should be made at once for the early plantation. Take out the trenches at 4 ft. apart from centre to centre, piling up the soil in a sloping ridge in the spaces between the trenches. Place about 6 in. of manure in the bottom of the trenches and dig this in, mixing it with the soil, which should be thoroughly broken up with the spade. When the plants have been thoroughly hardened off put them out and water them immediately.

Tomatos.—Plants that were raised about the end of February with the intention of planting them out as the earliest crop on the open wall should be hardened off preparatory to planting. At the places where it is intended to put a plant, a hole should be taken out and a compost, consisting of two parts of good loam and one part of dung, put there. After the plants are put out they should be protected by means of a Spruce branch or two in case of frosty nights. Nail them to the wall at once, but allow space in the shreds for the stems to develop.

QUESTIONS AND ANSWERS.

*** *Correspondents are requested, in order to avoid delay, to address all communications to* "THE EDITOR," *or* "THE PUBLISHER," *and not to any person by name, unless the correspondence is of a private character. Telegrams may be addressed* "*Bambusa, London.*"

NAMES OF PLANTS.—*Pinkie*: 1, Alyssum saxatile; 2, Asphodeline lutea; 3, Ribes aureum; 4, Festuca rubra (a weed); 5, Dactylis glomerata elegantissima; 6, Ribes speciosum; 7, Saxifraga crassifolia; 8, Geum chilœnse; 9, Anemone nemorosa flore pleno; 10, Leucojum æstivum; 11, Euphorbia splendens (often called E. jacquiniæflora); 12, Selaginella Martensi robusta variegata; 13, Sempervivum tortuosum variegatum; 14, Arabis albida variegata; 15, Saxifraga sarmentosa.—*Omega*: The Conifer is Abies concolor; the other is probably Doronicum Pardalianches, but as the flowers of the different kinds are all much alike you ought to send the various forms of leaves as well, or a whole stem.—*A. V. M.*: The largest flower is Lycaste Harrisoniæ; the smaller one, Odontoglossum læve. The Brassavola we have not yet identified.—*David Rymer*: 1, Masdevallia Lindeni; 2, Masdevallia ignea; 3, Bletia Shepherdii, apparently; 4, Dendrobium Pierardi; 5, Cypripedium Druryi; 6, Cypripedium barbatum nigrum; 7, Restrepia antennifera. *B. W.*: 1, Prunus Padus, or Bird Cherry;

2, Euonymus europæus; 3, Lonicera tatarica var.; 4, Lonicera tatarica; 5, Alyssum saxatile; 6, Nemophila maculata.

PROPAGATING RIBES SPECIOSUM.—*R. A. L.*: In the autumn or winter take cuttings of moderate size, with well-ripened wood, and treat them much the same as you would a Gooseberry, with the exception that there is no necessity for removing the buds near the base of the stem. In fact it would be advantageous to have suckers coming from the base so as to get young stems for training upon the wall, and to replace those that die from time to time as they get old.

SPURGE LAUREL POISONOUS.—*A. Grant*: The berries are reputed to be poisonous to most animals except the small wild birds. As, however, the shrub is chiefly ornamental for the sake of its evergreen foliage, you can simply remove the flowers or the young fruit, if growing in a position where the berries might be eaten. There is little danger of their being so till the berries approach maturity and become black. By simply removing them when young, there is no necessity for uprooting the bushes.

COMMUNICATIONS RECEIVED.—G. J. I.—E. O. G—H. E. M.—S. P.—J. H.—G. D.—A. J. B.—Probationer.

TRADE CATALOGUE RECEIVED.

GEORGE PHIPPEN, Oxford Road, Reading.—Bedding Plants and Dahlias.

LONDON SEED TRADE.

April 25th, 1893.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a steady enquiry for Agricultural Seeds. Supplies of finest English Cowgrass are exhausted. No change in values of Red Clover or Trefoil, White Clover and Alsike dearer. French and Irish Italian Ryegrass scarce.

COVENT GARDEN MARKET.

April 26th, 1893.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Tasmanian Apples per case	5 0	10 0	Melons ... each		
Grapes, new, per lb.	3 0	5 6	Strawberries, per lb.	2 0	5 0
Kent Cobs...100 lb.			Pine apples —St. Michael's, each	2 6	6 0
Peaches ... per dozen			Apples...per ½ sieve	1 0	3 6
			Plums...per ½ sieve		

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Asparagus per buudle	1 6	5 0	Horse Radish, bundle	2 0	4 0
Artichokes Globe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, French, per lb.	1 6	2 0	Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	5 0	Seakale .....per bkt.	1 6	2 0
Celery.....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers .....each	0 4	0 8	Spinach ... per strike	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	1 6	2 0
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Anemones, doz. bnch	1 0	3 0	Mignonette... 12 bun.	2 0	4 0
Azalea, doz sprays	0 6	1 0	Narcisse, various, doz. bnchs	2 0	4 0
Arum Lilies, 12 blms.	2 0	4 0	Pelargoniums, 12 sps.	0 9	1 0
Bouvardias, per bun.	0 6	1 0	— scarlet.....12 bchs.	4 0	6 0
Carnations, 12 blooms	1 0	3 0	Primula, double, bun.	0 6	1 0
Camellias doz blooms	0 4	0 6	Primroses doz. bchs	6 0	1 0
Daffodils, var. dz. bch.	1 6	9 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Eucharis ...per doz.	3 0	6 0	Roses, yellow, dozen	2 0	4 0
Euphorbia Jackminafolia, doz. sprays	1 0	4 0	— French, per bnch	1 0	4 0
Gardenias 12 blooms	1 0	2 6	— Red..... doz. blms.	1 6	4 0
Heliotropes, 12 sprays	0 6	0 9	— Saffrano...per doz.	1 6	2 0
Lilac, White, French, per bunch...	3 0	4 6	— Tea ..... per dozen	1 0	3 0
Lilium Harrisii, doz. blooms	2 0	3 0	Tuberoses, per doz	0 9	1 0
Lily of the Valley dz. sps.	0 6	1 6	Tulips	0 6	0 9
Maidenhair Fern, 12 bs.	4 0	6 0	—Mixed, doz. bnchs	3 0	6 0
Marguerites, 12 bun.	2 0	4 0	Violets, Parma, French per bunch..	3 0	4 0
			Small „ doz. bun.	1 0	1 6

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Azaleas... per doz	24 0	42 0	Foliage Plants, doz.	12 0	60 0
Cyclamen per doz ...	9 0	18 0	Genesta .....per doz.	9 0	15 0
Cyperus .....per doz.	4 0	12 0	Lily of the Valley doz. pots	9 0	18 0
Cineraria ...per doz.	6 0	9 0	Marguerites, per doz.	6 0	12 0
Dracæna term., doz.	24 0	36 0	Palms in variety, each	2 6	10 0
Dracæna viridis, doz.	9 0	18 0	Palms, Specimen ...	15 0	63 0
Deutzia .....per doz.	6 0	9 0	Primula Sinensis per doz.	4 0	6 0
Dielytra ..... per doz.	6 0	9 0	Pelargoniums ... doz.	12 0	18 0
Erica, various, doz.	12 0	18 0	— scarlet.....per doz.	12 0	18 0
Evergreens, invar. doz	6 0	24 0			
Ferns, invar., per doz.	4 0	18 0			
Ferns, small, per 100	6 0	10 0			

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FLOWER SHOWS, 1893.

Revised to date.

MAY.

9.—R.H.S., Drill Hall.
10, 11.—County of Gloucester & Cheltenham R.H.S.
11, 12.—Crystal Palace Flower Show.
13.—Opening of Gardening and Forestry Exhibition at Earl's Court.
17.—Royal Botanic Society.
18, 19.—Orchid Show at Earl's Court.
19.—Orchid Show at Old Trafford.
24.—Midland Counties Pansy Show at Tamworth.
25, 26.—R.H.S., Temple Show.

JUNE.

3.—Leicester and County Pansy Show.
6, 20.—R.H.S., Drill Hall.
14, 15, 16.—York Floral Fete.
20.—National Rose Show at the Drill Hall.
21.—Royal Botanic Society.
28.—Rose Show at Earl's Court.
28.—Richmond (Surrey) Flower Show.
29.—Windsor Rose Show.

JULY.

1.—National Rose Show at the Crystal Palace.
1.—Chingford Flower Show.
4.—Bagshot Rose Show.
4.—Diss Rose Show.
4.—Gloucester Rose Show.
5.—Ealing Flower Show.
5.—Royal Botanic Society Evening Fête.
5, 6.—Lee, Blackheath, and Lewisham Horticultural Society.
6.—Bath Rose and Begonia Show.
6.—Royal Horticultural Society of Ireland.
6.—Farningham Rose Show.
7.—Hitchin Rose Show.
8.—Reigate Rose Show.
10.—Helensburgh Rose Show.
11.—R.H.S., Chiswick.
12, 13.—Royal Caledonian Horticultural Society.
12.—Tunbridge Wells Show.
13.—National Rose Show at Worksop.
13.—Woodbridge Flower Show.
13.—Boston Flower Show.
18.—Eye Flower Show.
20.—Ludlow Flower Show.
20, 21, 22.—Newcastle-upon-Tyne Summer Show.
20.—Trentham Flower Show.
22.—Rose Show at Old Trafford.
25. R.H.S., Drill Hall.
26, 27.—Carnation Show at Earl's Court.
27.—Sleaford Flower Show.
27.—Halifax Rose Show.

AUGUST.

1.—Oxford Union Carnation and Picotee Show.
2.—Great Saughall Flower Show.
5.—Midland Counties Carnation Show at Birmingham.
5, 7.—Southampton Floral Fête.
7.—Battersea Summer Show.
7.—Beddington, Carshalton, and Wallington Flower Show.
7.—Duffield Flower Show.
7.—St. Neots Amateur and Cottage Horticultural Society.
7.—Mansfield Flower Show.
8.—R.H.S., Drill Hall.
9, 10.—Flower Show at Earl's Court.
10.—Margam Cottagers' Show.
10.—Maidenhead Flower Show.
10.—Taunton Flower Show.
12.—Ovenden Flower Show.
15, 16.—Cardiff Flower Show.
16.—Reading Flower Show.
16.—Kingswood St. George Flower Show.
16, 17.—Bilston Flower Show.
18.—Devon and Exeter Horticultural Society.
22.—West Malvern and Mathon Flower Show,
23, 24.—Shrewsbury Summer Show.
23, 24.—Gladioli Show at Earl's Court.
25.—Royal Horticultural Society of Ireland.
29, 30, 31.—R.H.S., Agricultural Hall.
30, 31.—Bath Autumn Show.

SEPTEMBER.

1, 2.—National Dahlia Society's Show at the Crystal Palace.
5, 6.—Brighton Autumn Show.
6, 7, 8.—National Chrysanthemum Society at the Aquarium.
8.—Bute Rose Show at Rothesay.
12, 26.—R.H.S., Drill Hall.
13, 14.—Royal Caledonian Horticultural.
13, 14.—Dahlia Show at Earl's Court.
27.—N.C.S. Floral Committee.
27, 28, 29.—Hardy Fruit Show at Earl's Court.
27, 28.—County of Gloucester & Cheltenham R.H.S.

OCTOBER.

10, 24.—R.H.S., Drill Hall.
11, 12, 13.—National Chrysanthemum Society at the Aquarium.
25.—N.C.S. Floral Committee.
28, 29.—Havant Chrysanthemum Show.

NOVEMBER.

1, 2.—Kent County Chrysanthemum Show.
1, 2.—Battersea Chrysanthemum Show.

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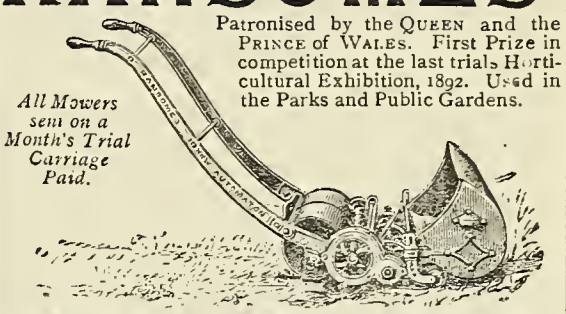

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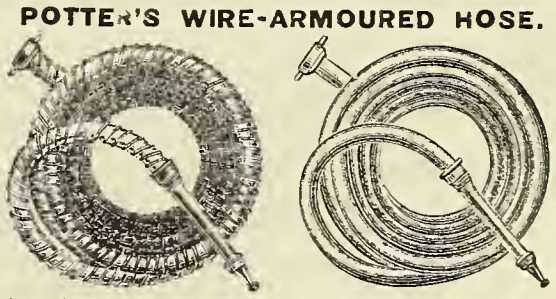

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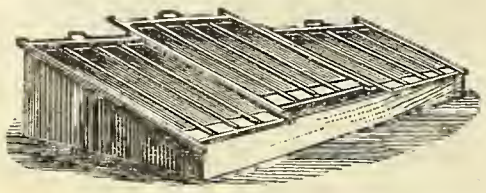

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4 " " ...	16 ft.	4 ft.	3 15 0
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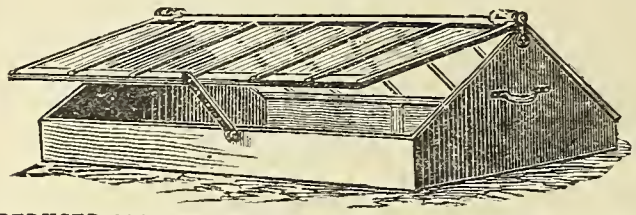

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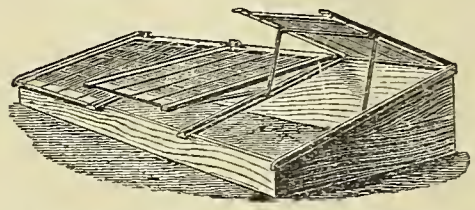

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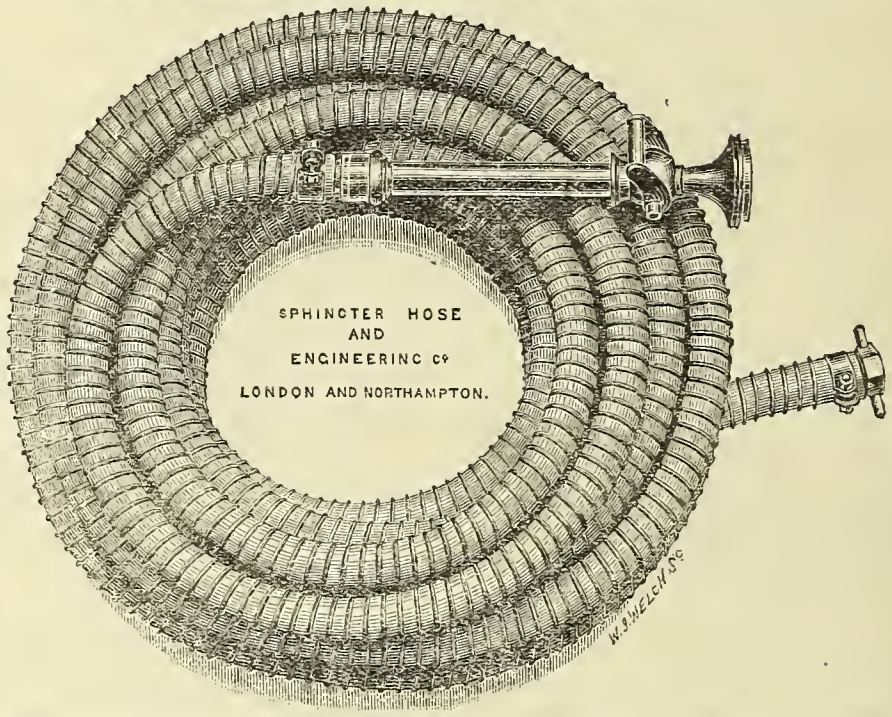

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12 Greenhouse Ferns, 6 var., including Maiden-hair ... 1 9
12 Maiden-hair Ferns, 12 var., most lovely kinds... ... 5 0
6 Maiden-hair Ferns, 4 distinct var., named 2 0
3 Adiantum Farleyense, most handsome Maiden-hair... 2 6
3 Greenhouse Asparagus plants, strong, well rooted ... 1 9
3 Lygodium scandens, the pretty climbing Fern ... 1 9
6 Greenhouse Selaginellas or Mosses, including golden 1 6
12 Assorted Ferns for cool greenhouse without heat ... 2 6
6 Large choice greenhouse Ferns, A. Farleyense tenerum, amabile, &c., 1 ft. high. 3 0
6 Fuchsias, 6 varieties, named 1 6
1 Tacsonia, 1 Hoya, 1 Solanum jasminoides 2 0
6 Primula obconica, always in flower, strong 2 0
6 Ivy Geraniums, 6 var. 1 6
6 Foliage Begonias (B. Rex), handsome leaves 2 0
3 Passion Flowers, 3 varieties, named 1 6
3 Double White Primulas 1 6
6 Cyclamen persicum, good strain 1 9
3 Hydrangeas Dr. Hogg 1 6
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For Index to Contents see page 568.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, May 9th.—Royal Horticultural Society: Meeting of Committees at 12 o'clock.
Sale of Imported Orchids at Protheroe & Morris' Rooms.
WEDNESDAY, May 10th.—County of Gloucester and Cheltenham Flower Show (2 days).
Sale of Palm Seeds at Protheroe and Morris' Rooms.
THURSDAY, May 11th.—Crystal Palace Flower Show (2 days). Orchid Sale at Protheroe and Morris' Rooms.
FRIDAY, May 12th.—Orchid Sale at Protheroe & Morris' Rooms.
SATURDAY, May 13th.—Opening of the Gardening and Forestry Exhibition at Earl's Court.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, MAY 6th, 1893.

THE ROYAL GARDENERS' ORPHAN FUND.—We hardly know whether to rejoice or to weep over the result of the recent dinner in aid of this Fund. Last year, it will be remembered, under the presidency of so popular and genial a chairman as Sir James Whitehead, Bart., M.P., the subscription-list amounted to the sum of £1,000, whilst this year the collection fell to £550, and would have been less than that amount by the sum of £100 but for the generosity of Messrs. Hurst & Son, who gave a donation of this amount to commemorate the jubilee of the establishment of their firm. The total amount of the subscription-list of course represents a serious deficiency, and if not made up from other sources must materially affect the number of children that can be elected next year.

But it was said last year, and perhaps with some truth, that the obtaining of so large a sum at the dinner would militate against the securing of help in other directions. It is feared that to some extent that was the case, as there was an undoubted falling off in annual subscriptions, though not largely. Still that ought not to be, and so far from there being a falling off the amounts subscribed should be in the ascending scale annually. In any case this year the committee can make a more forcible appeal to the gardeners of the kingdom for greater help, on the ground that the proceeds of the recent dinner leaves a serious deficiency over the income received through the same source last year.

We do not want to see those who are already regular contributors called upon to make this deficiency good. We want to see

it supplied by new subscribers, for there are thousands of gardeners or those who love gardening in the kingdom who contribute nothing. The addition of one thousand new subscribers of five shillings each would prove just now an enormous help, and yet this large number is after all but a few of the vast number of gardeners who, as we have before observed, subscribe nothing. The matter is one of really serious importance. It renders the active co-operation of all friends of the fund needful, and under no circumstances must we allow our cherished institution to recede in its blessed usefulness.

OUR METROPOLITAN PARKS.—We strongly hope that the London ratepayers, whose cupidity is being so viciously appealed to in relation to the expenditure of the London County Council on the public parks and gardens under the control of that body, will refuse to be caught by such discreditable arguments. We very much doubt whether any form of municipal expenditure returns to those who bear the cost so much of delightful enjoyment, so healthful and so pure in effect, as does that which is laid out on our open spaces. Let it be said for the London County Council that it has done wonders in striving to render the parks beautiful as well as enjoyable.

We have very little as horticulturists to do with other matters municipally, but we have very strong sympathy with every effort, public or private, which tends to make gardening not only popular, but also productive of the greatest enjoyment. Emphatically may it be said of our vocation in relation to its application in all urban parks and gardens that it does more than anything else to promote the greatest happiness of the greatest number. We have never yet found the human being, rich or poor, young or old, insensible to the beauty of flowers or who did not derive from them exceeding pleasure.

The London County Council does well to regard that instructive taste in humanity in the way it does, and thus, not lavishly but earnestly, cater to gratify it. Londoners have now a wealth of beautiful parks and gardens, places of resort which they appreciate and enjoy. It is well it should be so, and it would be sad were it not so. Happily there is no prospect that it will ever be otherwise.

THE HORSE CHESTNUT.—Although this noble tree has been with us now some 260 years, for it was reputably introduced here in 1629 from Asia, yet does it ever present itself as a refreshing object of beauty, and even has, in a limited sense, its day of worship and special adoration. That may be news to some, but still who has not heard of Chestnut Sunday, that one day of the year when thousands of lovers of the beautiful in trees flock from the metropolis and surrounding districts to Bushey Park, there to see the famous Chestnut avenue, some mile or more in length, broad, noble, and at the present moment a perfect mass of flower?

Rarely has the Chestnut been seen under brighter conditions than is the case this season. The trees have suffered nothing from drought as their roots have gone too deep into the soil, whilst the long spell of fine weather has enabled the flower spikes to present all their beauty in the most perfect form. Possibly the Horse Chestnut, as a flowering tree, suffers somewhat because it is so very common. That may be so, but all the same it must be admitted that whether seen singly or in groups noble trees in full bloom are objects that cannot well be rivalled.

There is a grandeur about the dimensions, contour, and leafage of the Chestnut that leaves nothing to be desired. Even the individual flowers, though small, are surpassingly beautiful, and it is only because presented in such remarkable abundance that they fail to secure that admiration their structure merits. One of the peculiarities of the species is the singular varieties which result from seed-raised trees, variations in form of tree, of foliage, of spike, and other features, although general features remain the same. We have sometimes thought that were the finest variations selected for seed production and followed up, in time even the grand Horse Chestnut might be much improved.

SUMMER BEDDING.—Whilst we have a good deal of sympathy with the efforts that have been made in various directions to cool the old fervour for tender bedding plants in favour of hardy subjects permanently planted, we cannot ignore the fact that there is still a very strong liking for these summer displays, especially that they give the rein to much decorative taste, that they admit of many varied mixtures and effects, and that they enable a wealth of plants to be employed in our gardens that otherwise would in them hardly find places. Moreover, they create considerable employment which might not otherwise be furnished.

In any case, not only is the summer bedding season at hand, but we see one very side the usual preparations for the work being made. For that work gardeners are anxiously hoping for rain, for the soil is still very dry, and especially is it so where hardy plants have been employed to furnish spring displays of foliage and of flowers. The introduction of the richly coloured and truly beautiful forms of the tuberous Begonia—so suitable for out-door bedding—so far from helping to check the bedding taste, has rather given it a new fillip, or in many cases created for it new desires.

After all it is very doubtful whether many of the elder race of gardeners will live to see the extirpation of the bedding-out system, and if reduced in extent and brought more into harmony with prevailing tastes, we do not know that anyone is very anxious for its extinction. It has done good service to gardening, and it will do more. Flowers, or otherwise colour in our gardens we must have, and bedding plants give us that desideratum so far in the best way.

Mr. C. Bowers, late of Barwick House Gardens, Yeovil, has been engaged as gardener to Sir Edward A. Medlycott-Ven, Milborne Port, Sherborne, Dorset.

Death of a well-known Pansy Grower.—Growers of the Pansy throughout the country will hear with regret of the death of Mr. William Fraser, of Linlithgow, which took place on the 19th of April, at the early age of 29 years. Mr. Fraser was well known in the North, both as a successful competitor and as a raiser of seedlings. Several of his varieties take a leading place in exhibition stands. Much sympathy is felt for Mrs. Fraser and her four young children in their sad bereavement.

The National Co-operative Flower Show at the Crystal Palace will this year, for the first time, be a two days' show, arrangements having been made for the exhibition to open at midday, on Friday, August 18th, and close on Saturday evening. Subject to this alteration and a re-arrangement of a few details consequent thereon, the general arrangements will be the same as in previous years.

Technical Education in Cornwall.—At a recent meeting of the East Penrith Agricultural Association it was resolved to apply to the Technical Instruction Committee of the Cornwall County Council to consider the advisability of introducing a series of lectures on horticulture, with demonstrations on cottage garden work. The whole question has now been passed on to the Executive Committee for Agriculture, for their further consideration and report.

The Kew Observatory.—A London Correspndent of a Plymouth contemporary writes:—"The new superintendent of the Kew Observatory is most highly spoken of. Mr. Charles Chree is a young man, but a very ripe scholar, and his intellectual equipment is precisely what he needs for his post. He is one of the best mathematicians turned out by Cambridge within the last ten years. He is not a merely mechanical student, for he has been conducting a series of independent investigations of which, it is said, Lord Kelvin thinks very highly, and there is no better judge than Lord Kelvin. Kew Observatory ought to produce good work under so young, energetic, and learned a superintendent.

The Drought.—The urgent need for water in many country districts for the purposes of irrigating the land has led Mr. J. C. Merryweather, head of the well-known firm of fire engine manufacturers, to send us particulars respecting the use of fire engines for watering crops, shrubs, &c. It is not generally known how suitable a fire engine is for such work, being capable, as it is, of pumping water through long lines of light, portable and flexible hose piping, by means of which, with suitable nozzles, either a heavy shower or a fine spray can be used on any part of an estate in a very short space of time. The present drought offers a good opportunity for the trial of this method of irrigation and Messrs. Merryweather inform us that they are ready to advise farmers and land owners on the subject, and will undertake to lend the necessary machines, &c., at a few hours' notice. Many estates now maintain excellent fire engines both of the "Brigade" and "Squire's" pattern, and these might also be brought into service for irrigating purposes.

Reading and District Gardeners' Mutual Improvement Association.—The fortnightly meeting of this association, being the last of the spring session, was held at the "British Workman" on Monday evening, and was well attended, Mr. Thomas Bowie presided. The subject for the evening's discussion, "Daffodils," was introduced and ably dealt with by Mr. F. Tufnail. He described the Daffodil as one of the most beautiful flowers they possessed, and referred to its great value for various decorative purposes. He also gave a list of the most useful varieties pointing out the peculiarities of the various forms, and proceeded to deal with their cultural requirements. The lecture was illustrated by diagrams, and gave rise to considerable discussion through which much useful information was disseminated.

Earliness of the Season.—Mr. W. N. White, of Covent Garden, writing on the 2nd inst., says:—"It may be of interest to some of your readers, comparing one season with another, to hear that we have today received from the growers of Saltash, Cornwall, our first consignment of Strawberries grown in the open, being the earliest on record. The first consignment last year only reached this market on June 4, and some years we have known it to be June 10 and 12 before they came forward. We consider the season to be five weeks earlier than ordinary. We also yesterday received the first large supply of French Cherries in flats, which we notice did not come forward last year until May 16." In another column a correspondent records the gathering of a peck of Peas in Devonshire last week.

How matters stand in Cornwall.—The weather in Cornwall during the past week has been simply perfect to the on-lookers and lovers of the beautiful in nature. The cool breezes and the fresh verdant tints would give a finishing touch to the Utopian picture could we but spare the just growlings and grumblings of the market gardener. Fruit has made rapid progress. Strawberries and Gooseberries are being freely picked and sent to market in large quantities, but unless the weather changes, general and later crops of Strawberries will be injured to an alarming extent. At present the demand from the London market both for Strawberries and Gooseberries is greater than the supply, and good prices are consequently obtained. Other fruits are doing remarkably well so far. Peas are being gathered, and a very good sample they prove to be. Potato crops seem in excellent condition—well skinned and of good quality. The Currant trees also promise well, but like Gooseberries, the fruit appears but small, as could only be expected. The Grapes cut and sent to market are exceptionally fine, and are realising no less than 4s. 6d. a pound. As our correspondent despatched this information, rain began to fall for the first time for two months.

DEATH OF MR. E. SANDERSON.

It is with much regret we have to announce the death of Mr. Edward Sanderson, for thirty years the President of what is now the National Chrysanthemum Society, who died on the morning of the 27th ult., having been in ill-health for some time past. Though unable for many months past to take an active part in the business of the society, Mr. Sanderson's name was retained on the committee in acknowledgment of his great services in years past, and more especially of his long association with the culture of the Chrysanthemum, and exhibition of his favourite flower. It was his earliest and his only floral love. On page 168 of the first volume of The Gardening World a sketch of the floricultural career of our old friend and colleague was given, and from it we learn that "he saw the formation of the original Stoke Newington Chrysanthemum Society, by Messrs. James, Holmes, and Tant, in 1846," and once when narrating his experiences as a cultivator he with great glee imformed us that on one occasion having visited an exhibition at the famed Rochester Castle Tavern, where he first saw Chrysanthemums produced in exhibition form, he, in 1848, purchased at Warners, at that time the well-known seedsmen in Cornhill, his first dozen plants, he at that time living in the Queen's Road, Dalston, then quite a rural district, that "he grew them in pots out of doors, and when it was unsafe to keep them longer in the open air brought them within doors and flowered them on a table in his drawing-room," and he recited how, "in order to admit more light into the room, he ruthlessly broke a sunlight outside." That was the beginning of the floral enthusiasm which remained with him so long as the state of his health admitted of his tending his flowers.

He became a member of the Stoke Newington Chrysanthemum Society, was elected on the committee, then secretary, vice-chairman, chairman of the committee, and eventually president. He filled that office when it became the Borough of Hackney Chrysanthemum Society, and some time after its broadening out into a National Society he resigned the presidental chair in favour of Lord Brooke.

To the early volumes of *Gossip of the Garden*, Mr. Sanderson contributed monthly some excellent cultural notes on the treatment of the Chrysanthemum, giving in detail the practice he carried out with so much success in after-years. On leaving Dalston he resided at Stoke Newington Green, and there bloomed his flowers in a tent having a glass roof and canvas sides. He then removed to Camden Town, and then, nearly twenty years ago, to Willesden, where he died. He has gone down to the grave amid the regret of a large circle of friends, and especially of those who like himself were devoted to the Chrysanthemum. He was buried in the parish churchyard of Willesden on Tuesday, his coffin being covered with wreaths sent by loving friends, including a very beautiful one from the President, Committee, and members of the National Chrysanthemum Society, which was represented at the graveside by Mr. Ballantine, Mr. Dean, Mr. Gordon, and other members.

GARDENERS' HALF-HOLIDAYS.

I am in touch with the views expressed in your issue of April 22nd regarding the question of half-holidays for young gardeners. Those who are employed in gardens in common with other employés should have due consideration and sympathy from those in authority over them, but I have not yet met with any young men who have been able to suggest how the labour under glass can be disposed of so that the men can get away at 2 o'clock. We all know that where there is a fair number of plants grown, and the average of fruit and vegetable forcing carried on under glass, Saturday afternoon is the busiest period of the week, preparations having to be made to reduce the work on Sunday, so that as much of the day of rest as possible may be enjoyed by all employed in the garden.

Where there is little glass requiring attention the difficulty is nominal, but where a number of men are employed in the houses it is impossible that Saturday afternoon can be granted as a holiday to them. We have always a struggle to get the day's work done by 5 p.m. on Saturdays. I have been where the half-holiday was allowed, but not at all relished by the men under glass on account of their labour on Saturday afternoon and Sunday being rendered so much more arduous than the remainder of the week. Wednesday would be much more suitable for men employed under glass, but I fear if the half-holiday is generally conceded it may lead to serious modifications in the rate of wages paid during the winter months, as from November to February, but little can be done in gardens before 8 a.m. or after 4 p m. Then there are the regular holidays during the season which are paid for by the employers, and in most cases time lost through sickness is also paid for, which is not the case in other branches of labour.

It must be admitted (at least I thought so when an underling) that under gardeners have more time for study and self-improvement than any other class of working men by reason of their having such long evenings during at least four months of the year. Employers generally allow their gardeners a choice of gardening literature, but it is regrettable to observe what little value is put upon this means of obtaining free instruction.—*Stirling.*

YOUNG GARDENERS.

I think there will be many young gardeners who will join with me in thanking the Editor for the leader that appeared in a recent issue under the above title; it being really, I suppose, the outcome of the movement in some quarters to procure a weekly half-holiday, and I agree that Saturday is not the best day for that purpose. It would be much better that a week-day followed the holiday rather than the Sunday. You have also, I believe, taken the right course in advising us young gardeners to use as a strong plea that we need the spare time to utilise intellectually, to be used more in the recreation of mind than body, in the advancement of our profession.

It has been my lot to work in some four or five different counties, after the manner of most young gardeners wishing to make themselves acquainted with the practice of gardening under varying conditions, and which can only be obtained by such journeyings from one well-managed establishment to another. My superiors have differed widely in the interest they have evinced towards the young men under them, and what a forcible truth is the complaint you speak of. I am sorry to say that in too many cases our head men look upon us as mere parts of a machine for the successful management of a garden, and so far care for us intellectually as regards the carrying out of their orders or of our capabilities during work hours. This sounds unpleasant, but the case must be stated plainly.

I should say that it has also been my good fortune to work under men whom I soon found were true friends, and who really interested themselves in our welfare, and now as I look back on the time spent with them with pleasure, I recall the regrets I felt at leaving them. Many a young man spends a year or two in a large private establishment, and during that time he neither personally knows the gardener nor the gardener him. I believe a good many head men are fearful of the consequences resulting from a little social intercourse with their men on the score, perhaps, that "familiarity" breeds contempt. But should it not rather tend to give rise to a better opinion of what the "boss" is, to endeavour to look on him in the light of a friend as well as a master? I am speaking from experience, and I know of many a weary month passed without a word of encouragment, though enlivened now and again by torrents of high words at the slightest omission of duties. Can we wonder then that young men seem more prone to visit the public-house than the reading-room?

What creates in many cases that strict attention to duty? Is it, as it should be, the love of our profession? or the fear that a little forgetfulness means a row? Too often the latter. Why do we suffer it? Because under the system we are forced to follow, we stay to get the record of time spent, and hail its finish very often by packing up and off to the nursery. The gardening profession is well represented as regards the Press, but I am afraid it would be regarded as rank heresey to question the behaviour of many men in good positions in the gardening world, or to freely ventilate the grievances of probationers. Young men are not represented in the Press; then how is it that the character of a gardener is known from one end of England to the other? In the main, the knowledge is acquired by the periodical visits to the great nurseries that young men are obliged to do until another situation is found. The late Mr. Wildsmith was an acknowledged authority, a good gardener, and a strict disciplinarian; but combined with this was a true interest in the welfare of the young men under him, alway ready to endeavour to elevate and educate. Paxton societies and gardeners' improvement societies are steps in the right direction.

I am glad to see that the Royal Horticultural Society is waking up, in the way of holding examinations and competitions for scholarships, and I should like to see something of the sort for young gardeners alone. May the time soon come when this distance between head and under gardeners will be bridged over, resulting, I feel sure, to the good of both. The necessary maintenance of dignity and order will, I am sure, be easier when young men have proved that those above them are something other than over-bearing tyrants.—*Probationer.*

THE FRUIT CROPS.

It is many years since we have had such a fine prospect of a thoroughly good fruit season, though this was not anticipated during the cold dull days of last autumn. The growth of trees was brought suddenly to a standstill in the north by frost setting in early and unusually severe. We noticed that fruit buds were prominent early in the season and the long frosty period seemed to mature or at least rest the buds which were formed. From the second week in March the weather has been unusually fine. Rain fell during the second week of April but was followed by sunshine; some nights we had from 5° to 7° of frost, but by reason of the dryness nothing seems to have suffered.

It is long since we heard of such a fine set of Apricots and now that the foliage is well-developed and healthy, a good protection to the fruit is afforded. Plums are not yet quite safe in the north but they look promising at present. Cherries are now (April 25th) sheets of white open blossoms. A number of Morello trees have been thinned by cutting off short pieces of wood laden with white flowers, and they are very pretty for decorative purposes. Apples are thickly studded with fruit blossom and those which never fail in bearing full crops are now as promising as ever. We never had fruit bushes so heavily laden with flowers as now. Pears are promising but not equal to Apples. There may yet be the proverbial slip between the cup and the lip, but our hopes for good results are very lively. Strawberries seemed to suffer somewhat but now the flowers appear to be coming up abundantly—President and Viscomtess Hericart de Thury still retain the position of hardiest and best croppers and they maintain their good name this season.—*Stirling.*

VEGETABLES AND THE FROST.

Though we do not remember to have seen vegetables more severely dealt with by frost than during the past winter, we are compensated to some extent by a season unsurpassed for its suitability for the raising of seedlings. Everything which we have sown is in the finest condition, and though some are calling out by reason of the absence of rain, we have no fault to find. A scarcity of spring vegetables is general in most northern gardens. Broccoli having suffered very severely leaves a blank which cannot be filled easily. Cabbages were mostly all destroyed in the open plots, but plants placed in sheltered positions suffered little. Celery stood well, and we shall have fair supplies till the end of May. When this crop is planted shallow and not grown too grossly for latest supplies, it becomes hardy, fine-flavoured, and keeps late.

A good substitute for Broccoli during spring is an abundance of Seakale kept covered with soil, which blanches it almost equal to anything else. We hope to have plenty for weeks to come. We have had Seakale in prime condition as late as June under the shade of walls and kept well covered. Spinach seemed almost quite destroyed, but a quantity of the round-leaved variety had its hearts remain sound, and these are now in vigorous growth and doing good service, while Prickly Spinach was rendered worthless. Parsley suffered more than usual, but from sowings made last autumn and pricked into boxes of soil we have had good supplies, and the plants are now in fine condition for planting out for permanent use.

The necessity for planting large breadths of Curled Kale and Brussels Sprouts is exemplified this season. They were injured very slightly and sent out an abundance of tender sprouts. Three plantations (or at least two) should be made to give succession crops. We do not remember getting vegetables under glass to succeed better than this season. French Beans, Cucumbers, Tomatos, and Potatos have forced remarkably well. *Stirling*

PLANTS RECENTLY CERTIFICATED.

The undermentioned plants and Potato were certificated at the meeting of the Royal Horticultural Society, on the 25th ult.

Strobilanthes Dyerianus.—The foliage of this plant is highly ornamental, and even should the flowers be inconspicuous and worthless, the plant will be grown solely for the sake of its foliage. The leaves are oblong-elliptic, serrate, wavy at the edges when young and of a beautiful rosy-purple with green edges, midrib, and likewise the principal lateral and incurved nerves. In short they have the delicacy of those of a Bertolonia. The stems are hairy and grey. A First-class Certificate was awarded it when shown by Messrs. J. Veitch & Sons, Chelsea.

Abutilon Souvenir de Bonn.—This again is meant for an ornamental-foliaged plant. The leaves are cordate, five-lobed, downy, on both surfaces, deep green, with a well defined white margin of irregular width. They are also long stalked and of good size when the plant has had time to grow to a fair and useful size. An Award of Merit was accorded it when shown by Messrs. B. S. Williams & Son, Upper Holloway.

Azalea viscosa Raphæl de Smet.—The flowers of this variety are large for those of those of A. viscosa type, and perfectly double, although the supernumerary segments are not at all crowded. They are ovate crisped, of a delicate pink, and very pleasing, while the tube is creamy yellow externally.

Azalea mollis Hilda.—The flowers of this variety are large, and very abundantly produced, orange-coloured, and having the three upper ones tipped with orange-red; the uppermost segment is spotted with a deeper hue. Both of the Azaleas were exhibited by Messrs. H. Lane & Son, who received an Award of Merit for each of them.

Potato Sharpe's Victor.—A box of tubers of this variety received an Award of Merit from the Fruit and Vegetable Committee, probably on account of its suitability for forcing purposes. The tubers are pebble shaped, blunt at either end, smooth, shining and white, with dark specks thinly scattered over it, otherwise the skin is quite clear. The eyes are very shallow, and in every way the variety appears well adapted for early work. An Award of Merit was accorded it when shown by Mr. Geo. Wythes, gardener to the Duke of Northumberland, Syon House, Brentford.

The plants mentioned hereunder were exhibited at the second spring show of the Royal Botanic Society at Regent's Park, on the 26th ult., and received certificates according to their kind

Iris Helenæa.—This species belongs to the Oncocyclus group of Irises, and comes from Palestine and surrounding districts, as several others of the same class have recently. The leaves are linear, glaucous, and shorter than the stem which varies from 6 in. to 12 in. in height. The falls are oval, deep purple with black veins, and have a black blotch on the centre. The standards are very much broader, roundly obovate, arched over the top of the flower, and of a clear but deep rosy-purple with darker veins. The petaloid stigmas are reflexed or strongly arched over the falls, bifid and of a coppery brown, thus presenting a striking contrast to the rest of the flower. A Floricultural Certificate was awarded it when shown by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

Auricula Winifred.—This belongs to the Alpine class and has obovate, green, toothed leaves. The flowers are large with a pale yellow paste fading ultimately to creamy white. The body colour is maroon-crimson rather abruptly shading into a broad rose-coloured edge. A Floricultural Certificate was awarded it when shown by Mr. C. Turner, Slough.

Auricula Engineer.—In this we have a self-coloured show variety. The leaves are obovate, almost entire at the edges and mealy, but particularly at the edges, which are quite white. The flowers are of medium size, intense blackish-maroon, with a well defined, circular white paste and a yellow tube. A Floricultural Certificate was awarded it when shown by Mr. A. J. Sanders, gardener to Viscountess Chewton, Bookham Lodge, Cobham.

Wistaria sinensis alba.—The flowers of this choice variety are produced in long racemes as in the case of the type. They are pure white with exception of a small greenish-yellow spot at the base of the standard, and which can only be seen on close examination. The calyx is paler than in the type and cream-coloured. A Floricultural Certificate was awarded it.

Azalea mollis Anthony Koster.—For description of this beautiful variety see p. 529. A Floricultural Certificate was awarded it.

Rhododendron Lord Wolseley.—The flowers of this hybrid greenhouse variety are of very large size for this type, campanulate, with revolute segments, and of a beautiful orange-salmon. The tube externally is yellow and the filaments and style are crimson. A Floricultural Certificate was awarded it.

Strobilanthes Dyerianus.—For description see previous column. A Botanical Certificate was awarded it.

Vriesia Morrenii.—The ligulate, entire leaves of this neat and showy plant are about 6 in. to 8 in. long and crowded in a dense tuft. The flower scape is 6 in. to 9 in long and furnished at the top with a flattened mass of bracts in two ranks, and which constitutes the most durable and most ornamental part of the inflorescence. The lower half of each bract is deep red, and the upper half clear yellow. The flowers are produced in succession and singly from the axils of each bract, and they are clear yellow with a green tip to the sepals, in the early stage at least. A Botanical Certificate was awarded it, when shown by Messrs J. Veitch & Sons, Chelsea, who also exhibited the four previous subjects.

Begonia Sunset.—This is one of the tuberous, summer flowering race of Begonias, and has large half-cordate, deep green leaves. The flowers are single, of very large size, perfectly orbicular, and of a bright warm scarlet. A Floricultural Certificate was awarded it.

Begonia Lord Byron.—The flowers of this sort are of medium size, single, brilliant carmine with a white centre. It belongs to the same class as the last-named, and has large, obliquely cordate, lobed and deep green leaves. Floricultural Certificate.

Begonia Miss Jeannie Fell.—Here also we have a tuberous Begonia, with small. perfectly double flowers, the sepals of which are of a deep crimson-scarlet or crimson-red and neatly arranged round a common centre like a Rose. The plant is of dwarf habit, with half-cordate small deep green leaves. Floricultural Certificate. All the three Begonias were shown by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

Caladium Louis Van Houtte.—The leaves of this new variety are of large size, heart-shaped, and of a beautiful soft red all over in the young stages, finely netted with darker veins. As they become older they assume a bronzy red hue, and ultimately become shaded with bronzy green. A Botanical Certificate was awarded it when shown by Messrs. J. Laing & Sons, Forest Hill.

Carnation Uriah Pike.—For description of this fragrant Clove Tree Carnation see p. 529. A Floricultural Certificate was awarded it when shown by Mr. J. Pike, 66, Park Road, South Acton.

Azalea viscosa Raphæl de Smet.—For description of this variety see above. A Floricultural Certificate was awarded it when shown by Messrs. H. Lane & Son, Berkhamstead.

DULWICH PARK.

Lovers of hardy plants will appreciate the idea of their extensive cultivation in the London Parks This applies not merely to herbaceous subjects but also to the wealth of all kinds of ornamental trees and shrubs now at the command of the cultivator. Dulwich Park is quite a new one, and we may say decidedly distinct both in general aspect and in detail from any other of the London Parks. It consists of 72 acres in all, with four large entrances for the public, numerous wide and well kept carriage drives, a lake of some extent with islands, sunk garden, cricket grounds, to accommodate ten to eighteen teams, and lawn tennis courts where twenty to twenty-seven teams can play contemporaneously, and numerous pieces of rockwork, shrubberies, &c. Some fine old trees that occupied the grounds before being made into a park, give the place an aspect of some antiquity. From various points of view we get beautiful glimpses of the wooded and grassy slopes of Sydenham Hill capped by the Crystal Palace; and the park actually appears continuous all the way to the last named place.

Rockeries.

Everything is in excellent order and speaks well for the superintendence of Mr. J. W. Moorman, who appreciates and is earnestly in love with the various kinds of hardy plants he is called upon to cultivate. The collection has rapidly augmented within the last two years, and everything is now well established and perfectly at home. A walk round the place even at this early period of the year shows a wonderful variety and richness in spring flowers exclusive of Tulips, Hyacinths, Narcissi, and others of that type. At the Court Lane entrance the approaches are built up in the form of rockwork and planted with many choice things. Not far from the entrance the carriage way divides into two, and the triangular piece of ground between them is also occupied with rockwork. Here the masses of the deep rose-flowered Aubrietia deltoides Leichtlinii are most conspicuous, much more so than the patches of A. d. Campbelli alongside of it. Saxifraga Camposii and S. geranioides with their white flowers offer a fine contrast with the above as well as with Alyssum saxatile forming broad patches of golden yellow. Many pieces of Antennaria dioica rosea, with rose-coloured heads are very interesting. For a mass of white flowers nothing seems to surpass Iberis sempervirens clothing the banks of the approaches in large patches, hanging over and lying between the masses of brick burrs of which the rockwork is built. Another showy white Saxifrage is Saxifraga cœspitosa Stansfieldi. Others coming on to take the place of those now in bloom are S. Hostii, S. serrata elegans, S. rotundifolia, and others. There too are Potentilla alba, Veronica gentianoides and the pigmy V. g. pumila, only 2 in. to 3 in. high. The large deep rose blooms of Lychnis diurna flore pleno are now commencing to show themselves. On the lower grounds at the foot of the banks are fine masses of laced Polyanthus some of them but little inferior to the named kinds. Here too are broad patches of the fasciated Forget-me-not (Myosotis alpestris Victoriæ) in a dwarf and most floriferous condition.

Near the Rosebery Gate we have similiarly designed pieces of rockwork gay with spring-flowering subjects. Upon the left of it is a lodge with beds of Tulips, Wallflowers, etc. The early kinds of Tulip are over, but T. elegans, T. fulgens, and T. spathulata, considered the wild form of T. Gesneriana, were still in their prime at the end of April. On the rockery Erica carnea is over, but E. mediterranea and E. m. alba are still at their best. Other plants of the Heath family are Menziesia empetrifolia, Ledum palustre, and Gaultheria procumbens, the latter still in fruit with the calyx forming the larger part of the fruit opening like a flower. Epimedium Musschianum, Arabis lucida variegata, and the white-flowered Anemone narcissiflora are amongst the choice little bits to be seen here. Of course a great many of the more conspicuous subjects are repeated here from the other gate.

At the Dulwich Common entrance, known also by the old familiar name of Snake's Lane, there is some rockwork on one side and the wild garden upon the other, under some tall old trees. On a villa by the entrance the common Honeysuckle trained to the top of the wall is now a mass of bloom. Mixed with it is the yellow Banksian Rose also in bloom. At the inner end of the rockwork is a bold patch of seedling Auriculas, both show and Alpine, in full bloom and highly fragrant. Laced and other Polyanthuses are also fine. The patches of Saxifraga muscoides atropurpurea are also pretty. S. Guthrieana and S. Andrewsi, said to be synonymous, are here quite distinct. Tiarella cordifolia, with its creamy flowers, is most floriferous. Iberis corifolia just commencing to bloom will take the place of I. sempervirens presently. The Cushion Pink (Silene acaulis) is flowering, and apparently happy on the more elevated portion of the rockwork. The English Blue Bell in all its four colours of blue, rose, flesh, and white may be noted on the level ground. Some strong

clumps of Saxifraga peltata are flowering in advance of the foliage.

Near the above are some elevated ground and rockwork facing the lake on one side. Here again many old acquaintances greet the visitor. We noted a fine piece of Erysimum ochroleucum, better known perhaps under the name of Cheiranthus. Anemone narcissi flora was bearing as many as seven blooms in an umbel. Numerous patches of Primula cortusoides are flowering beautifully. Pæonia anomala is already in bloom, and so is Polemonium reptans. The way in which Myosotis alpestris Victoriæ accommodates itself to the crevices amongst the stones is truly surprising as it is floriferous. The top of this mound is occupied with flowering and fine-foliaged trees and shrubs.

WILD GARDEN AND LAKE.

As already stated the wild garden occupies a piece of ground under and behind some tall trees at the Dulwich Common entrance. All kinds of spring and other flowers find a home here in masses and patches without any regard to regularity. The Winter Aconite came into bloom on the 24th of January, and the common Primrose has been flowering more or less ever since. Then followed Snowdrops, Daffodils, Scilas, including the forms of the English Blue Bell now in bloom as well as the Spanish Squill. Others in various stages of bloom are Arabis, Wallflowers, Silene pendula, Forget-me-nots, Woodruf, Anemone nemorosa and its double form, the Poet's Narcissus, Tulipa fulgens, Clematis montana and a host of others. The Clematis is trained over some tree stumps in the back ground, where a large number of such stumps are covered with Ivy, cut-leaved Brambles and other subjects.

In winter, when frozen over, the lake is laid open to skaters, who come in their thousands and keep the place lively till 10 p.m. At present it is occupied with waterfowl, while the banks as well as those of the island, slope down to the water. The latter is planted with flowering trees and shrubs. On one side is a low waterfall, and the sides of the channel below it are planted with Acorus Calamus variegata, Gunnera scabra, and Marsh Marigolds, while yellow and white Water Lilies are submerged in the water.

SUNK GARDEN AND SHRUBBERIES.

Lying between the Court Lane entrance and the Salisbury Gate is a sunk garden where American and allied plants are grown in large beds upon the grass. Some of them are filled with hybrid Rhododendrons of the R. ponticum type, and which will be in flower presently. Others are occupied with varieties of Azalea nudiflora, A. pontica and A. mollis. Numerous Lilies are planted about in them, such as L.auratum, L.speciosum rubrum (lancifolium) L.candidum and L.tigrinum, while seedlings or bulbils of the latter are forming little plants in multitudes. Daphne Cneorum planted as an edging to some of the beds is flowering grandly.

The collection of trees and shrubs is very rich, and represent a feature of modern gardening not to be seen in any other of the London parks. The White Birch (Betula alba) is represented by the purple-leaved variety and Young's Weeping Birch. Cerasus Watereri bears very large pinkish white flowers and those of the double C. Avium multiplex are very abundant and conspicuous. Very floriferous and showy are Prunus sinensis flore pleno, Elæagnus edulis, Cytisus albus and its sulphur yellow variety, known as Genista præcox, Weigela rosa with a white variety, Pyrus Malus floribunda, the common Broom, Double Furze, Berberis Darwini, B. stenophylla. B. empetrifolia, Pyrus spectabilis, Paul's Double Scarlet Thorn, Ribes sanguineum flore pleno, Acer fulgens, and many others too numerous to be mentioned in detail here. Numerous Weeping Willows, Maples, Negundo aceroides variegata, Prunus Pissardi in endless variety, witness the many fine things at the planter's hand to beautify parks and gardens. The beds and borders are on undulating ground and form wide bays upon the grass producing wonderful effects to be copied or imitated to the advantage of other places.

Near the College entrance, several blue and yellow Violas make a brave and wonderful display at this early period of the year. Mr. Moorman also has some glass houses and frames under his care, where his summer bedding plants in large numbers are being brought forward, including Violas, Pentstemons, Dahlias, Pelargoniums, Acacias, Ficus elastica Eucalyptus globulus, 6 ft. to 8 ft. high, Abutilon Thompsoni, Ricinus, Cannas, and Begonias, including B. semperflorens atropurpurea, which is being raised in large numbers both from cuttings and seeds for bedding out purposes. Both foliage and flowers are handsome, and flowering is continuous.

THE VEGETABLE GARDEN.

Henderson's White Plume Celery.

THIS variety was sent out by Messrs. Peter Henderson & Co., 35 & 37, Cortland Street, New York, and being the earliest and easiest grown variety is a favorite both in the United States and Canada. To those who have never seen the White Plume Celery, I would state the peculiarity of the variety is that naturally its stalk and portions of its inner leaves and heart are white, so that by closing the stalks, either by tying them up with matting or by simply drawing up the soil up against the plant and pressing it together with the hands, and again drawing the soil with the hoe or plough so as to keep the soil that has been placed against the Celery in position, the work of blanching is completed. Another great merit of the White Plume is that it is the handsomest Celery grown, and far exceeds any known vegetable as an ornament for the table, the inner leaves being disposed somewhat like an ostrich feather, so as to suggest the name which the firm have given it of White Plume. In the near future, I may write you on wintering Celery in Ontario.—*H. H., Ingersoll, Ontario, Canada.* (Please do.—ED.)

The Freeman Potato.

IN answer to "B. L.'s" enquiries respecting this Potato I quote the raiser's description of this wonderful new variety. The Freeman Potato is absolutely the strongest grower I know of or have ever seen and it has shown such unusual developments, both as to early ripening qualities, enormous productiveness and strong vigorous growth, that no praise, in my opinion, is too strong for its merits. The tuber is oval in shape, russet in colour, flesh, pure white, fine grained, and of best quality. I have frequently dug six to nine pounds from a single hill and in rich ground there are few small ones. It is not excelled as a keeper. Prices, 1 lb. for 35 cents, 4 lbs, $1. It was sent out by J. A. Bruce & Co., Seedsmen, King Street, Hamilton, Ontario, Canada.—*H. H., Ingersoll, Ontario, Canada.*

Americen Wonder Pea.

HALF a peck of this Pea was picked last week in the garden of W. Pope, Esq., Hopefield, North Devon. So far as I know this beats the record for the open ground in the West of England, excepting in the warmer parts of Cornwall. To be able to gather Peas in April—even in Devonshire—speaks volumes for the kind of season we are having. Two of my friends near Exeter will have Exonian fit to pick by the 8th of May, this new wrinkled variety running a neck and neck race with Veitch's First Early and Eclipse, William Hurst and Chelsea Gem following hard on these greyhounds of the Pea-world.—*Devoniensis.*

Globe Artichokes.

A NEW plantation of this vegetable should be made every year to give heads in the autumn, when the supply from the old-established plants is over. Now is a good time to do this, and the side shoot or sucker broken off the old stools make the best plants to use as they grow away so freely. The ground should be well manured and deeply dug, and 4 ft. apart between the rows and 3 ft. from plant to plant is a good distance to plant them. As the plants get established a little manure water will benefit them, and if some is given now to the old plants it will be a great help to them.—*G. H. S.*

Sewage for Kitchen Garden.

IT may be of interest to some to hear a little about my experience with ordinary sewage from a nobleman's establishment, as used in a kitchen garden. Some four years ago we drained all the sewage from the mansion, laundry, stables, etc. into a large tank made for the purpose underground. From this tank 4-in. pipes are laid to various points in the garden, and near the tank is a small engine which, is supplied with steam from the large boiler which works the engines that supply the establishment with electric light. When the electric light engines are running, which is about four times a week when the family are at home and twice a week at other times, the sewage is pumped out. To distribute it about the ground we have large canvas pipes and a number of V-shaped troughs. I may mention that we have it also laid into a meadow, so that we are not obliged to run it in the garden unless it is wanted. I find it of much use during a dry time such as the present, particularly for Cabbages or Peas. Strawberries I think it helps, and all soft-growing things, but I have found that it is of no use to depend upon sewage to grow anything by itself. When the ground has had ordinary farmyard manure dug into it, the sewage does help it. Asparagus (as far as my experience goes) does not like it. Two years ago I used a lot on the Asparagus beds, and I feel sure it did more harm than good. It is certainly useful for some crops, but I scarcely think it is worth the expense of laying on to a kitchen garden. Of course the sewage from a town is another thing altogether. My remarks simply refer to that from an ordinary-sized establishment.—*G. H. S.*

Gleanings from the World of Science.

Formation of nitrous acid and ozone. — Professor Dewar while lecturing on the "Atmosphere," at the Royal Institution on the 27th ult., made some reference to the phenomenon of phosphorescence in the atmosphere after the passage of meteorites, but whether this was due to secondary electrical effects or heat was not exactly known. He then suggested the question as to whether the oxygen or the nitrogen of the atmosphere was the element that produced this condition of luminosity under electrical discharge. He proceeded to demonstrate by a series of experiments which of the two it was. A stream of air was made to pass two conductors of an electrical current producing a pale phosphorescent light. Hydrogen gas, nitrous oxide and nitrogen were in turn made to pass the conductors with a partial or complete absence of luminosity. The conclusion was that the luminous effects were produced by the stimulus of the electricity on the molecules of oxygen, resulting in the formation of ozone and nitrous acid. Both of these are important agents in the formation of nitric acid which is carried to the earth by rain, there to undergo the process of nitrification, and thus supply plants with combined nitrogen. The nitrous acid and finally the nitric acid produced as the result of electrical discharges during thunderstorms, is the only original source of combined nitrogen available to the great majority of plants, whether wild or cultivated, excluding of course, leguminous plants.

A New Celery Culture.—This is the title applied to the cultivation of Celery in closely planted beds, with the view of blanching the leaf stalks by the density of their own foliage. The idea itself is not a new one, as explained by T. Greiner in his little book on "Celery for Profit," published by W. Atlee, Burpee & Co., Philadelphia, but he says that little attention was paid to the plan till the introduction to commerce of the varieties of Celery known as White Plume and Golden Self-blanching. The plan is to make beds of these varieties of convenient width for watering, with the plants 10 in. apart from row to row, and 5 in. between the plants in the rows. This is of course intensive cultivation, and if it is to succeed, as much manure must be given to one acre as used to be given to four or five, and water must also be supplied in liberal quantity. Wood ashes, blood manure, and fish compost are special manures, while well-rotted farmyard manure should form the staple to enrich the land. The above varieties of Celery are most suitable for late summer and autumn supply. We doubt if they would be of much service for winter work grown on the above principle.

Weather Forecasts.—In a small pamphlet termed *Weather Prediction No. 2*, Hugh Clements says that it is a tenet of scientific and meteorological doctrine that the weather cannot be predicted for a longer period than forty-eight hours in England, owing to its position. By his own scheme he asserts that it is possible to foretell the nature of the weather with success, at any given place not only for two days in advance, but even for months and years. He has no doubt but that a few years hence farmers in all civilised countries of the world will be able to rely upon the weather forecasts at least a year ahead. The forecasts are based, he continues, upon the moon's motions, that affect every place differently according to its latitude, longitude and environment. To foretell this satisfactorily it is necessary to find a day in the past year having the same relation to the phases, apsides, and nodes of the moon. His forecasts for the present year, so far, he affirms have been wonderfully accurate; and he is now occupied in forecasting the daily weatner in London for 1894. The certainty in the matter of weather will enable the farmer of the future and for the matter of that, let us say, the gardener to rotate his crops and rear his live stock in accordance with the weather, and farming wil become more a matter of scientific certainty, to the benefit of all concerned.

FLORICULTURE.

New Auriculas.

THESE were present, at the Drill Hall last week, in as large a quantity as could reasonably have been expected, regard being had to the weather and the difficulty of holding the flowers over, especially the selfs, which invariably bloom earlier than the others. It was from the north the new show flowers came, and they were mainly present in the twelve set up by the Rev. F. D. Horner in Class I., and which was awarded the first prize. It may be stated as a point in favour of those who hold that it would be well, as equalising the conditions of the competition, that only flowers actually in commerce should be staged, having separate classes for those not in commerce and therefore coming under the denomination of seedlings—that only three at most, viz., George Lightbody, Alexander Meiklejohn, and Heatherbell, perhaps only the two former, are actually in commerce.

Among the new green edges, Shirley Hibberd, a fine variety which fittingly commemorates the memory of our old friend, is remarkable for its distinctness, its good points, and its almost extraordinary robustness of growth. My description is as having large well-formed pips, the edge of green deep and strong, body colour black and then forcing the best contrast to the edge, the breadth of the body colour equal to the other zones, good solid pure paste and golden tube. It was impossible not to be struck with the fine quality of Mr. Simonite's seedling, and it promises to be as useful as the Rev. F. D. Horner for its constitution, constancy, and freedom. It was awarded Mr. W. Smith's Special Prize as the best seedling green edge not in commerce, which also had to be an improvement on existing varieties. In addition Mr. Horner had Achilles, bright green edge, black body colour, good white paste and tube; Monarch, as usual, large in size, deep green edge, black body colour, fine paste, but weak tube, probably owing to the flower being shown past it best; and Chlöe, bright green edge, dark body colour, good tube, but somewhat thin narrow paste. Whether Achilles, Monarch, and Chlöe will ever be distributed remains to be seen, but I do not think Monarch will ever take the high position which is on all hands awarded to that excellent green edge the Rev. F. D. Horner. Mr. Patterson, Ashbourne, Sunderland, a grower who is a successful cultivator in the north, had green edge John Garrett, which has a bright green edge, black body colour, good paste and pale tube, it also appeared to be a pretty good grower. Anything in the way of a useful green is an aquisition—additions being badly needed in a class containing but very few good flowers. I observe that in one of your contemporaries Simonite's James Hannaford is highly spoken of as a green edge—indeed, as a green edged George Lightbody. I have a small plant of it, and I should think it is a fairly early variety in blooming, and to all appearance a good grower. Three plants of a new green edge, raised by Mr. Thomas Lansdowne, of Swindon, and which he named after himself, came into my possession last autumn, two plants of which I retained, and one I sent to Sir John Llewelyn, Bart. Mr. Lansdowne states that it is a seedling from the Rev. F. D. Horner, but an improvement upon it, especially in the strength of the tube. It has the character of foliage of the seed parent, and is an excellent grower. One plant sent up a truss of seven pips on a stiff erect footstalk, but they became frosted, in common with most of my show varieties, and did not expand. Sir J. Llewelyn thinks very highly of it. In the class for a specimen green edge Mr. Horner staged his Attraction, but it fell behind the Rev. F. D. Horner in point of quality. Mr. Thomas Fife, of Reading, has two or three promising green edges, but he informed me these, too, were frosted at the time of my own, the early part of the second week in April, and therefore did not show themselves to the best advantage. It seems therefore as if the green edged class is likely to be considerably augmented during the next few years. I may add that no new green edge was shown in the class for seedlings.

Of new grey edges, Mr. Horner had Grayling, a large flowered variety having a broad edge, out of all proportion to the narrow zone of body colour, narrow dense paste and good tube. I did not observe anything else among the grey edges, and nothing was produced in the seedling class.

Of new white edges—I use the term new in the sense of not being, to my knowledge, in commerce—the Rev. Mr. Horner had Magpie, which when at its best I take to be the best white edge yet seen, because all its parts are so good and so well proportioned. As it took the first and second prizes in the class for a white edge, beating Mrs. Dodwell, its position was assured. Mr. C. Turner had a useful looking white edge under the name of Ganymede. In the class for a seedling. white edge, Mr. Horner staged Desdemonia, but which not being in good condition was passed over.

Of new selfs, the Rev. F. D. Horner had Doris, plum colour shaded to a paler tint in the margin, probably an effect of the weather, somewhat narrow scolloped paste and good tube, having a good deal of the habit of Mrs. Potts; Dusk, a very dark, quite a black self, good tube and narrow paste; Charmer, a rich reddish self, excellent shape, good tube and paste; and Pink, well-named because having this unusual tint of colour, small, but good shape. Mr. R. J. Sanders had Engineer, a dark self in the way of Black Bess, but distinct, decidedly promising, and awarded the first prize in the class for a seedling self.

New Alpines were in strong force, but it is necessary to employ the term new with some reservation, as new varieties are sometimes put into circulation privately, though not offered for sale in the ordinary manner. Mr. C. Turner was strong in white centred flowers, previously a somewhat restricted class, among them Winnifred, of which he had a half dozen plants, and it was awarded the first prize as a new seedling white centred flower; the white centre is good and enduring, and the dark purple black ground shades to lilac mauve. Mr. W. L. Walker took the second prize with an unnamed seedling. Other fine white centred flowers were Mrs. H. T. Roland, Patience, very good; Countess, Hubert, Mrs. Lakin, Lady Laura Hampton, the plum ground shaded to blue purple, and Mrs. Herold. Of gold centres the best new variety was H. M. Pollett, shown in fine condition by Mr. C. Turner, and F. Knighton Dash, and Evelyn Phillips, awarded the second prize as a new seedling, shown by Mr. C. Phillips, Reading, who has a number of promising seedlings.—*R. D.*

National Auricula Society (Northern Section).—The above Society held their Annual Exhibition in the Town Hall, Manchester, on Tuesday, April 25th, in conjunction with the Royal Botanical Society's Second Spring Exhibition. The exceptionally early season had brought the plants on much sooner than usual, and consequently the blooms were not quite so large, but on the whole the show was a very good one and would compare favourably with many of its predecessors. The most successful exhibitors were Messrs. Tom Lord, Todmorden; Irving Hind, Halifax; W. H. Midgley, Halifax; and Miss Woodhead, Halifax, in Auriculas; Messrs. J. Beswick, Middleton; F. Clements and J. Stokes, Birmingham, in Alpines; Mr. Geo. Thornley, Middleton, in Polyanthuses, and Mr. S. Barlow, J.P., Castleton, in the fancy classes.

The premier Auricula in the exhibition was shown by Mr. Lord, and was a very excellent specimen of that reliable variety Rev. F. D. Horner (green edge). Several other good plants of this variety were exhibited in the various classes. In grey edges, Geo. Lightbody was, as usual, well to the fore. Mrs. Dodwell and Acme came up well in the whites; and in the selfs, the always reliable and useful Mrs. Potts carried off premier honours. Mr. Barlow was awarded a First-class Certificate for a seedling Alpine, a most pleasing variety, and one likely to be heard of again.

The following were the awards of the judges:—

SIX DISSIMILAR AURICULAS (one at least in each of the clases, Alpines excluded). 1st, Mr. Irving Hind, Halifax, with Mrs. Dodwell, Talisman, Mrs. Potts, Acme, Lancashire Hero, and Geo. Lightbody; 2nd, Mr. Tom Lord, Todmorden, with Rev. F. D. Horner, Mrs. Potts, Mrs. Dodwell, Geo. Lightbody, Lancashire Hero, and Acme; 3rd, Mr. W. H. Midgley, Halifax, with Mrs. Potts, John Simonite, Mrs. Dodwell, Rev. F. D. Horner, A. Meiklejohn, and Geo. Lightbody; 4th, Miss Woodhead, Halifax; 5th, Mr. G. Middleton, Prestwick; 6th, Mr. J. Stokes, Birmingham; and 7th, Mr. J. Clements, Birmingham.

FOUR DISSIMILAR AURICULAS (one at least in each of the classes, Alpines excluded).—1st, Mr. Tom Lord, with Mrs. Potts, Rev. F. D. Horner, Mrs. Dodwell, and Geo. Lightbody; 2nd, Mr. Irving Hind, with Mrs. Potts, Rev. F. D. Horner, Lancashire Hero, and Acme; 3rd, Mr. W. H. Midgley, with Mrs. Potts, Rev. F. D. Horner, Mrs. Dodwell, and Geo. Lightbody; 4th, Miss Woodhead; 5th, Mr. Thos. Buckley, Stalybridge; 6th, Mr. G. Middleton; and 7th, Mr. J. Clements.

PAIR OF AURICULAS, DISSIMILAR—1st, Mr. B. Simonite, Sheffield, with Ivanhoe and a seedling; 2nd, Mr. E. Shaw, Moston, with Mrs. Dodwell and Wm. Brockbank; 3rd, Mr. S. Barlow, Castleton, with Mrs. Potts and Syke's Complete; 4th, Mr. J. Dickin, Ashton-under-Lyne; 5th, Mr. J. Stelfox, Stalybridge.

PAIR OF AURICULAS (maiden growers only).—1st, Mr. J. Dickin, with Mrs. Potts and Lovely Ann.

FOUR DISSIMILAR ALPINE AURICULAS (shaded).—1st, Mr. J. Beswick, Middleton, with Nellie, John Allen, Mrs. Beswick, and Mr. Durnford; 2nd, Mr. J. Stokes, with Albion, Edith, Mrs. Ball, and Unique; 3rd, Mr. S. Barlow, with Diadem and three seedlings; 4th, Mr. H. Geggie, Bury; 5th, Mr. J. Clements; 6th, Mr. J. Stelfox; 7th, Mr. Geo. Thornley, Middleton.

AURICULAS, SINGLE PLANTS.—Green-edges: 1st, Mr. B. Simonite, with Dr. Hardy; 2nd, Miss Woodhead, with Talisman; 3rd, Mr. T. Lord, with Rev. F. D. Horner; 4th, Mr. I. Hind, with Prince of Greens; 5th, Mr. B. Simonite, with a seedling; 6th, Mr. J. Stelfox, with a seedling. Grey-edges: 1st, Mr. T. Lord, with Geo. Lightbody; 2nd, Mr. W. H. Midgley, with A. Meiklejohn; 3rd, Mr. I. Hind, with Lancashire Hero; 4th, Mr. T. Lord, with Richard Headly; 5th, Miss Woodhead, with Rachel; 6th, Mr. B. Simonite, with a seedling; 7th, Mr. S. Barlow, with Syke's Complete; 8th, Mr. T. Lord, with Geo. Rudd. White-edges: 1st, Mr. W. H. Midgley, with Traill's Beauty; 2nd, Mr. I. Hind, with Mrs. Dodwell; 3rd, Mr. W. H. Midgley, with Acme; 4th, Mr. T. Lord, with Smiling Beauty; 5th, Mr. J. Stelfox, with Heatherbell; 6th, Mr. B. Simonite, with Magpie; 7th and 8th, Mr. J. Stokes, with Rachel. Selfs: 1st, Mr. I. Hind, with Mrs. Potts; 2nd, 3rd, 4th, 5th, 6th, and 7th, Mr. B. Simonite, with Raven, Miriam, Meloney, Dazzle, Viola, and a seedling; 8th, Mr. S. Barlow, with a seedling.

ALPINES SHADED, SINGLE PLANTS. — Yellow centres: 1st, 2nd, and 3rd, Mr. J. Beswick, with John Allen, a seedling, and Durnford; 4th, Mr. J. Clements, with Cognomen; 5th, Mr. J. Beswick, with Forest Queen. White centres: 1st, Mr. J. Clements, with Exonia; 2nd and 3rd, Mr. J. Beswick, with Mrs. Beswick and The Bride; 4th and 5th, Mr. H. Geggie, with seedlings.

POLYANTHUSES, BLACK GROUNDS, THREE DISSIMILAR.—1st, Mr. Geo. Thornley, with Mrs. Holden, Mrs. Brownhill, and a seedling; 2nd, Mr. J. Beswick, with Lancashire Hero, Exile, and Mrs. Brownhill; 3rd, Mr. S. Barlow, with Exile, Middleton Favourite, and John Bright; 4th, Mr. J. Stokes.

POLYANTHUSES, RED GROUND, THREE DISSIMILAR.—1st, Mr. Geo. Thornley, with Lancer, George IV., and Middleton Favourite; 2nd, Mr. J. Beswick, with William IV., Exile, and Middleton Favourite; 3rd, Mr. S. Barlow, with Prince Regent, Sir Sydney Smith, and George IV.

POLYANTHUSES, SINGLE PLANTS.—Red grounds: 1st and 2nd, Mr. Geo. Thornley, with Middleton Favourite and Lancer; 3rd, Mr. S. Barlow, with Prince Regent; 4th, Mr. J. Beswick, with William IV.; 5th, Mr. S. Barlow, with George IV.; 6th and 7th, Mr. Geo. Thornley, with Sir Sydney Smith and Prince of Wales. Black grounds: 1st and 2nd, Mr. Geo. Thornley, with Mrs. Brownhill and a seedling; 3rd, Mr. J. Beswick, with Exile; 4th, Mr. Geo. Thornley, with Cheshire Favourite; 5th, Mr. J. Beswick, with Lancashire Hero; 6th, Mr. S. Barlow, with John Bright; 7th, Mr. Geo. Thornley, with Mr. Holden.

TWELVE DISSIMILAR FANCY AURICULAS.—1st, Mr. S. Barlow.

TWELVE DISSIMILAR FANCY POLYANTHUSES.—1st, Mr. S. Barlow; 2nd, Miss Hopkins, Mere, Knutsford.

TWELVE DISSIMILAR PRIMROSES.—1st, Mr. S. Barlow.

The judges were Messrs. E. Shaw, E. Pohlmann, F. Simonite, R. Gorton, W. Prescott, H. Geggie, T. Buckley, and T. Lancashire.

ROYAL GARDENERS' ORPHAN FUND.

ANNUAL DINNER.

THE annual dinner in aid of this admirable gardening charity took place at St. James's Hall, Regent Street, W., on the 26th ult., under the presidency of Baron Ferdinand de Rothschild, M.P., who was supported by Sir Trevor Lawrence, M.P., Arnold White, Esq , N. N. Sherwood, Esq., H. J. Veitch, Esq., E. J. Beale, Esq., and some seventy other gentlemen who take a warm interest in the welfare of the fund. The usual loyal toasts having been duly honoured, and a specially hearty recognition accorded the announcement of the Princess of Wales having recently become Patroness of the fund, the the Chairman rose to propose the principal toast of the evening, "Success to the Royal Gardeners' Orphan Fund," which he commenced by remarking was, comparatively speaking, an infant among the many charitable institutions of the great metropolis; it was not only an infant, but it might also be described as a dwarf, but age would diminish the fault of its being an infant. They were assembled together that evening to obviate that defect in the stature of the institution, and by their generosity to enable it to increase its size to the proportions of a giant. The infant had, he was bound to say, done very well during the first few years of its existence. He was pleased to know that during the past year it had given weekly allowances of 5s. to fifty-six children under fourteen years of age, which distribution represented an outlay of £750. That was, he considered, a most creditable piece of work. The metropolis abounded not only with hospitals, but homes and charitable institutions of every kind. He knew that that evening there were several dinners being held in the City in aid of charitable institutions, and the pockets of the charitably inclined were always being called upon to keep pace with the growing demands of charitable causes. In spite of these numerous dinners, however, they were gathered together that evening in the interests of the Royal Gardeners' Orphan Fund, and he looked forward confidently to an excellent result in the shape of subscriptions. The charity had been established for the purpose of keeping together the bodies and souls of gardeners' orphans, and although the occupation of gardeners was a good and healthy one, yet they were exposed to certain risks which often left children fatherless, and therefore orphans. In the proper execution of their work in hothouses, and during the night time especially, gardeners caught chills, and died sooner, perhaps, than might be expected. He did not know if the children of gardeners travelling about the world in the course of their occupation were included among those benefited, but if not, he certainly thought they ought to be. For instance, he had an Orchid in his coat that evening, and no one knew whether a man had not died in the discharge of his duty while collecting the plant in some foreign land; if it was so, he contended that the children of that man should be as well looked after and cared for as those of a gardener who had died at home. This institution, besides giving a weekly allowance to orphans had also the opportunity of allowing them a sum of £10 when that weekly allowance ceased, when the children had arrived at the age of fourteen, and it was a most excellent provision, for it was just the time when boys were becoming young men and when girls were growing into womanhood, when £10 would be almost a means of salvation to them. He did not believe there was a charity throughout the length and breadth of the country which was more economically administered than this. By a reference to the annual report it would be seen that the cost of the institution had been quite trifling compared with the expenses of others, whose receipts were swallowed up by a horde of greedy officers. He was bound to say, therefore, that the balance sheet was a credit to the charity. At the dinner last year the handsome sum of £1,000 was subscribed, and the chairman on that occasion possessed some rich relations and friends in the City; he (the speaker) also possessed some relatives and friends in the City, but his influence had not been quite so successful as that of Sir James Whitehead. Last year his friend Mr. Veitch celebrated his silver wedding, and in memory of that auspicious occasion he presented the fund with a splendid donation of £500. He could but hope that other gentlemen present had that year celebrated their silver wedding, and looking around him he did not think that any of them had celebrated their golden wedding yet, or he might look perhaps for a donation of £1,000. He trusted, however, that Mr. Veitch, when he celebrated his golden wedding, which he sincerely trusted he would do, would make a donation perhaps of £1,000. In conclusion, said the Chairman, if each of the gentlemen present added four times 5s.—he would not call it a pound—it would mean an additional £100 to the sum which had been promised. If gentlemen would not try to realise the difference between that sum it would be the means of relieving the sufferings and raising the hopes of many an orphan boy and many an orphan girl.

BARON FERDINAND DE ROTHSCHILD, M.P.

Sir J. T. D. Llewelyn, Bart., who responded to the toast as one of the trustees, said the institution was doing an immense amount of good. As to the profession of gardening, it had made very rapid strides during the past century, and who could say where it was going to end, to what extent it would grow, and what further improvement would take place in fruit and flowers and vegetables. Those who represented the upper ten of horticulture should not forget that it was part of their duty to make the accidents which produced orphans a little more tolerable to those who were left behind. The work which had been done through the fund during the few years of its existence proved how much lay before it in this direction. In 1887 the fund was started, and a commencement was made with the election of eleven children. The number grew in the following year to thirty, and from thirty to fifty, and last year eight more were elected, making a total of fifty-eight, and only two had arrived at the age of fourteen. Children to the number of fifty-six were therefore on the books of the fund, and if it progressed in the same ratio year by year there was a great future before it. The most satisfactory feature during the past year's operations was that H.R.H. the Princess of Wales had graciously consented to become Patroness of the fund; she very graciously acquiesced in the proposal, expressing at the same time a hope that the association of her name with it might be the means of benefiting it. This had clearly been the case, for their excellent secretary, Mr. Barron had now secured the Duke of York and the Duchess of Albany as life subscribers; that was the first fruit of the Princess of Wales being Patroness of the fund. The handsome donation which Mr. Veitch presented to the fund could not fail to have a good influence upon the leaders in the horticultural world, and he confidently looked forward to their patronage. He thought also that they might approach the professional gardeners of the country. During the five years the fund had been in existence the sum of £6,570 had been invested. The value of such an invested sum as that could not be over-estimated, especially in the future if subscriptions did not come in so readily, although he hoped the day was far distant when they would be compelled to touch the capital.

Sir Trevor Lawrence submitted the toast of "Gardeners and Gardening" and in response, Mr. N. N. Sherwood expressed a hope that the fund would ever receive the support and sympathy of such distinguished men as the chairman and the proposer of the toast. It was quite true that gardening had made immense progress in this country during the past fifty years, and it was not to be surprised at when they remembered that almost every little village and provincial town had its flower show; and then looking at the magnificent show that was held annually at the Temple, he was sure gardeners could not help feeling proud of their calling. With respect to the fund itself, there was a matter he wished to call the attention of the committee to, and that was a very sad case in which a poor gardener had recently died suddenly and left a family of seven children. He would be glad to pay for the maintenance of one of those children, by specially contributing the sum of £13 annually for that purpose, until the child reached the age of fourteen years, if the rules of the fund permitted such an arrangement, but if not he would be perfectly willing to pay down in a lump sum the amount which was necessary for the maintenance of the little orphan for the next seven or eight years. He would, however, specially urge the committee to well consider whether they could not adopt the suggestion he had made with reference to the annual payment of £13, as he believed that there were many who under circumstances so painful as the case he had referred to would be glad to make such an annual payment, but who would not pay down a lump sum. Mr. Sherwood announced, in conclusion, that as the firm he was associated with (Messrs. Hurst and Son), were this year celebrating their jubilee he would be happy to give £100 in commemoration of the event.

"The Health of the Chairman," was proposed by Dr. Walker, and Baron Ferdinand de Rothschild having acknowledged the compliment, Mr. R. Dean proposed "The Visitors," on whose behalf Mr. Arnold White, and Mr. John Collingridge responded. Mr. Veitch in most generous and appreciative terms gave "The Honorary Secretary, Mr. Barron," which was received with musical honours.

During the evening Mr. Barron announced that the promised donations to the fund amounted to about £550, including the following sums: Baron F. de Rothschild, M.P., £50; Messrs. Hurst & Son, £100; Messrs. Rothschild, £25; Mr. F. Sander, £18 18s.; Mr. G. Monro, £14 14s.; Sir T. Lawrence, Bart., £10 10s.; Sir John T. D. Llewellyn, Bart., £10 10s.; Messrs. J. Veitch & Sons, £10 10s.; Mr. J. Wills, £10 10s.; Mr. J. Wimsett, £10 10s.; Mr. R. Dean, £10 10s.; Mr. W. Marshall, £10 5s.; Thames Bank Iron Company, £9 9s.; Mr. F. Q. Lane, £9 8s.; and Mr. A. W. G. Weeks, £8 1s.;

W. J. Nutting, Esq., £5 5s., &c. The tables were elegantly decorated with a profusion of flowers contributed by Messrs. Wills & Segar, Messrs. F. Sander & Co., Messrs. B. S. Williams & Son, Messrs. J. Laing & Sons, &c.

THE GARDENING AND FORESTRY EXHIBITION.

A PRELIMINARY survey of the grounds at Earl's Court, made on Tuesday, leads us irresistably to the conclusion that as a public "show" the Gardening and Forestry Exhibition, with what promises to be such singularly popular side attractions as Captain Paul Boyton's water show, and the faithfully reproduced Bastille and bit of old Paris, will be as popular with the multitude, if not more so, than was last year's exhibition. This year's exhibition is designed on a more extensive scale than heretofore, but of course at present is incomplete, yet sufficiently forward in preparation to enable the executive to say that all will be in order by the opening day, Saturday of next week.

The forthcoming exhibition will be to a great extent a continuation of that of last year, with the department of Forestry added, and many new features introduced. Upon entering the building at the main, or West Brompton, entrance, the visitor will find the galleries and halls on the left devoted to exhibits from the Windsor, Dean, and New Forests, and the South Kensington Museum, including a remarkable collection of curiosities in wood-craft, as well as specimens of woods suitable for economical purposes and the insect enemies to which tree life is heir. The walls will be hung with pictures having special relation to forestry and forest scenery.

Beyond the Museum of Forestry will be found the Press Offices, and further on a grotto and fernery, which will doubtless prove a most attractive retreat. Passing the great organ, Edison's Microphone Room, the dining and refreshment rooms, which will again be under the experienced management of Messrs. John Bertram & Co., the visitor will arrive at the garden under glass, which proved such an attraction last year, and which has been completely cleared and replanted, the side beds on both sides with Rhododendrons in full bud, which will be in bloom for some time, and form a brilliant background to the central beds, which will be continuously kept gay with other and dwarfer flowering plants. Besides this garden in the main building, the nave will be decorated with flowering and fine foliaged plants in profusion.

Passing out of the building the visitor will miss the interesting insectivorous house, but will be struck with the change, or perhaps we ought to say the improvements, which have been introduced in this part of the grounds. On the right hand is a model orchard and fruit garden, on the opposite side are banks of trees, shrubs, and herbaceous plants, in the centre striking masses of Rhododendrons, dotted with standard trees of various kinds, with the model of the Eddystone Lighthouse, which was such a conspicuous feature at the Naval Exhibition, situated at the end of an avenue of trees, and having as a background a pastoral Surrey landscape in the place of the long walk at Windsor, which so many admired last year.

Crossing the north bridge we note that the old-fashioned gardens of last year have been transmogrified into model gardens, "showing how town gardens may be successfully dealt with," and which it is too early yet to criticise. A little farther on, on the site of the Egyptian garden, a huge canvas tent has been erected, in which the almost continuous flower shows will be held for which provision has been made. From this point it will be observed that the western grounds have been entirely rearranged and replanted. More space has been gained for promenading, and more extensive and pleasing views can be obtained. The lovely and romantic scenery of Killarney forms a background to the switchback railway—especially effective from the bridge. An interesting feature here is the plot of ground with trees and shrubs planted in different soils; and another, the beautiful illuminated fountain resembling one in the court-yard of the Grand Hotel, Paris. The band-stand has been redecorated and otherwise improved, and considerable alterations have been effected in the laying out of the gardens between the stand and the Parisian Restaurant, which also will be greatly improved. Several improvements have been carried out in the grounds of the Welcome Club, which will open its doors to members as heretofore. Music will be supplied by no less than five bands, including those of the Grenadiers and Scots Guards. The forestry section will be under the management of Mr. George Cadell, the horticultural section under the control of Mr. Harry Turner, while the whole exhibition will be organised and administered, as last year, under the guidance of Mr. H. E. Milner, C.E.

THE NARCISSUS EXHIBITION AT BIRMINGHAM.

WITH a liberal schedule of prizes offered by the Birmingham Horticultural and Botanical Society for an exhibition of these flowers in their Edgbaston Botanical Gardens, on April 26th and 27th, there would have been but for the very early hot season, a very fine display of these flowers; but from all quarters came the cry of "too late, our bloom is over." Two or three days before the show the executive issued a notice through the daily papers that the exhibition must necessarily be a very small one, and yet two or three excellent honorary exhibits were staged.

In the competing classes there was but one exhibitor; in three or four of the cut flower classes, Mr. W. Wilson, South Cane, East Yorkshire, had a few good blooms amongst his, but the first prize in the chief class was withheld. In the classes for plants in pots, Professor Hillhouse was the only exhibitor. Two Narcissus bouquets were staged in competition, Messrs. Pope & Sons, nurserymen, being first with a magnificent shower bouquet of Narcissus, climbing Asparagus, Ferns and coloured foliage.

Messrs. Pearson, of Chilwell, staged a fine collection of blooms, and the grand new variety, Glory of Leyden, stood out very prominently amongst them, with its rich deep yellow trumpet and lighter segments, fine form and substance. A First-class Certificate was awarded to it. Madame de Graaff, a perfect snow white; Mr. Vincent, another fine white; Mrs. Pope, quite a new white; Mrs. J. B. M. Camm, white, were also conspicuous. Bicolor Grandis and Bicolor Empress were both very fine, so also were Incomparabilis King of the Netherlands, I. Princess Mary, I. Goliath, and I. Frank Miles, creamy yellow with bright yellow centre. P. R. Barr, a beautiful yellow of the Empress type; Duchess de Brabant, Mrs. Langtry, Agnes Barr and several others made up a fine display, to which a Silver Medal was awarded.

Mr. Robert Sydenham also contributed a pretty group, in which was that charming variety Queen of Spain, Duchess of Westminster, Princess Mary, and other Clivia kinds, also a fine display of the showy Parrot Tulips in variety, and other pretty garden Tulips. Mr. Jannock, Dersingham, King's Lynn, sent a very fine display of Lily of the Valley plants in bloom in various designs, to which a Silver Medal was awarded. Over 4,000 plants were used and it was an admirable display. Messrs. Hewett & Co., nurserymen, contributed a large display of Narcissi and hardy border flowers. The Edgbaston Botanical Gardens also set up a nice lot of blooms. Mr. F. W. Burbridge, Dublin, officiated as judge.

GARDENING MISCELLANY.

PANSIES AND VIOLAS.

I AM afraid these are having a rough time of it in some parts of the south where they are on a light, dry soil and are not well looked after and well watered. It has been a very exceptional April for heat and drought, and plants newly put out will, I fear, have suffered, and aphis will be prevalent. A southern grower tells me that his are much affected, and yet I know how much care he takes. In the Midlands, the Pansies and Violas are doing wonderfully well, and it will be a red-letter year for these flowers from present appearances. The Midland Counties Pansy Show at Tamworth was fixed for so early a date, May 24, that it was felt by many that it would be much too early for many growers, but the very early season for Pansies will suit the early date and there will be a great exhibition of these two popular flowers, as the Scottish growers also will be in great force. So liberal a schedule of prizes as that issued, the most liberal Pansy schedule ever put out, cannot fail to bring a great exhibition with such a favourable season as this. Schedules can be had from Mr. W. Dean, Dolphin Road, Spark Hill, Birmingham.—*Y.*

CYTISSUS SCOPARIUS ANDREANUS.

THIS season, with an almost tropical April, the white Broom is in its full glory of white blossom, and what a companion the yellow and brown flowered Andreanus will be when it can be seen in our gardens in good bushes clothed with its bright handsome flowers. Isolated plants are met with at our early spring shows and in nurserymen's establishments, but not in any quantity as yet and only in pots. As its culture, however, is so easy and its propagation also by grafting, we shall shortly be able to welcome it in our gardens, and it will become a universal favourite. I saw in a nursery recently a few hundreds of small grafted plants, the stock being one year seedlings of the common Broom, and they were treated as young grafted Roses, and Clematis are in the earliest stage. The light graceful habit of the plant, so closely resembling that of the white Broom, and as thickly studded with its richly coloured, bright flowers will soon recommend it to every one for out-door decorative work.—*W. D.*

BUDDLEA GLOBOSA.

IN several places this fine old shrub has suffered severely during the hard frosts which prevailed from Christmas till well into January. This has evidently not been the case everywhere, even in the vicinity of London, for a large and vigorous bush of it may be seen in the shrubberies of Dulwich Park, where it will be in bloom in a short time. All the branches and twigs bear a profusion of flower trusses in an advanced stage of development. The soil is a heavy loam inclined to clay, and the subsoil may be regarded as clay pure and simple. One would have expected to see it fare badly in clay soil after a severe winter; but in other localities where the soil is naturally light and sandy the bushes have suffered badly. There must be other reasons to account for difference such as shelter, exposure, and the proper ripening of last year's wood before the advent of frost.

A FRAGRANT TULIP.

ALTHOUGH an odour of some kind may be detected in many of the garden Tulips, it is seldom so decided or so agreeable as it is in Yellow Prince, a moderately late flowering form of T. Gesneriana. The flowers are of large size, bright yellow, and variously marbled or shaded with pale red. This mixture of colours gives the flowers a less decided tone than they would otherwise have, but this is more than compensated for by their strong odour, which resembles that of a Maréchal Niel Rose. A belt of it in a bed is still flowering in Dulwich Park.

ACER PLATANOIDES SCHWEDLERI.

THE leaves of this variety of the Norway Maple are very effective during the summer months, but particularly in spring when they are young and fresh. They have a deep bronzy-red hue, and, being of large size, are very effective in the landscape. Later in the season they acquire more of a bronzy-green colour on the upper surface, but are still handsome when waving in the wind. The tree itself is very robust, but there are few if any really large specimens of it in the country. It should be planted where it has sufficient space to develop its natural form and dimensions.

FRUIT OF GAULTHERIA PROCUMBENS.

IT is scarcely correct to say that the specific name is correctly applied to this species, for the stems are short and erect, not procumbent. The fruit is the most ornamental part of it and is doubly valuable from the fact that it remains in good condition all through the autumn, winter and spring, or in fact for twelve months, if we are to take the young or green stage of it into consideration. The berry, if we may term it such, is made up in great part of the segments of the calyx which fold over the true fruit and become fleshy and red. In this respect it is comparable to the Mulbery, where the perianth segments also form part of a fleshy or pulpy fruit. What is even more peculiar about the fruit of Gaultheria procumbens is that the calyx segments open in spring for the second time so that the red

berry then resembles a flower with a red calyx; the red fruit in the centre appears like an unopened corolla. Possibly the dry spring may be accountable for this behaviour, but it is very frequent amongst the plants in Dulwich Park.

CYTISUS ADAMI.

This wonderful graft hybrid continues to repeat its vagaries. It is said to have arisen originally by the grafting of Cytisus purpureus on Laburnum vulgare, the result being an intermediate form named Cytisus Adami. This sports into one or other of the parents, but generally, if not always, only one of the parent plants appears on the same tree. Most frequently the common Laburnum is the one produced, and which grows much stronger than Cytisus Adami, overcoming the latter in a few years if allowed to grow unchecked. A tree of the latter in Dulwich Park has behaved quite differently, producing a healthy and floriferous branch of Cytisus purpureus which flowers a little in advance of C. Adami. The latter, although it flowers freely enough as a rule, never produces any seeds. Whenever branches of either of the parents are developed, they produce seeds readily. The combination is peculiar and interesting.

PHLOX SUBULATA LILACINA.

All the varieties of this Phlox are both beautiful and showy, but the lighter coloured ones have a distinctness about them owing to their clear and attractive colour. That under notice has pale lilac flowers with ten small but deep purple spots round the eye. It is dwarf, evergreen, procumbent, and therefore very suitable for planting on the ledges of rockwork, where it never fails to flower abundantly during the months of April and May. We noted it in quantity in the nursery of Messrs. Barr & Son, Long Ditton, Surrey.

ORCHID NOTES AND GLEANINGS.

The undermentioned Orchids were exhibited amongst others at the meeting of the Royal Horticultural Society on the 25th ult., and received certificates according to merit.

Masdevallia Arminii.

The leaves of this species are spathulate and leathery. They are topped by the flower scapes which bear a single bloom each. The upper sepal is obovate, concave or hooded, and deep purple, with three yellowish nerves; the lateral sepals are nearly square, obtuse, and of the same colour as the upper one, but having in addition a crimson spot at the base of each. There is scarcely any tube to the flower, and all the sepals are terminated by slender yellow tails, 1½ in. to 2 in. long. There is a crimson spot at the tips of the petals and the lip. A First-class Certificate was awarded it.

Masdevallia Gelengiana.

The upper sepal of this plant is roundly obovate, yellowish, with five red nerves and pubescent. The lateral sepals are oblong-oval, flesh-coloured, and pubescent, with gland-tipped hairs. The flower as a whole is bell-shaped, with scarcely any tube, and the greenish-yellow tails are all reflexed, and each about 3 in. long. The oblong-elliptic leaves are shortly stalked, very leathery, and shorter than the one-flowered scapes. A First-class Certificate was awarded it.

Epidendrum atropurpureum album.

This Orchid is also known as E. macrochilum album, but E. a. leucochilum would have been a more appropriate name, as the three-lobed lip only is white with exception of a purple spot on the disc, close to the yellow anther cap. The sepals and petals are spathulate, incurved at the tips, greenish brown, and paler at the base. An Award of Merit was given it.

Bulbophyllum Lobbii Siamense.

The small pseudo-bulbs of this species bear a broadly oblong, deep green, leathery leaf, and a one-flowered scape. The upper sepal is oblong, pale yellowish, with numerous brown veins; the lateral sepals are broader, falcate, and similar in colour. The petals are oblong, and similar to the upper sepal, but narrower. The lip is cordate and cream-coloured, with a yellow spot near the sinus, and is an interesting organ from its being hinged and moveable. The column has a golden anther cap, and is mottled on the face with purple. A Botanical Certificate was awarded it when shown by Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking, who also showed the two Masdevallias and the Epidendrum.

Lælio-Cattleya Ascania.

In this we have a bigeneric hybrid raised from Cattleya Trianæ crossed with the pollen of Lælia xanthina. The pseudo-bulbs are short and stout, bearing a terminal oblong leaf. The sepals are oblong-lanceolate, pale yellow or slightly buff-yellow. The petals are ovate, slightly revolute at the sides, and paler. The tube of the lip is bright yellow, both externally and internally; the lamina is roundish, crisped, and deep purple with a paler edge. The column is pale yellow. In colour then the flowers take largely after the pollen parent. A First-class Certificate was awarded it when shown by Messrs. J. Veitch & Sons, Chelsea.

Stanhopea Amesiana.

The leaves of this new species are lanceolate and seven-nerved. The flowers are large, strongly and agreeably fragrant, and a two-flowered scape was borne by a small plant in a basket, exhibited by Messrs. Hugh Low & Co., Clapton. The sepals are ovate, concave reflexed and white. The petals are oblong, nearly flat and much broader than is usually the case in this genus. The lip is a singular looking, fleshy organ of great size and of an ivory white and shining. The hypochile is globular, deeply concave and marbled with purple on the inner face. The messochile has two large, bluntly triangular lobes; while the terminal lobe is ovate, subacute and relatively small. The usual falcate horns are not present. The broad wings of the arching column are partly transparent. An Award of Merit was accorded it.

Maxillaria Sanderiana Xanthoglossa.

The flowers of this distinct variety are similar to those of the type which we figured last week, with exception that pale yellow takes the place of the white upon the lip. The latter organ is beautifully crisped at the margin. It received an Award of Merit.

Odontoglossum Roeblingianum.

This seems to be a natural hybrid similar in habit and in form of the flowers to the O. odoratum type. The sepals are oblong and white with two large irregular brownish-red blotches. The petals are lanceolate and white, with one large and several small reddish-brown blotches with a longitudinal one near the base. The lip is lanceolate with a large, reddish brown blotch in front of the crest, and a crest consisting of two, creamy yellow and toothed lamellæ. The column also is white with half-ovate wings of the same hue spotted with brown. It was shown by Messrs. F. Sander & Co., St. Albans, who also exhibited the Maxillaria and received an Award of Merit for each.

Saccolabium cerinum.

The scape of this species is short and suddenly bends under the flowers, as if from their weight. The latter are borne in a dense raceme, and do not seem to open fully. They are small with incurved sepals and petals of a yellow hue and green at the tips. The pedicels are flesh-coloured as are the longish, curved and stout spurs. A Botanical Certificate was awarded it when shown by F. W. Moore, Esq., curator of the Royal Botanic Gardens, Glasnevin, Dublin.

The two undermentioned Orchids were exhibited at the second Spring Show of the Royal Botanic Society, Regent's Park.

Lælia Latona.

The seed parent of this hybrid was L. cinnabarina crossed with the pollen of L. purpurata. The pseudo-bulbs at present are fusiform and only 2 in to 4 in. long, bearing a single, terminal, ligulate leathery leaf. The sepals are oblong, revolute at the edges and orange-yellow. The petals are broader, lanceolate-elliptic, and orange-yellow shaded with red. The tube of the lip is pale yellow with red lines externally; the lateral lobes are deep red externally, but on the inner face deepen to carmine-crimson, the colour running across the throat till it almost meets, forming two blotches from whence carmine lines run down to the base of the tube; the lamina is ovate, wavy at the edges, and suffused with red on a yellow ground. A Botanical Certificate was awarded it, and likewise for Lælio-Cattleya Ascaniæ, both of which were exhibited by Messrs. J. Veitch & Sons, Chelsea.

SOCIETIES.

Royal Botanic, *April 26th*.—There was an absence of the early spring-flowering bulbs, as might have been expected, at the second Spring Show of this society, but their place was well occupied by a great variety of other spring flowering subjects. The weather was auspicious, and the attendance of visitors large. The first prize in the amateur's class for Azaleas was awarded to Mr. R. Scott, gardener to Miss Foster, The Holme, Regent's Park, who had conical bushes of moderate size; Mr. H. Eason, gardener to B. Noakes, Esq., was second with larger plants, but less well flowered. The first prize for hardy herbaceous plants was awarded to Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, who showed Spiræa palmata, Silene virginica, Primula Sieboldi, and others of that class. Messrs. Paul & Son, Cheshunt, had the first prize for Alpines, and the Guildford Hardy Plant Nursery was second. Mr. R. Scott had the best Spiræas; and Mrs. W. Morle, Fenchurch Street, had the best Mignonette. Mr. J. Douglas, gardener to Mrs. Whitbourn, Great Gearies, Ilford, took the first prize for show Auriculas; and Mr. A. J. Saunders, gardener to Viscountess Chewton, Bookham Lodge, Cobham, was second.

Mr. Charles Turner, Slough, had the best Alpine Auriculas, and Mr. Wm. L. Walker, Dunollie, Belmont Road, Reading, was a good second. Mr. T. S. Ware was the only competitor in the class for Primula Sieboldi and tuberous Begonias, the latter being very good for this season of the year. Messrs. Paul & Son had the best Roses. Mr. J. Douglas took the first prizes for Cinerarias, and Amaryllis. Mr. R. Scott took the leading prizes for Clivias and Dielytra spectabilis, both well grown and flowered, but pale in colour.

The miscellaneous exhibits were very numerous, including a group of tree Pæonies, mixed with Azalea mollis, and Cytisus Scoparius Andreanus, and another of Primula Sieboldi, and Carnation Pride of Great Britain from Mr. T. S. Ware (small Silver Medal). Messrs. Barr & Son had three groups of herbaceous plants, including Tulips in variety, Phloxes, Saxifragas, Narcissus, Iris chamaeiris, and others (two Bronze Medals and one large Bronze Medal). Mr. C. Turner had a collection of show and Alpine Auriculas (large Bronze Medal). Mr. J. Douglas had a large flat box filled with several species of Primula, and also a collection of Auriculas (small Silver Medal). Messrs. Lane & Son, Berkhamstead, had a group of Azaleas (Bronze Medal).

Messrs. James Veitch & Sons, Chelsea, exhibited a rather extensive collection of flowering shrubs, also Japan Maples in variety, Azalea rosæflora, Prunus Pissardi, Strobilanthes Dyerianus, Streptocarpus, some Orchids, etc. (large Silver Medal). An interesting group of dwarf but well-flowered Cinerarias was exhibited by Messrs. J James & Son, Woodside, Farnham Royal (small Silver Medal). Messrs. H. Low & Co., Clapton, had a beautiful group of new Holland plants, including Boronia elatior, Pimelea Neipergiana, Aphlexis macruntha purpurea, also fine pieces of Erica ventricosa coccinea minor, and other Heaths (Silver Medal). Mr. T. S. Ware received a Silver Medal for a well-flowered group of tuberous Begonias, being the first group shown this season. Messrs. Wm. Paul & Son, had a large group of pot Roses (large Silver Medal). Messrs. Wm. Cutbush & Son, Highgate, had an interesting lot of Daphne Cneorum, Calla Little Gem, and Leschenaultia biloba major. Mr. W. Rumsey exhibited a group of Roses (Silver Medal). Mr. J. Walker, Thame, Oxon, had Pelargoniums and Marechal Niel Roses (large Bronze Medal). Mr. J. Pike, Park Road, South Acton, had a group of the tree Carnation Uriah Pike (Bronze Medal).

Messrs. John Laing & Sons, Forest Hill, had a large group of Palms, Caladiums, Clivias, Heaths, Cannas, and some beautiful Bertolonias and Leea amabilis (Silver Medal). Messrs. J. Peed & Sons, Roupell Park Nurseries, Norwood Road, also showed a fine group of Palms, Heaths, Regal Pelargoniums, and some large pieces of Cymbidium Lowianum (Silver Medal). Mr. P. Perry, gardener to J. C. Tasker, Esq., Middleton Hall, Brentwood, showed a group of pot Roses, Cannas, etc. (Silver Medal). Messrs. Paul & Son had a small Silver Medal for a group of Roses. Mr. Arthur Knowles, Horsell Birch Nursery, Woking Station, had a Bronze Medal for a group of Daphne Cneorum.

WHAT TO DO IN THE GARDEN.

Coleus.—Keep the plants growing on in a warm and moist atmosphere, particularly those that are intended for exhibition purposes. Where the specimens are to be trained down flat, the shoots must be got into position before they get too hard to bend, and pinching may be resorted to where branches are growing away too rampantly for their fellows or to furnish bare parts of the specimen. Pyramidal plants must also be kept in form. Cuttings rooted even yet will make useful plants for conservatory decoration late in the season.

Basket Ferns.—The present is a good time to make up baskets of the various Ferns that are suitable for this purpose, including Adiantums, Davallias, Aspleniums, Polypodium plesiosorum appendiculatum, P. subauriculatum, and others. Sphagnum or some other kind of moss should be placed round the sides of the basket to retain the soil.

Liliums.—Late batches of Lilium longiflorum Harrisii, as well as batches of L. auratum, L. speciosum and its varieties may occasionally be watered with weak liquid manure when they are growing freely, as most of them will be by this time, with the exception of the late batches. Look after them for greenfly, which settles in the buds and completely destroys the flower buds if not checked.

Bouvardias.—Young plants especially should be kept growing for some time yet in a warm and moist atmosphere to get some good growth into them before placing them in the open air. During the continuance of the present dry weather and east winds they are better under glass.

Indian Azaleas.—We have had so much sunshine this year that everything in the way of hardy shrubs, and also indoor hard-wooded subjects are very forward. Azaleas can only be kept back by those having a cool, north aspect house, where they should be kept to retard them as long as possible. Those that have finished flowering should have their seed vessels picked off and the plants placed in a house with a moist and growing atmosphere to urge them into growth. Plants in flower should be shaded and kept out of the draught of cold east winds.

Begonias.—The earliest batch of old plants, where in flower or approaching that stage, should be kept as near the glass as possible, but judiciously shaded during bright sunshine. Ventilate as freely as the east winds will permit, and supply them with plenty of water.

Chinese Primulas.—As soon as the seedlings are well up they should be transplanted into pans or boxes before they in any way get crowded or become liable to damping. Then, as the young leaves meet in the pans, the seedlings must be potted off singly in small pots and kept in the same temperature till established, or immediately transferred to heated frames where artificial heat may be given if the weather is cold till established, after which they must be kept cool.

Vines.—Grapes that are now ripe in the earliest house should be kept cool and dry, cooler in fact than they were kept during the period of colouring. Those that are still in the process of colouring should be kept warm, and if the day is bright, damp down early in the day so that the moisture may all be dried up by midday. Keep a little air on all night and increase it early in the day as the temperature rises. It should be reduced again early in the afternoon. Before thinning the Muscats wait till it is seen which berries are best set by taking the lead.

Peaches and Apricots on walls.—Constant attention must be given the trees during their period of leafing to guard against insects, particularly greenfly, which soon plays havoc with the unfolding leaves. Let the garden engine or hose play upon them in the early part of the day, so that they may be dry before night in case of frost.

Kidney Beans and Scarlet Runners.—The main crops of these may now be planted. Where a number of rows of the latter are grown together and staked, they should have a distance of 6 ft. between each. Without staking, the lines may be 3 ft. apart, as they do not grow so vigorously under that treatment. The taller kinds of Kidney Beans will also require 3 ft.; but as the dwarfer sorts are usually the more popular, greater breadths of them may be planted. From 15 in. to 18 in. will be sufficient between the lines.

LAW NOTES.

Exhibitors and their Prize Winnings.—A case of considerable interest and importance to exhibitors at agricultural [and horticultural] shows came before the Ilkeston County Court the other day. Messrs. Isaac Attenborough and William Fletcher, of Ilkeston, were sued by Mr. Philip Walker to recover the sum of £8 15s., due to plantiff for prize awards. The plaintiff, who is a farmer at Shipley, was a member of an association called the Ilkeston Agricultural and Fanciers' Association. At the annual exhibition of horses and other animals, and farming produce, held by the association on September 17th, 1891, the plaintiff exhibited in several of the classes at the show and was duly awarded eight prizes, the money value of which amounted to £8 15s. The plaintiff had paid his entrance fees, and had in all respects conformed to the rules of the association, so as to be entitled to receive the prizes which he had fairly won. The money available to pay the plaintiff the amount of his prizes was not forthcoming, though it was admitted for the purpose of this case that there were assets belonging to the association not at present realised, which would be enough, if sold, to pay the plaintiff the amount due to him, though not enough to pay other exhibitors who are in a similar position. Under these circumstances the plaintiff brought an action against the defendants—the chairman and one of the vice-chairmen of the committee of the association—to recover the amount due to him in respect of the unpaid prize money.

His Honour, Judge Kenelm Digby, in giving judgment, held that the association was not incorporated, and could not be sued in its collective capacity. There was besides no evidence that the defendants and the other members of the association had entered into any contract with the plaintiff giving rise to a legal liability. The mere facts that their names appeared as chairman and one of the vice-chairmen of the committee was clearly insufficient to fix them with such personal responsibility, and no other evidence was given from which any personal responsibility could be inferred. The fact was that in most cases it was extremely difficult to remedy by recourse to legal proceedings a grievance such as the plaintiff had sustained in consequence of an unincorporated society, which was not a partnership, being unable to fulfil its obligations. In the present case it appeared to him that he had no alternative but to give judgment for the defendants, with costs.

QUESTIONS AND ANSWERS.

Greenfly on Calceolarias.—*D. M.*: You do not tell us in what stage your plants are. If they are not yet in flower you should fumigate them lightly on two successive evenings and syringe them in the morning to dislodge the dead insects. At night, however, when you are about to fumigate them with tobacco paper or rag, they should be as dry as possible. If the plants are in flower you cannot well fumigate nor syringe them; they are practically ruined if badly infested with fly when in bloom. It will be a lesson for you, however, another year to watch for the first trace of greenfly, especially just when the plants are about to bloom, and fumigate immediately.

Names of Plants.—*E. K.*: Arthropodium cirratum. *J. W. M.*: Saxifraga (Megasea) ligulata of Wallich. *H. B.*: 1, Sedum Lydium; 2, Saxifraga muscoides atropurpurea; 3, Taxus baccata adpressa; 4, Cratægus Oxyacantha punicea; 5, Pyrus (Cydonia) Maulei; 6, Pyrus Malus floribunda.

Propagating Pæonia Moutan.—*L. G.*: Old plants are propagated to some extent by division when that can be effected, and to some extent by layering; but the readiest and most convenient method of procedure is to graft it upon the stout and fleshy roots of the herbaceous species P. officinalis and P. albiflora. Select small side shoots without flower buds in the month of August and graft them by the whip or tongue method. After securing them, pot them up singly covering the graft with soil, and plunge the pots in ashes in a cold frame when they should be left till the following spring.

Aquatics in open air-tank.—*A. T. M.*: A simple and inexpensive method of growing such thing as Saggittaria sagittifolia, Aponogeton distachyum, Butomus umbellatus and other favourites of that class, would be to get a water butt, a large beer barrel, or something of that kind and cut them in half, by which you would have two tubs ready made. These may be stood on the ground or sunk to the rim if so desired to hide them and then filled with water. Put your plants into large or small pots according to the size of the pieces or in pans and sink them till the top is a little below the surface of the water. All that then remains to do is to keep the tanks clear of water weeds and replenish them with water from time to time as it evaporates.

Clematis for Herbaceous Border.—*R. Cole*: We understand you require species that may be grown amongst the ordinary occupants of the herbaceous border, and to be treated in the same way. There are several that would answer this purpose admirably, namely, C. integrifolia, blue, C. ochroleuca, creamy yellow, both 2 ft. high; also C. recta, white, 2 ft. to 3 ft. high, C. tubulosa and C. Davidiana of similar height with blue flowers. The last two are natives of China, but have proved hardy in the southern counties.

Peas in Sandy Soil.—*J. R.*: The dry weather experienced at present may not affect your plants by the time they are well above the soil, but it is well to be prepared, more particularly as your soil is of a light and sandy nature. Mark off the lines intended for the Peas, and then take out a trench about a spade deep. Put a quantity of well rotted cow dung into this and dig it over, well mixing it with the soil. The trench should then be sufficiently filled up and the Peas sown. Cover them up and you will find that the dung in the trench will keep them growing vigorously even in droughty weather. When it rains or when water is given, it will run into the trench instead of running off by the surface.

Communications Received.—J. S.—C. B.—B. & S.—N. S.—C. E. O.—J. D.—J. H. L.—Quator—A. H.—P. B. W.

TRADE CATALOGUE RECEIVED.

J. Cheal & Sons, Lowfield Nurseries, Crawley.—Spring Catalogue of Dahlias.

LONDON SEED TRADE.

May 1st, 1893.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report no change in values of Agricultural Seeds. Demand is not large owing to dry weather.

COVENT GARDEN MARKET.

May 3rd, 1893.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Tasmanian Apples per case	5 0	10 0	Melons ... each	2 0	3 6
Grapes, per lb.	2 0	3 6	Strawberries, per lb.	2 0	4 0
Kent Cobs...100 lb.			Pine apples. —St. Michael's, each	2 6	6 0
Peaches ... per dozen			Apples...per ½ sieve	1 0	3 6
			Plums...per ½ sieve		

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
Asparagus per bundle	1 6	5 0	Horse Radish, bundle	2 0	4 0
Artichokes Globe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, French, per lb.	1 6	2 0	Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	5 0	Seakale .....per bkt	1 6	2 0
Celery.....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers .....each	0 4	0 8	Spinach ... per strike	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	1 6	2 0
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Anemones, doz. bnch	1 0	3 0	Mignonette... 12 bun.	2 0	4 0
Azalea, doz sprays.....	0 4	0 9	Narcisse, various, doz. bnchs	2 0	4 0
Arum Lilies, 12 blms.	2 0	4 0	Pelargoniums, 12 sps.	0 9	1 0
Bouvardias, per bun.	0 6	1 0	— scarlet.....12 bchs.	4 0	6 0
Carnations, 12 blooms	1 0	3 0	Primula, double, bun.	0 6	1 0
Camellias doz blooms	1 0	2 0	Primroses doz. bchs	6 0	1 0
Daffodils, var. dz. bch.	1 6	9 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Eucharis ...per doz.	3 0	6 0	Roses, yellow, dozen	2 0	4 0
Euphorbia Jackminafolia, doz. sprays	1 0	4 0	— French, per bnch	1 0	4 0
Gardenias 12 blooms	1 0	2 6	— Red..... doz. blms.	1 6	4 0
Heliotropes, 12 sprays	0 6	0 9	— Saffrano...per doz.	1 6	2 0
Lilac, White, French, per bunch...	4 0	5 0	— Tea ..... per dozen	0 6	2 0
Lilium Harrisii, doz. blooms	2 0	3 0	Tuberoses, per doz	0 6	1 0
Lily of the Valley dz. sps.	0 6	1 6	Tulips	0 6	0 9
Lily of Valley, dz. blms.	3 0	6 0	—Mixed, doz. bnchs	3 0	6 0
Maidenhair Fern, 12 bs.	4 0	6 0	Violets, Parma, French per bunch ..	3 0	4 0
Marguerites, 12 bun.	2 0	4 0	Small „ doz. bun.	1 0	1 6

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Azaleas... per doz	24 0	42 0	Foliage Plants, doz.	12 0	60 0
Cyclamen per doz ...	9 0	18 0	Genesta .....per doz.	9 0	15 0
Cyperus .....per doz.	4 0	12 0	Lily of the Valley doz. pots	9 0	18 0
Cineraria ...per doz.	6 0	9 0	Marguerites, per doz.	6 0	12 0
Dracæna term., doz.	24 0	36 0	Palms in variety, each	2 6	10 0
Dracæna viridis, doz.	9 0	18 0	Palms, Specimen ...	15 0	63 0
Deutzia .....per doz.	6 0	9 0	Primula Sinensis per doz.	4 0	6 0
Dielytra ..... per doz.	6 0	9 0	Pelargoniums ... doz.	12 0	18 0
Erica, various, doz.	12 0	18 0	— scarlet.....per doz.	12 0	18 0
Evergreens, in var. doz	6 0	24 0			
Ferns, in var., per doz.	4 0	18 0			
Ferns, small, per 100	6 0	10 0			

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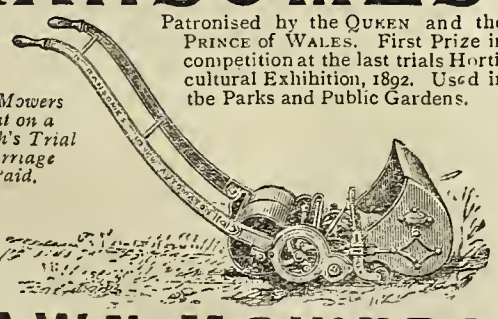

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For Index to Contents see page 585.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, May 16th.—Sale of the Langton House Collection of Orchids at Protheroe & Morris' Rooms (3 days).

WEDNESDAY, May 17th.—Royal Botanic Society's Show.

THURSDAY, May 18th.—Orchid Show at the Gardening and Forestry Exhibition, Earl's Court (2 days).

FRIDAY, May 19th.—Great Orchid Show at the Botanical Gardens, Old Trafford (continues to the 25th inst.)
Sale of Imported Orchids at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, MAY 13th, 1893.

THE DROUGHT.—As we live in days of new records the weather is determined not to be behindhand, and is making a distinct record of dry weather, such so far as seems now to be unequalled in the memory of man. It is true that since the first of March there have been some small local rainfalls, but they have been so trifling as to create only the slightest effect on vegetation. It does now look as if only by a miracle will the weather be altered before the end of this month, and if it should not be so, then shall we have had three months of the finest, driest, and on the whole most brilliant, weather any British spring has seen, but yet disastrous to many ground crops, especially to pastures.

We read the other day of a crop of Hay being gathered and stacked the first week in May. That is something novel indeed, but then, what a crop it must have been! After all, the greatest sufferers in a garden aspect, no doubt, are those who have planted largely, because everything that has been moved, unless kept well watered, is experiencing the effects of the drought disastrously. This is especially the case with Evergreens, and the Messrs. Merryweather's offer of fire-engines for such watering as is indicated should be accepted wherever it can, because a good supply of water should be fully utilised

We saw but recently some public gardens close to the Thames where hundreds of trees and shrubs are literally dying for want of water, and yet the local fire-engine remains rusting in its house, and water

enough to irrigate half England is flowing by unused. On the other hand, in thousands of gardens the resources of the water supply are being tested to the utmost, and well is it for those who have abundance. Still, nothing man can do equals what a good rain can accomplish.

MUSHROOM CULTURE.—Let old Mushroom experts awake. Here is a new discovery that should make them sit up. It is found, so we are gravely told, that if instead of making beds of solid manure they be composed of layers of manure and soil alternately, a much larger crop resulted. After all, is it still true that there is nothing new under the sun? How many of the old Mushroom growers were there who tried every method, this so-called new one amongst the rest, in days gone by and finally gave all up in favour of the solid manure bed, well and properly prepared.

When we are told that as compared with solid manure beds the alternate layer system gives the best results, we ask for conclusive proof, as mere assertion will satisfy no one. Still further—what of the solid manure beds against which the new method beds were tested; were they well and properly made, or only imperfectly? Every successful Mushroom grower knows that he employs manure specially to furnish a medium in which spawn can readily operate, and which also furnishes what soil never will give, all possible warmth of a steady and enduring kind. It may be that the layers of soil help to retain moisture, but then when manure beds give out because of dryness the fault lies with the grower and not with the material.

How often, too, are manure beds for Mushrooms made up without due preparation; indeed the chief hope for success lies in having the heating material sweet, well mixed and heated, yet slow and lasting in its operation. We take it for granted, from long knowledge and experience, that our Mushroom growers now have little to learn, and still further could give some of their theoretical instructors many points.

CRESS.—There are very few persons, perhaps, who, as they strolled beside our British streams and ditches and have admired the pretty flowers of the Ladies' Smock (Cardamine pratensis), have at the same time imagined that leaves of this plant are, or perhaps to be more correct, have been, eaten as salad, indeed classed as an ordinary Cress. We have often admired the pretty double form of the Cuckoo Flower in gardens, where it forms in the spring a distinctly pretty plant, but eating the leaves as salad has not been suggested. Then we have about the country, almost everywhere, the common Land, or, as it is usually called, American Cress. This is more properly a salad, but even at its best is very hot and acrid.

We have, in the common Curled or Normandy Cress, a variety, which, raised by thick sowing and cut in its young condition, is deliciously mild, tender, and healthful. That is a salad plant we can have all the year round if we have a warm house or frame to raise it in during the winter. But best of all is the soft, tender, crisp Watercress grown almost all over the world, and a hardy Nasturtium to boot. Even of this we too rarely care to grow our own, although it can be had in plenty with very little trouble. It is but needful to sow seed or dibble out tops into a shady place in good clean soil and water liberally, forming round the bed a slightly raised ridge of soil to hold water.

From such a planting really delicious Cress can be obtained over a long season, and it has the merit of being clean and healthful, which is more than can be said of some we purchase that come from water contaminated with sewage or is stagnant and foul. It would be good for our health did we much more freely partake of good sweet Cress.

RABBITS.—Of all pests in a garden probably the rabbit is the worst. It is most destructive, not from a love of mischief as some people foolishly assert, but because it wants food and is naturally voracious. Still we do not find, thanks to stout mesh wire, which can be had cheaply, that it is at all difficult to exclude rabbits from gardens; indeed, it is almost only through such aid that exclusion is possible except where enclosures are close fenced. Rarely are rabbits so plentiful that gardeners do not know how to make a profitable use of them when destroyed, whilst there are literally millions of people who would be only too glad to get many and often.

Hence it does read to us as somewhat exasperating that there should be literally a plague of rodents in Australia, so that rewards are offered for their extermination, whilst at home even the smallest cannot be purchased in towns under 1s. each. Why do not the colonists promote a rabbit trading company which shall kill the vermin, skin them, and then send them over here in refrigerating chambers, where they could profitably be sold at 6d. each. What an immense demand would then spring up for this young flesh food! Oddly enough, whilst reading as it were one moment of the terrible plague of rabbits in Australia, we read the next of a book lately written by Mr. J. Simpson, of Wortley, who suggests methods for the propagation and culture of these creatures with a view to their utilisation as food for the people.

To Mr. Simpson's suggestion the gardener will lend a not unwilling ear, no doubt because he has learnt to appreciate rabbit flesh in a cooked state. So long as the animals are rigidly restricted to warrens or coverts then, we do not see why they should not become important articles of commerce. In gardens or orchards under no conditions may they be tolerated for a day.

The Imperial Institute.—We understand that the bright green lawns at the Imperial Institute, which was opened by the Queen on Wednesday, were sown with Messrs. Sutton & Sons' Lawn Grass Seeds.

The Season and the Carnations.—Mr. Dodwell, replying to the enquiry of his friend, Mr. Wynn Ffoulkes, as to whether he, Mr. D., had known of any similarly early season, writes:—"We have to go so far back as 1846 for any parallel, so far as I know. Then we had Pinks blooming in May, Carnations in June, Dahlias in July—a very early and an abnormally transient bloom, the period for growth having been so materially shortened. Unless a great change should promptly come retarding the present rapid development, our exhibition meetings must of necessity be materially early in their dates."

Scottish Horticultural Association.—The usual monthly meeting took place on the 2nd inst., at 5, St. Andrew Square, Edinburgh, Councillor Mackenzie, the president, in the chair. There was a large attendance. A paper on "North America and its Flora," by Mr. Alexander Hutton, F.L.S., Dundee, was read by Mr. Hugh Fraser. It was stated that the flora of North America had strongly marked features of distribution, the plants of the far North belonging in many instances to species also found in Europe and Northern Asia. America, in respect of its flora, it might be said, was divided into two great regions, the Northern being characterised by an abundant arborescent flora, while in the Southern regions the vegetation somewhat resembled that of the tropics. Special reference was made, in dealing with the flora west of the Rocky Mountains, to the family of Pines, which attained great perfection in that locality. On the motion of Mr. R. Lindsay, Royal Botanic Garden, the secretary was instructed to convey the thanks of the Society to Mr. Hutton. Satisfactory reports were submitted as to the results of the examinations in connection with the past season's (technical education grant) lectures.

Royal Botanic Society.—The first of a series of summer lectures on botanical subjects was given on the 5th inst. in the gardens of this society by Professor Groves, F.L.S. Taking the subject of "Ferns and their Structure," the lecturer dealt in a popular way with the peculiarities of growth which separate this family from other plants, and enable us to combine the 3,000 or more species known into an easily recognised and distinctive natural group. Unlike other plants, whose leaves are at most the production of the previous autumn, most Ferns carry their fronds for three years, folded up at the base of the old leaves. If a plant is divided down the centre, the three rings of fronds are clearly shown lying rolled up in a more or less mature state according as they are to open this year, next year, or that following. A cordial vote of thanks to the lecturer was proposed by the chairman, Dr. R. C. A. Prior, F.L.S. The succeeding lectures will be given on the Fridays in May and June, and are free to all visitors to the Gardens.

Gardening Cricket.—We are indebted to the courtesy of the assistant secretary of Sutton's Cricket Club, which has its headquarters at Reading, for a copy of the club's match list for the present year, which is a somewhat lengthy one. The club, it appears, is strong enough to run three teams, two seniors and a junior, and opened its season on Wednesday with matches at Reading and Strathfieldsaye. No less than fifty matches are arranged for the season, the last of which will be played on September 6th. The matches of special horticultural interest will be those played at Swanmore Park, on June 14th, and that against the Kingston and Surbiton Gardeners' United at Reading on July 5th.

A Rare Fungus.—Another new fungus has been found in Cornwall, and is of the rarest description, and many fungologists have failed to identify the specimen, but the Linnean Society, whose property it now is, have given its name as Lentinus lepidens. In appearance it is as a bunch of fingers, from 2½ in. to 5 in. long, each separately fastened to a common matrix which is an abnormal form. It was found in Levant mine, and was growing downward from some wet timber supports.

Affairs as they are in Cornwall.—Still without rain, but the wind has changed, and even the heavy dews have come to be mingled amongst the blessings of the market gardener. It cannot be said that matters, after all, are as bad as they might be. The Strawberries have turned out better by far than was anticipated, and some very fine specimens, and in large quantities, have found their way this week to Covent Garden and the Midlands. Gooseberries, too, are by no means scarce. A visit to the Glensive Vineries reminds one of sunny Italy, and certain it is that Grape culture was never more successful than now in the west of England. The clusters are remarkably rich, and with them the scissors have been busy throughout the week. Nearly a ton in weight have been supplied the London markets from one district alone. Mr. Body, of the Land's End Vinery, has a splendid photograph of the cluster of Grapes last presented to and acknowledged by Her Majesty. Peas are pretty abundant, but the pods in most cases are woefully undeveloped. New Potatos, although small, are yielding much better than was anticipated. Floriculture is being prosecuted under difficulties. We learn that Mr. J. C. Kellork has in his garden at Highfield, Totnes, an American Aloe in bloom, and it has been the subject of inspection by many people.

A Garden Dispute.—At Newport County Police-court on Saturday, Edwin Basham, market gardener, was summoned for wilfully damaging Cabbage stumps, the property of Michael McCarthy. The defendant cut down the Cabbage stumps in flower in complainant's allotment because, as was alleged, the bees carried the pollen to some rare Cabbage which was being grown in defendant's ground across the road for the express purpose of obtaining seed. Defendant offered to give complainant seed or Cabbage plants, and complained that had the complainant's Cabbage been allowed to bloom a loss of £20 would have resulted to him. The Bench dismissed the case, and complainant had to pay costs.

FIFTY YEARS OF FLORICULTURE.

A Sketch and Reminiscence.

The forties were years of great import in floriculture, and equally so in the life of the nation. Writers in comparatively recent years have referred to the good old times of floriculture, times when every town and hamlet had its show of Carnations, or Tulips, or Auriculas, or Ranunculas, and have made their lament over their decadence. Vain lament! Very little could they realise the conditions of those days. Let us briefly recall the past. Barbarous fiscal laws laid iron hands upon every necessary, every adjunct to comfort in life. Odious excise laws everywhere tied and bound our industries; invention was suppressed. The food of the people was taxed to augment the revenues of a class, and one-half of the population existed in a state of semi-starvation. All the requisites for successful horticulture—wood, iron, bricks, glass were subject to cruel imposts; the very light of heaven itself was taxed. Duties on paper, advertisements, and stamps, tied, bound, gagged the press. Heavy tolls upon all important roads, recurring with successive stages, strangulated traffic, shut town from country, hamlet and village from market town. Ruling powers everywhere frowned on education. Only those who lived and wrestled in those weary times can realise their sore oppression. The masses writhed, groaned, protested—it seemed in vain.

So opened the early months of 1841. Not a hopeful condition for floriculture, yet the love of flowers was a sentient thing, and their cultivation solaced and soothed anxious thoughts in many troubled minds, and the genius of the people could not be repressed. The intuition of an untaught millwright had canalised the country; George Stephenson, the Northumbrian miner, another untaught, had married the rail of the iron road to the flanged wheel of the locomotive, and the unconquerable energy, the indomitable patience and perseverance of Rowland Hill, rising superior to all the pettiness and pettishness of red tape, the insolence of office, had secured for us the inestimable blessing of the Penny Post.

Then in 1841 a revolution was wrought in our fiscal system. Following a succession of sheer incapables, whose pitiful blundering in the national exchequer had resulted in ever increasing deficit, the late Sir Robert Peel came to power, laid a tax upon property and income, and with the assistance of his young lieutenant, the present Mr. Gladstone, struck off the fetters from some twelve hundred articles, all of more or less importance, and left industry, invention, and energy to find their natural channels. Five years later the revolution was further emphasised by the abolition of the horrible starvation creating duty on corn.

Gardening Literature.

As in social life so up to 1841, garden literature as effecting the florist, whether descriptive of his methods or indicating his aims, was in a most unsatisfactory condition. Not that there was deficiency, but, so far as I know, no writer had gone beyond the baldest dogma, or offered the shadow of a reason, as founded in Nature, for his properties or his practice. The neophyte was called upon to shut his eyes, open his mouth, and swallow whatever was presented to him.

Books and papers of varying degrees of interest had been written. Hogg, just then, after some years of paralysis, fading from the stage, had given to us his "Book on the Carnation," by far the best of the older works on the flower, and Mr. Glenny, who especially posed as a floral authority, had established the *Gardeners' Gazette*, the first weekly journal devoted to the garden, and had commenced or completed—in the absence of works for reference I can only speak from memory—a codification of the properties of florists' flowers. Mr. Glenny had a clear, terse, concise power of expression, which forcibly recommended his rulings to the great mass of his readers, he had unbounded faith in himself, and was ready and confident in controversy. So Mr. Glenny made a mark, and was accepted by many, and probably is so accepted to this day, as an authority on the properties of florists' flowers. But Mr. Glenny had little science and less philosophy, and when his writings were read in the later years of the forties, in the light of the "Essays on the Tulip," by Dr. Hardy, and the "Philosophy of Florists' Flowers," by the Rev. George Jeans, their inaccuracies and inconsistencies were only too apparent. 1841 however, marked a great event in floriculture. the *Gardeners' Chronicle*, with Dr. Lindley in the editorial chair, was established. Here we had gardening with the reason why, possibly sometimes rather too much of the reason why, for some of the weaklings. No man passed muster who failed to render a reason for the faith that was in him, and no question could be made of the mighty influence the paper exercised on the work of the garden. But Dr. Lindley had small respect for the florist, he lacked sympathy for his work, and regarded the results rather as perversions of the harmony and order of nature than as additions to its beauty. So Mr Wood, John Frederick Wood, who in the earlier years had been the accredited exponent of floriculture in the columns of the *Chronicle*, in 1847 issued the first number of the *Midland Florist*, a monthly publication remembered to this day with affectionate respect by every florist fortunate enough to have been acquainted with its issue. In the succeeding year, Mr. Edward Beck brought out the *Florist*, with illustrations of the supposed to be better varieties of florists' flowers then existing. Able writers gave interest and force to each work, and then for the first time in floriculture we had an appeal to law for the reason why, and demonstration and illustration of the truth and wherefore of the florist's respect for beauty in his flowers. In the "Essays on the Tulip," by Dr. Hardy and the essays of the Rev. George Jeans, the intelligent reader had supplied to him, irrefragable proof that the properties in his flowers, sought and maintained by the florist, rest upon immutable law, and so his work is in full accord with the harmony and beauty of Nature.

The Florists of Long Ago.

My title, Fifty Years of Floriculture, is a large one but I justify its use in the facts above recited. My reminiscence will be confined to the Carnation. How vividly the scenes and forms of loved actors in those scenes long lost to sight, flit before me, as I go back upon those early days! When practically, after ten years of exile in the very heart of the city—an attic chamber in Carpenters' Buildings, London Wall—my florist life commenced, the Carnation Picotee was in a marked stage of evolution. Hogg, whom I have always regarded, from the simplicity and guilelessness of his mind, as filling a very foremost place amongst florists of his day, had at an early period of the century evidently been impressed with the gracefulness and beauty of the curvilinear marking then attaining definite character in this section of the Carnation, and his enthusiasm had drawn many devoted co-workers to his side. The Revs. J. Burroughes and Charles Fellowes, of Norfolk, the latter yet I trust in life; Twychet and Headly, of Cambridge; Edmonds and Barnard, of South London; Marris and Holyoake, of Leicester; Benjamin Ely, of Rothwell Haigh; Summerscales, Sharp, Garratt, Mr. Morgan May, Norman, and Ward, of Woolwich; John and James Dickson, of Acre Lane; Wood and Ingram, of Huntingdon; Willmer, Green, Bragg, and the Rev. M. Matthews, all with more or less success worked to obtain a definite curvilinear edge of colour on the margin of the Picotee, in place of the fine lines, spot bars, and broken stripes, the original of the section (as it had been the original of the longitudinal markings, the flakes and bizarres of the present day), and the later years of the forties gave us some wonderful examples of what may be realised in Nature by evolution and intelligent selection.

The Flowers of the Forties.

The flowers of the earlier years had been defaced with creamy, clouded, and impure grounds, and the marginal colour in the majority of cases was irregular and undefined; but ere the decade closed, Marris, Matthews, May, and the Rev. Charles Fellowes had given to us Prince Albert, Prince of Wales, Enchantress, Juliet, Ganymede, and Haidee, all flowers of purest ground and definite marginal markings, Mr. Wood, of Huntingdon, his Princess Alice, the first heavily-edged purple with a perfectly pure white ground, and a bantling of my own, Alfred, a heavy-edged purple, had won renown and given some notoriety to my name. In bizarres and flakes, the Carnation proper of the old and untaught florist, the Derby growers had obtained Admiral Curzon, scarlet bizarre, a veritable type of perfection in this the most advanced of the sections, and Mr. Puxley, of Tenby, and Mr. Morgan May, of Sonning, gave to us annually by Mr. Charles Turner, of the Royal Nursery, Slough, a perfect bevy of beauties in their several classes. Mr. Headly had many beautiful breaks both in flakes and Picotees, and Mr. Norman, "Nat" Norman as he was to his familiars, gave us the glorious heavy edged red, Mrs. Norman, a variety which has never been surpassed, I sometimes doubt if it has ever been fully equalled by anything in its section since. Thenceforward generations of flowers came and went—many beautiful things were given to my own work—friends and fellow-workers, dearly esteemed, passed to their rest, and others younger, with an equality of devoted enthusiasm, prominent amongst the number my dear old friends Ben Simonite, Robert Lord, and Wm. Hewitt stepped into the ranks to fill their place.

The Earlier Florists' Flower Shows.

Another important development far reaching in its influence, came to us in the later years of the forties, the establishment of annual open competitions for specific florist flowers. The iron road and locomotive had abridged space, and one hundred miles could now be compassed within the time formerly required for thirty—so localities were brought together previously separated by impassable distance. The Ancient Society of York Florists, I am not sure if veritably the oldest, but one of the most important of the present, as of all past time, had the honour of opening the road. The flower was the Tulip, and an unusually precocious season having carried the flower out of bloom a month before the date arranged for the show, the competition was abandoned for the year, and the funds collected, some £20, were made the nucleus for the succeeding season. The increased canvass and increased subscriptions produced a competition largely beyond any beforetime realised, and the "National Tulip Society," with interchangeable meetings annually in the localities especially interested, was successfully floated. Manchester, with Dr. Hardy as chairman of committee, and Mr. Dixon as hon. sec. had the second meeting. Derby the third. But the meetings were not long confined to the Tulip. Controversy had been brisk, sometimes bitter, as to the relative merits of Carnations raised in the northern and southern portions of our land, and some few, blinded by their ignorance and prejudice, averred there were hopeless differences in the ideals of the respective districts which would for ever keep them apart. So the trial exhibitions of 1850 were organised—one to be held at the Royal Nursery, Slough, the other in the County Hall of Derby, and the absurd delusion was effectually dissipated.

Following these exhibitions the National Carnation and Picotee Society was established, holding its first meeting in the Royal Nursery, Slough, in 1851, its second in Norwich in 1852, third at York in 1853, and fourth at Derby in 1854. Thence to Oxford, to Birmingham, to Manchester, Moira, Ashby-de-la-Zouch, and Chesterfield, until the fifties were exhausted. Thence forward for fourteen years, the deaths, first of my elder and later of my younger brother, brought such a weight of business upon my shoulders, as practically to compel my exile from the competitions of floriculture. But in 1874, the stringency of business engagements having somewhat relaxed going again amongst my old and valued friends, I was urged to attempt a revival in the south of an interest in florists' flowers, which had seemed for some little time to be dormant. So in 1875-76, the National Auricula Society, southern section and the National Carnation and Picotee Society, southern section, were established and flourished.

The Carnation and Picotee Union.

In 1881, broken health having compelled absolute abandonment of business I came to Oxford, and in 1885 being no longer able to sustain the fatigue of travel and the labour of conducting exhibitions away from home, the Carnation and Picotee Union was founded, holding its exhibitions in my own little garden, and at once took a foremost place amongst associations devoted to the culture of the Carnation, and year by year it has continued to advance in an ever increasing ratio.

Coming thus to matters personal, I may here perhaps acknowledge obligation, without which my reminiscences would be incomplete. In the same year which saw me settled at Derby, with means to gratify my long pent-up taste for the garden, the late Mr. Charles Turner, at Chalvey, commenced

business for himself as a professional florist. Even at that early day Mr. Turner's skill had proclaimed itself in his many victories of competition, and keenly desirous to obtain plants from a source ostensibly most able to appraise their value, I was soon first his correspondent and thereafter an annual visitor to his famous collection. There, and in the visits he paid to me at Derby, I was a watchful student of his ready, almost unerring skill in selection, and his equally ready almost marvellous art in manipulation. No florist ever known to me had quicker insight into the merits of a flower or a collection of flowers, or a shrewder perception of the possibilities of artistic arrangement, the development in the fullest degree of the effects of contrast or the charms of combination, than he.

Under such influence I graduated, and when first he sent me in as one of the judges at his great opening show, upon his occupation, in 1849 of the Royal Nursery, Slough, and in a later year, after markedly refusing some proffers from much older florists, he called upon me to take in hand the preparation of certain of his Picotees, I felt no little elation of heart with such evidence of my master's approval. And what vistas of glorious flowers, as one recalls those far-off days, arise to sight. What memories of dearly-valued friends passed to the great dead! First the friend I have just referred to, Charles Turner, king of florists and prince of good fellows. Who that ever heard his song could avoid the feeling that had not his bent made him leader of florists, his glorious voice would have made him leader of song! John Keynes, kindliest of men, Richard Headly, the embodiment of the high-minded country gentleman, warm-hearted, enthusiastic, hospitable, generous and choleric to a fault. Dr. Hardy whose mind and training alike led him to seek scientific accuracy and who was first among florists in his papers on "Perfection of form in the Tulip," to appeal to science for the properties of florist's flowers. Mr. Wood, John Frederick Wood, editor of the *Midland Florist*, a "gentle" man, one whom to know was to love, and knowing to respect, a man alike of gifts and attainments, pure, high-souled, full of enthusiastic love and devotion to Nature, and a deep sense of her beauties and blessings. Marris, Holyoake, Hextall, Merryweather, Steward, Sam Brown, and many others now gone to their rest. Of later friends, Thomas Moore and Shirley Hibberd. But of these I need not speak, their memories are yet green and fragrant. With these it has been my privilege to have had much and sweet communion, and never will that enjoyment, whilst memory holds, fade from my mind.

Few of my comrades and companions of those far-off days yet remain. John Ball, whom I found not yet in his teens, a young lad at Chalvey, upon my first visit in 1846, is yet to the fore at the Royal Nursery, Slough, a trusted departmental leader. Thomas Bower and Ben Simonite, two young Yorkshire men, barely out of their teens when visiting me in 1850, have done good service—dear old Ben indeed, as he is affectionately known to his familiars, has a world-wide fame—as also have my valued friends W. M. Hewitt and John S. Hedderley.

In these later days a wide development has been given to the Carnation, and its popularity has advanced by great leaps and bounds. No careful observer would venture to deny that the work of the florist, regarded from his exhibition stand-point, has had a marked influence on this popularity and extension of culture, and equally I believe no intelligent florist could fail to acknowledge there are types of beauty unrecognised in the present pale of his laws, of high service for general and decorative use. Especially in the yellow ground section, we have a field practically illimitable in the highest property of all flowers, variety. May the younger generation rising to power lead and use it to the full.—*E. S. Dodwell, The Cottage, Stanley Road, Oxford.*

Genista arduinei.—The general aspect of this plant is similar to that of the British G. pilosa, but the leaves consist of three leaflets instead of being simple and lanceolate as in the latter species. The stems are dwarf, branching and procumbent, bearing a profusion of golden-yellow flowers, which are produced earlier than that of G. pilosa. Both are admirably adapted for the shelving ledges of rockwork as they lie close to the stones to which they impart an alpine character. That under notice may be seen in the nursery of Mr. T. S. Ware, Tottenham.

ON CYPRIPEDIUMS.*

The Cypripedium constitutes an important genus of the Orchid family, and is commonly known as "Our Ladies Slipper," owing to the pouch or lip resembling a lady's slipper. Some are very handsome, with scarlet and deep purple pouches, as in a good C. Chamberlainianum; others have dull green pouches, as in C. javanicum; others again are distinguished by their white dorsal sepals, as C. Spicerianum; and the Selenepediums or C. caudatum class have long tail-like sepals, which sometimes attain a length of 2 ft. Some species die down in winter, as for instance C. Calceolus, but all retain the one characterestic of having a slipper-like pouch, although sometimes varied in shape, as in the C. Stonei section.

They are found in various parts of the world, but most plentifully in East Indian and Malayan regions, and amongst the Andes of the northern parts of South America. The number of species and varieties now in cultivation is very numerous, I have a list of 850 names, but some of them are decidedly uninteresting, having dull watery-looking flowers, with little or no pretensions to beauty. Yet they are admired by some and are grown and reproduced in seedlings with little or no variation, but are given excessively fancy names and sold, often at high prices. The greatest difficulty is sometimes experienced in importing Cypripediums owing to their scarcity in their natural habitats, and as an instance of this C. Fairieanum may be mentioned, the native home of this handsome species being unknown, and so far having defied all efforts to find it.

The cultural requirements of the genus vary considerably, some requiring very different treatment to others, owing to their having brittle and fleshy leaves and roots, as in the C. concolor and C. hellatulum section. The latter species I understand, in a state of nature, grows upon limestone rock, and seems to grow and thrive well when potted in broken limestone or old mortar rubble, making long leathery leaves and flowering with remarkable freedom. C. insigne is a species that will grow anywhere and almost anyhow, as it does well in any greenhouse with a liberal supply of water. So also does C. venustum, which likes plenty of water when growing. C. barbatum and its varieties are easily enough grown, but require more heat than either C. insigne or C. venustum. These are usually potted in a mixture of peat, sphagnum moss, and loam, and often dosed with liquid manure when showing for flower. This, I think, is a mistake, although they seem to do well.

We have a very large collection at Warrington, one of the largest in the north of England, and I have never found a species or variety that refused to grow. I am under the impression that they are the easiest of all Orchids to grow, with a little amount of attention to the natural habits of each. C. Chamberlainianum grows like a weed, and is nearly always in flower. So does C. Stonei flower by the dozen, and even C. vexillarium grows and breaks freely, making plants rapidly. C. Boiserianum grows very freely, as do all the C caudatum section, which are seldom out of flower. I have a mode of treatment which is my own, and which according to some Orchid authorities is all wrong. I rarely, if ever, use peat. In fact I have entirely discarded it, except that now and then I use it on the tops of the pots of a few plants on which to raise seedlings. In the first place I like plenty of pot room for the new roots to travel into and plenty of drainage. My principal compost is made up of potsherds, brick-dust, loam, and a little sphagnum moss. The plants begin to root very freely in this as soon as they are potted. They are watered very freely with a syringe and kept rather moist, although I do not like too much at the roots, but trust to moisture in the atmosphere.

I am not fond of too much heat as 60° at night and 70° in the daytime, will grow any of the Cypripedes of the Rothschildianum and Sanderianum section and 10° lower will do for the greater part of the other species. They do not all like the same treatment, as such as C. concolor, C. Godefroyæ and that class like their roots kept on the dry side, or in other words for the water as soon as given to drain away quickly. An excess of moisture about the collars of the plants is likely to end in rot setting in.

It is most important in my opinion that the plants be kept clear of insect pests of which there are numbers ready to assail them, but the most to be dreaded is the yellow thrip, and it is the most difficult to eradicate. I shall never forget buying some plants of C. Lawrenceanum by auction, which I thought had been damaged by using too strong soft soap, but instead were full of yellow thrips, making the leaves look unsightly and gradually killing the plants. We tried every kind of insecticide that we knew of without killing the plants, but it was all of very little use. Strong methylated spirit seemed to improve their vigour, and soft soap caused them to lie dormant for awhile, when they awoke livelier than ever. We next tried soaking them in water for twelve hours, still they seemed all right even after the leaves were showing signs of softening through being too long immersed. We tried strong Tobacco water, made from what is known locally as thick twist, 1 oz. of Tobacco to the gill of water; and followed this up with a dredging of sulphur. The plants were gradually dying now and looked a sorry lot. As a last resort we tried killing every thrip that was visible every three or four hours for a period of three weeks. This seemed to be effectual and we then placed them in the cool Odontoglossum house, where I am happy to say they are doing well and making fine plants.

The common red, black, and other ants are very troublesome to the plants if allowed to increase. They feed on the various kinds of scale, carrying it from one plant to another, and then, to prevent the syringe from washing them off, place small sticks, little bits of soil, etc., over them, till at last they rot the heart of the plants and cause their decay. Green-fly will sometimes attack the flowers, especially of the C. insigne section, causing the blooms to become crippled and unsightly. The various kinds of scale will also cause the disfigurement of the foliage as well as interfere with their general health.

The raising of new varieties has now become very common, it is also very interesting, although you have to wait some three to four years before the seedlings flower. Still this is no longer than in the case of the Auricula, and not so long as in the case of Tulips. It takes from six to twelve months to ripen the pod, and then as long for the seed to germinate. While on the subject of seedlings I may mention that last year I did not know of anyone having raised Odontoglossum seedlings. I am happy to say that I crossed some Odontoglossums three years ago, the seed was sown as soon as ripe, ten months after, and some time last year some of it came up and I have several seedlings in various stages of development. As soon as the seed germinates it continues to grow or swell till it gets to the size of a small pea, perfectly round and white, then it grows on till an Odontoglossum bulb comes on the top with a small leaf and the bottom portion just like a Pleione bulb. I hope I shall be fortunate to keep them till they flower, they have germinated upon a plant of Odontoglossum grande.

There are no florist properties so-called in Cypripediums, the highest priced ones seeming to owe their value to their rarity. Some have great lasting properties, the flowers lasting for four months, and very few rarely less than two or three weeks. None of the flowers will stand the hot dry heat of the pipes during frosty weather; they soon fade, and to this I attribute the great loss that is said to occur from fogs. I am afraid fogs are blamed very often when it is simply the heating that is overdone to drive out the damp, causing a dry atmosphere which has a very injurious effect upon the buds, etc., of some species of Orchids. Flowers of C. insigne when cut will last in a cool room for several weeks.

* A paper read by Mr. W. Bolton, of Warrington at a meeting of the Chester Paxton Society.

THE MODERN PETUNIA.

Petunias have long been attractive to me. Some twelve years ago, having succeeded in raising a few plants with double flowers from imported seed, I determined to try my hand at pollinating a few blossoms, in hope of getting a double flower of my own, as I may say, parentage. It may be as well to state here that double Petunias, like many other double flowers, do not yield any seed themselves, but in order to get seed which will yield double flowers a single-flowering variety must be fertilized with the pollen from a double flower, when the seed from this flower will yield a certain percentage of double flowering plants.

My first attempts at pollinating were of the crudest description. I simply took the anthers from a double flower and placed them on the stigma of the one I wished to pollinate. This being my first attempt at pollination, and owing to the crudeness of my method, I was not very successful; but I succeeded in getting a few double flowers from the seedlings, flowers which would not be given a second glance now, but none of my best flowers of later production have given me half the satisfaction that those few poor ones did. They were double—there was no mistake about that—and they proved to me that I could grow double flowers if I wanted to. From that small beginning—I do not believe that I pollinated over a dozen flowers—I have continued year after year, getting a new strain from this man and another from that, to cross with those I already had.

It may be prejudice on my part, but I must say that I have a strong partiality for a bed of Petunias. Hardly any other plant which is used for summer planting gives the satisfaction that the Petunia does. It is a rapid grower, a free bloomer, and is not, at least with me, troubled with insect pests. The best double flowers also make excellent pot plants, and give a constant succession of bloom throughout the entire summer. For pot culture, or for any one wishing to grow double flowers entirely, it is always better to procure plants of named varieties from a florist, but a packet of good seed will always yield a large percentage of double flowers. They will not all come double, as some always take after the female parent, the single flower, but at least half ought to be double. To me the great charm of growing seedlings consists in the uncertainty. One watches the flowers expanding. Is this going to be a double? Is that? Yes, here is one that there is no mistake about. Look at the mass of petals, still showing green, but there is not room in the corolla to contain them all, and one watches them, day by day, until the colour comes and the fully developed flower is there in all its beauty.

To obtain the best result, I sow the seed in March, in either a hotbed or in the house in shallow boxes, covering it very lightly with fine soil. When the seedlings are about half an inch high, I prick them into small pots, and about the end of May plant out into the border. The Petunia is a gross feeder, likes a rich soil and an abundance of water, and the plants should have plenty of room for their development. I plant them a foot apart each way, and in a short time the ground cannot be seen between the plants. Owing to the constant hybridizing that this plant undergoes in the production of double flowers, it is almost impossible to give a description of the colours of any single variety propagated from cuttings. I could describe the colours and markings of each, but there is no certainty that they will all have the same colouring when they bloom again this year. I have had self-coloured flowers change to blotched ones the second year, and blotched varieties become self-coloured, and even from the same plant flowers can be picked which, when placed side by side, one would be positive came from two or more distinct plants. The general shape of the flower, and the fringing or frilling of the petals always remains the same in one variety, but the colouring changes.

For the sake of any of my readers who might desire to try growing double seed, I will describe my system, which I find gives the best results. First, in order to have plants of strong vitality, in the late summer I pick out the best of the seedlings of that year, both double and single, and strike cuttings, which are wintered in the ordinary way in a cool greenhouse. Another point which I am particular about is, if possible, to see that all the single plants show signs of their double parentage. This may be seen in a small leaflet growing out of one or more of the anthers. These produce seed freely, although, as a rule, only when pollinated by hand. I never propagate for seed growing from plants which have been for several years in cultivation, as I find that they seem to lose in vigour by constant propagation from cuttings. At the end of May I plant out in a sheltered spot in rich soil these wintered plants, the singles against a wire trellis and the doubles in the ordinary way, a foot apart. The single plants are trained to the trellis for convenience in pollinating. All the flowers that are not hand-pollinated are picked off, so that all the strength of the plants may be devoted to the development of the double seed, and that there may be no danger of mixing single seed with it. As soon as the flowers of the double plants are fully expanded they are picked, torn to pieces, and the anthers carefully picked out and placed in a sunny window to dry. As soon as the single flowers can be opened by hand, I remove the anthers with a pair of tweezers. This must be done before the anthers burst, for the minute they do this the flower is no longer of any use to the hybridizer. When the flower opens, the double pollen is applied to the stigma with a camel's-hair brush, the flower is drawn into the shape of a bag and tied with thread, and the operation is complete. They are tied to prevent insects carrying pollen from other flowers, and destroying the efforts of the hybridizer.

The principal difference between my system and that of most other growers is in planting the Petunias in the open ground. The claim is usually made that the seed is "pot grown," that is, from plants grown in pots. My contention is, and I think that I have pretty well proved it in practice, that a plant grown in a pot has not the vigour of one whose roots are allowed the range of a garden-bed, and consequently the pot-grown plant is not in a position to yield the same quality of seed as one grown in the open ground, while a continuance of the practice of pot-growing must necessarily impair the vitality of the parent plant, and through it that of its offspring. —*G. A. McTavish, British Columbia, in American Gardener.*

THE VEGETABLE GARDEN.

Watering Vegetables.

This is a matter which now claims daily attention, and if not well followed up, on light sandy ground especially, we shall get very poor crops this season. Watering, too, is not of much use unless mulching is systematically practised. It matters little what is used for this purpose so long as it keeps the ground moist by preventing evaporation. Straw litter, farmyard manure, old Mushroom beds or even grass off the lawns are all useful. Early Peas are one of the first crops to suffer during weather like the present. All mine, both early and late, are mulched with rough straw litter and kept well watered. By this means I hope to get fair crops, even if the weather remains dry for another month, which there seems every prospect of its doing. The Cauliflowers planted out of pots, although these have been carefully watered, are I see, hearting prematurely in many cases. The later ones that are now being lifted out of frames, I am shading with boards as they are planted, to keep them alive. Extra care must be taken to sow Lettuces in cool places, as it will be difficult to keep up the supply should we have a dry summer as well as spring.—*G. H. S.*

General Work.

Make successive sowings of Peas, and if ground can be spared a few extra rows should be sown this season, as some of the sowings with the dry weather will give short supplies. It is now time, if not already done, to sow Scarlet Runners and French Beans on a warm border. Thin Turnips as soon as large enough to handle and make more sowings. The early Carrots should also be thinned. The main crop of Beet may now be sown; earth up Potatos as soon as they are high enough, as we may have frost any night yet. Give all fruit trees and Strawberries a good mulching and afterwards a thorough soaking of water. Now that the outdoor or natural Seakale is over, level down the ridges, and the plants will make fresh crowns, for earthing up next year, after the second year it is best to plant new ones.—*G. H. S.*

The New Celery Culture.

Some time ago (p. 390) I made reference to a buff variety of Celery that I had noticed during the past season growing in gardens by the wayside, and which was also represented as having certain good qualities. Not knowing the name, but surmising that it was White Plume, I asked if any of your readers had tested it from practical experience, and I gratefully acknowledge the replies that have been given, both home and colonial. I am still further interested in the note on p. 563 of your last number. The advent of this light-coloured variety into our gardens will no doubt give an impetus to the new culture as there described, or, at least lead some of us to give the system a trial, especially for the earliest supplies. The mode of culture seems to me to be both feasible and commonsense-like, as White Plume of itself is deficient in colouring matter, otherwise chlorophyll, and the bed and border system will still further exclude the light and air so necessary to the chemical process of bleaching, which renders our plants the more tender and crisp. The adoption of too much manure, I think, would re-act against its characteristic colour, or, at least, force it unduly into seed. In any case the plants would require careful stalking in exposed situations or the first strong winds would literally mow them down. Thus protected, I do not see why a good quarter should not be as useful and as safe as a brake of Parsnips.—*B. L., Lindley, May 8th.*

Gleanings from the World of Science.

Action of Sulphuric Acid on Trees and Shrubs.—Professor F. W. Oliver has been engaged for some time "On the Effects of Urban Fog upon Cultivated Plants," and in quoting from a letter written by Mr. W. T. Thistleton Dyer on the subject, he says that sulphuric acid is the chief agent that causes injury to trees and shrubs because their parts are permanent. The sulphuric acid is also cumulative in its action, continually parting with some of its water and taking it up again. As the water is given off the acid becomes more concentrated and then becomes injurious by abstracting water from the surfaces with which it is in contact, thus giving those surfaces a charred appearance. The dilute sulphuric acid deposited upon trees and shrubs by fog becomes concentrated during dry weather, and then acts upon them like a caustic. The quantity which may be washed away by rain is augmented by fresh deposits, so that as time goes on the gain is probably greater than the loss. If such is the case we cannot be surprised that evergreen species, particularly Conifers and others, with a rough or hairy surface, should ultimately succumb to such an injurious agency.

Leaves Locally injured by fog.—When blotches only occur here and there upon the upper surface of a leaf, Professor Oliver attributes them to the action of an acid. When sections of the injured portions are examined under the microscope, the epidermal cells are seen to be the first attacked, and as they succumb to the corrosive action of the acid, the adjacent cells get killed in the same way till the acid has eaten its way, so to speak, from the upper surface of the leaf right through to the lower. The protoplasmic contents of the cells become separated from the walls. Leaves affected in this way do not, as a rule, drop from the plant, unless the fog is of long duration, or the affected area is large. The edges and tips of the leaves are the parts most commonly injured in this way, due, no doubt, to the moisture from the leaves collecting there, taking with them the injurious deposits. As the moisture evaporates the deposit becomes concentrated. After several repetitions of the process, there would naturally be an accumulation of the poisonous deposit, hence the probable reason for the leaves being injured in those places.

Fog causing leaves to fall.—This is explained by Professor Oliver as due, not to deposit upon the surface of the leaf, but that the fog actually penetrates the leaves through their stomata, and circulating through the intercellular spaces of the leaf comes in contact with the thin and delicate cell walls which can offer but a feeble resistance to the poisonous gases invading them. Passing through the cell walls they come in contact with and disorganise the cell contents. Further, it depends upon the constitution of the protoplasm and its power of resistance as to the amount of injury which the leaves of any given species will suffer. This is proved by the fact that many plants with thin walled and tender looking leaves escape injury, while the leathery leaves of other plants drop wholesale while still green, and to the naked eye apparently uninjured. Some leaves become withered and brown at the edges, and often more or less rolled up there. Most of them drop but in a few species they remain attached to the plants. Examination under the microscope shows that in all these cases the protoplasm is more or less disorganised and separated from the cell walls. It becomes discoloured in places, but the leaves drop in many cases while the discoloration is very local or altogether absent.

FLORICULTURE.

Should Yellow Grounds be shown with Self and Fancy Carnations?

Among many items of information of a practical character which find a place in the annual report of the Oxford Carnation and Picotee Union, there is a protest by Mr. Martin Rowan against the yellow ground flowers being shown with the selfs and fancies. The point Mr. Rowan puts forward with much force is that some growers of selfs and fancies may not be also cultivators of yellow grounds, and therefore, under present regulations, growers of yellow grounds are enabled to put some of the latter into their stands of selfs and fancies, and "by the greater variety thus imported, and the force of contrast gained, stands so constituted are apt to obtain an ascendency which is not legitimately theirs." That this is so there can be, I think, no doubt. Mr. Rowan points out that when the class for self and fancy flowers was established by the National Carnation and Picotee Society some years ago, the yellow grounds were but little grown, and being so few they were included with the selfs and fancies. Since then the yellow grounds have rapidly multiplied, and they have so increased in number and size, compared with what existed fifty years ago, that they have come to assume an importance not legitimately theirs, and thus, as Mr. Rowan contends, their presence in a stand with selfs and fancies places a stand competing with it, composed wholly of the latter, at a great disadvantage. Now that the yellow grounds have become so numerous, and have special classes in which they alone can be exhibited, Mr. Rowan thinks, having a "local habitation" of their own, they should no longer be permitted entry to the selfs and fancies.

This contention leads to another. Are the selfs and fancies strong enough to stand without the assistance of the yellow grounds? It cannot be a matter of doubt that they are quite numerous enough and fine enough to stand alone, and that any introduction of the yellow ground would be simply as an example of decorative or picturesque display, though were they absent a stand might suffer in the latter respect. But as Mr. Rowan points out "picturesque effect is not the immediate object with which our flowers are staged, the aim being simply comparison and the testing of individual merits of the flowers themselves. For this reason we are careful to compare like with like, keeping the various classes to themselves, so that the fullest justice may be done." Mr. Rowan's conclusion is "the contrary practice in the case of the yellow ground is an anomaly as it stands. Having become important enough to be established in a home of their own, they should now keep to it, and cease to covet the privilege, belonging only to Sir Boyle Roche's bird, of being in two places at once. On the other hand, the selfs and fancies will be found quite able in power of numbers, variety, and character to maintain to the full the interest felt in them without any external aid."

To Mr. Rowan's contention Mr. E. S. Dodwell takes objection, and he admits at the outset that all the utterances of Mr. Rowan are pertinent upon floral points, and that "he brings to the consideration of the subject a mind relatively so free from habit and practice" as to command attention. But Mr. Dodwell's "sense of the evils of eliminating class and class in the degree which has obtained in the past, giving power to the most ignorant and least worthy of our fellows to enforce exclusion on the ground that no class exists in which some new flower may be shown, because novel to them. My sense of these evils is so keen, and my longing to find my fellows appreciating the higher element, the picturesque, so great, I cannot sympathise with this proposal to eliminate the yellows from collections of selfs and fancies." And he adds, "Nor can I think that practically any hardship is inflicted upon any exhibitor by allowing yellow grounds to appear in collections from the beginning invited with the broad designation, "miscellaneous selfs, fancies, or yellow grounds." Further, Mr. Dodwell contends that if the presence of the yellow grounds "create more of the picturesque," and by doing so confer an advantage, why should the florist be debarred from their use? And, as he states, they are accessible enough now; there is no monopoly of their possession, and as time rolls on they are likely to be more accessible rather than less. This is undoubtedly a cogent argument for the retention of the yellow grounds; but when Mr. Dodwell goes on to say that if selfs are to be shown separately (which Mr. Rowan does not require) then we have the necessity for fancies also, and possibly, if not probably, the separation of the fancies into divisions and sub-divisions, with the endless contention such division and sub-division will inevitably bring. But is not this somewhat unnecessarily drawing upon the future? I nowhere read that Mr. Rowan desires to separate the selfs from the fancies; when he takes that line it will be soon enough to discuss its bearings. At present Mr. Rowan advises the withdrawal of the yellow grounds from the selfs and fancies, and I think he makes out a fair case for consideration. I have noticed that when yellow grounds are shown with selfs and fancies, they do, by reason of their size and force—added to the higher value apt to be put upon them—overpower flowers otherwise as beautiful and attractive, but lacking their size. I think we are apt to underrate the beauty of many of the selfs; they add a brilliancy, power and distinctness to stands of flowers, while the fancies add so much in the direction of novelty and unusual combination of colours, that they are in danger of being overshadowed by the yellow grounds. Because of this and other considerations, I am in this interesting controversy on the side of Mr. Rowan.—*R. D.*

THE FLORIST'S TULIP.

For many years past the florist's Tulip has been limited to one or two collections in the neighbourhood of London, but there seems no reason why its cultivation should not be extended indefinitely in the more suitable and open spaces in the suburbs and in almost any garden in the country districts. Where the natural soil is unsuitable, beds would of course have to be excavated and filled with a suitably light compost after making sure of the drainage. It is with the intention of popularising these showy, old-fashioned flowers that Messrs. Barr & Son, Long Ditton, Surrey, have been getting together a collection of the real old English types during the last three years. They were at their best about the end of April and the first week in May, being, like everything else, about a month earlier than in average seasons. They are dwarfer than usual, but have nevertheless flowered admirably, and will undoubtedly ripen their bulbs well, ensuring fine blooms next year.

Independently of the laudable pleasure in growing these beautiful flowers for the sake of their beauty in the "broken" or variegated state, the interest in watching them develop into their various colours is very great. When seedlings first flower they are usually self-coloured, and some of them may break at the second time of flowering; while the majority of them take four to seven years, some as many as fifteen, and others never "break" at all. They are divided into three classes, namely, Roses, Bizarres, and Byblœmens. Self-coloured flowers are termed breeders.

Roses.

In the breeder stage these are some shade of rose or red with a white base or bottom. After they break the marginal flakes and lines are termed the feather, and the central band the flame. The varieties are named in the breeder stage, so that after they "break" they may be feathered and flamed, or either feather or flame may exist alone in the same flower. Blooms that are both feathered and flamed are spoken of simply as flamed, because being the last stage of development, it is assumed that the feather already exists. The inner face of the segments is always the richest in colour, and the beauty of the flowers is best seen when fully expanded under the influence of the sun.

Aglaia is an excellent flower, either in the feathered or flamed state, and the flame has blood red or crimson forks or tongues. Annie McGregor is one of the best of its class as a flamed rose, but is very variable in different years in being feathered or flamed. Another variety is named Heroine in the feathered state, and Triomphe Royal in the flamed state. That is unusual, as a variety usually retains the same name whether self, feathered, or flamed. Another beautiful feathered variety is Mrs. Lee, having a deep red feather and the white ground colour of the flower occupying all the centre of each segment. It is a tall grower. Alice is a good feathered rose but of little value when flamed, as the white bottom is then spoiled by the flame extending down into it. Anastacia is flamed, but not a select flower. The broad scarlet flame of Industry is very heavy, often occupying the half of the segments. Lord Derby often goes to the opposite extreme with a small scarlet flame and the white ground colour occupying the greater part of the flower; but although variable the average flower is fine in the flamed stage. Madame de St. Arnaud is flamed with rich red, but the flower is rather long. Lucretia may be considered a fine strain of the last, with a heavier flame and more telling. A well-formed flower is Lady Sefton, flamed and likewise feathered with crimson. A rather tall sort is Henrietta, also flamed. Sarah Headly is a dark flamed Rose, but sometimes shows a deal of the white ground colour. Quite a pigmy is Dr. Vernon, both in stature and size of bloom. In some of its conditions Mabel is feathered lightly and very distinct, but when flamed it is much darker, with great part of the inner face of a rich rosy carmine and handsome. Occasionally it becomes almost a Byblœmen with a purple flame.

Bizarres.

When the bottom of the flower is some shade of yellow in the breeder stage, the flowers are termed "Bizarres" when they break. They may be feathered or flamed as in the case of the "Roses." When feathered only the yellow ground colour runs almost or quite to the apex of the segments. Birtwistle's Sulphur has an intense chocolate flame and is very handsome. The breeder stage is a curious looking dull buff or dusky brown flower, with a sulphur bottom. Caliph is an old variety not much valued, but is flamed with blackish maroon. The flame of Colbert is a heavy chocolate with a bright yellow bottom. Good either in the feathered or flamed state is Commander, with a dark chocolate or almost black flame. Charles X. when flamed spoils the bottom, but when feathered is very attractive, showing a considerable amount of yellow with a dark crimson feather, and in this stage is named Royal Sovereign. Duke of Devonshire is a good old variety, whether feathered or flamed, the markings being nearly black. A remarkably fine bizarre is Dr. Hardy, flamed with brilliant crimson-scarlet and dark maroon-crimson towards the edge. The truest type is more distinctly broken, with the markings or forks of the flame narrower and better defined. It is one of the finest of the bizarres. It has superseded Everhard, fine as that is. Excelsior is flamed with bronze and dull crimson. A large flower is Geo. Hayward, good in feathered state, and when flamed of a brilliant red. Lord Milford may be flamed or feathered only with crimson, and is best in the latter stage. In the same way Masterpiece is finer and cleaner in the feathered stage. A charming flower is Sir Joseph Paxton, of medium size, and deep dull purple in the breeder stage, but when broken is flamed with deep blood-red or crimson, showing a considerable amount of the yellow ground colour between the forks. This and Dr. Hardy are two of the finest varieties in this class.

Byblœmens.

This class has the white bottom of the "Roses," but in the breeder stage the rest of the segments is of some shade of purple, violet or black but never rose nor red. One of this type is Lord Denman, flamed purple and maroon, but the bottom is rather small. Agnes is best in the feathered state, but is also flamed with rich dark purple and crimson. The breeder stage is a rich dark purple On the contrary, although Adonis exists both in the flamed and feathered stages it is best in the former. A wide-cupped flower is Bessie, flamed with dark purple and almost black at the margins. Chancellor is also flamed, showing a considerable amount of the white ground colour, but the shape is bad. Southport is a dark purple-flamed flower and maroon-crimson towards the edges. A rich dark-flamed flower is the Duchess of Sutherland and clear pearly white at the bottom. Very variable is Friar Tuck, either heavily flamed and tall, or dwarf and flamed, or feathered with crimson red only, the last stage being the finest. Mrs. Pickerill is flamed with heavy dark purple with a broad dark margin; but is of no use in the north where the white bottom gives place to yellow.

Maid of Orleans is synonymous with Princess Royal, flamed with deep purple, and feathered with a hue that is almost black, and intermingled with white patches. In the feathered state only, it is fine, but rarely seen. A heavily-flamed flower is Talisman, almost black at the edges, but the bottom is

very clear. The flowers show a considerable amount of variation, and some are still only in the breeder stage. Both feathered and flamed flowers of Mrs. Jackson may be noted, the feather consisting of purple and almost black stripes. Good also is Geo. Hardwick, a flamed flower with almost black edges. Rubicon is flamed with purple, and shows a considerable amount of the white ground colour. David Jackson is a very heavily-flamed flower, almost black at the edges, of large size with a clear pearly white bottom. We have said nothing about the breeders which are also very numerous, and many of them particularly fine.

CHOICE ROCK PLANTS IN FLOWER.

Hutchinsia gracilis.—The dark green pinnatisect leaves of this beautiful Alpine Crucifer lie close upon the stones or ledges of rockwork, while the corymbose racemes of flowers only rise to a height of 2 in. to 3 in. The quantity of flowers produced and their purity at once establish this plant as a desirable subject for the rockwork in spring and early summer.

Phlox amœna.—The profusion of rosy purple flowers which this plant produces in spring is remarkable. The stems are about 3 in. to 4 in. high, according to the dryness of the season or otherwise, and mostly all terminate in a truss of flowers, so that the leaves are practically hidden with bloom. The plant never trails so extensively as P. stolonifera nor P. subulata.

Veronica Guthrieana.—This is described as a garden hybrid, although it closely resembles a procumbent form of V. fruticosa. The flowers are relatively large and of a rich dark blue, somewhat tinted with purple. The stems trail upon the ground, while the flowering shoots do not rise much above it, and are clothed with small dark green leaves. The plant does not spread rapidly, but can readily be propagated from cuttings during the summer months by inserting them in sandy soil in pots under a hand-light.

Primula involucrata.—The season is three or four weeks in advance of what it was last year, hence this Himalayan Primula is so much before its usual time. The oblong-lanceolate leaves are very neat, never attaining a great size, and the scapes rise to a height of 6 in., bearing an umbel of white flowers much in the way of the garden Polyanthus, but neater.

Cerastium viscosum villosum.—The leaves of this Alpine Mouse-ear as the name implies, are quite woolly, and in fact shaggy, with long grey hairs. The stems are procumbent as in most other species, while the flowering shoots rise to a height of 3 in., bearing numerous white flowers almost as large as those of C. arvense.

Erysimum pulchellum.—The habit of this plant is very similar to that of E. ochroleucum, but the flowers are smaller and more numerous, so that the plant presents quite a gay appearance during the late spring and early summer months. They are clear yellow, conspicuous and graceful.

Valeriana rotundifolia.—A number of species of Valeriana are cultivated in herbaceous borders, but the plant under notice would be lost if so treated. It resembles a miniature V. dioica, with the stems procumbent at the base, and rising to a height of 3 in. to 6 in, at the flowering points. The flowers are produced in flat-topped cymes, and are bright pink in bud, becoming flesh-coloured as they expand.

Schivereckia podolica.—Crucifers are always plentiful in spring, but the different habits of the plants, their general aspect, and the colour of the flowers all serve to give variety. The plant under notice is closely allied to Alyssum, and is frequently placed there by botanists. The small leaves are hoary, and the stems are 3 in. to 5 in. high, bearing white flowers. It is therefore a select Crucifer and very suitable for rockwork. It may be increased by cuttings, but much more extensively and rapidly from seeds.

Veronica gentianoides pumila.—The ordinary form of this Speedwell generally grows about a foot high, and is a quaint old-fashioned cottage garden plant. That under notice is quite a pigmy, being only 2 in. to 3 in. high, at least under the influence of this dry season. The large blue flowers do not differ from those of the type, and the plant is easily grown.

Antennaria dioica rosea.—This has all the characteristic dwarfness and the small leaves of the typical wild Cat's-ear, and hugs the ground very closely. It differs from the type in the inner bracts of the head, the florets themselves being rose coloured, the styles, perhaps, being darkest. It is certainly pretty and well adapted for rockwork.

Iberis correæfolia.—Of the perennial Candytufts this is one of the latest to flower as well as the finest. It has commenced to bloom earlier than usual; but May and June are really its months, although we can hardly expect it to be prolonged far into June, unless in the cooler and more northern parts of the country. The flowers are large, pure white and produced in large racemes that ultimately become oblong like those of I. amara.

A SPINELESS PANDANUS.

Those who object to the broad and somewhat stiff, spiny leaves of P. Veitchii may find in the new Pandanus Baptisti a subject more to their liking. The leaves of P. Baptisti vary from one to two feet in length or more according to the size of the plant, and are linear, channelled, and deep shining green, with or without one to four milk-white lines running along the centre. They are entirely without spines, and therefore not objectionable to handle. as is the case with many of the other cultivated species of Pandanus.

The plant is almost sure to become popular on account of its gracefulness, as the leaves are never more than an inch in breadth, but generally much narrower, and droop regularly on all sides. It was received quite recently by Messrs. J. Veitch & Sons, Chelsea, from Mr. Charles Moore, of the Sydney Botanic Gardens, N.S. Wales, and the Chelsea firm received a Certificate for it from the Royal Botanic Society on the 23rd of March, as recorded in our columns p. 483. We are indebted to Messrs. Veitch for this opportunity of illustrating the new plant.

Pandanus Baptisti.

THE WEATHER AND THE FRUIT CROPS IN LANCASHIRE.

Here (Preston) we have been having exceptionally fine weather, such I am told that has not been experienced for the past twenty-seven years. There has been brilliant sunshine daily for weeks, and no rain except a slight shower since the second week in March. Our last frost to do any injury was on the 12th of April, when we had 8°, but everything was perfectly dry, consequently only the tips of the Potato tops and some beds of Spiræas suffered. Last year our beds of these and Lily of the Valley were so injured on Whit-Monday, that we did not get a flower from them; the latter at the present

time are very fine and full of flower. Most nights the temperature has been 40° to 45° at ten o'clock (thermometer in a fairly open place 3 ft. from the ground) and on the 19th it was 55°. On four days last week it went up in the daytime to 81°, 82°, 83° and 84°, but on the 29th there was a great change; it was a cold windy day, with momentary showers and a few hailstones but scarcely sufficient to lay the dust. Frost was dreaded, but the thermometer did not go below 37° during the night. Sunday was equally boisterous but there was no rain. To-day (May 1st), rain began to fall gently at 9 a.m. moistening the surface about half-an-inch deep. Everybody has been full of praise of the weather, though most people would have liked rain sooner, and with the experience of Whit-Monday still fresh in our memories there have been gloomy forebodings that we shall have winterly weather yet before summertide.

It is a common remark of people not directly interested in fruit culture "Are not the Apple blossoms unusually large this year?" They certainly are of an enormous size, and more abundant than ever, and most of the trees seem to be tolerably free from caterpillar, a very rare occurrence demanding explanation. One thing I have noticed that may partly account for it; in our garden the small birds have paid more attention to the trees whilst in flower than I ever saw them before, which I attribute to scarcity of food in consequence of the drought. Pear blossom was also good, but strange to say in our case and that of a neighbouring garden, the show on the walls was rather meagre and disappointing. I saw a week ago some Jargonelle Pears on a tree a a short distance from here the size of a robin redbreast's egg. The tree is a large dwarf standard, is sheltered from the north by the end of the dwelling, and partly from the east by other trees, and is familiar to many for its regular crops. Plums, including Damsons are an enormous size, and I noticed to-day on Coe's Golden Drop and others fruit half-an-inch long. Gooseberries are forwarder than they usually are at Whitsuntide (the usual season for picking, however late it may happen). We gathered our first on the 26th, they were equal in size to those the dimensions of which are given in a recent issue, p. 546. The crop is of the heaviest description, the birds having left the buds alone, and the flowers having escaped the frost.—*W. P. R.*

A HALF-HOLIDAY FOR GARDENERS.

The controversy now going on in your valuable paper on this subject, will, I doubt not, be a means to the end, or consummation of this inestimable privilege. That young gardeners are as a class, somewhat handicapped, both financially and physically, during the summer months, as compared with mechanics and other skilled workmen, no one will deny. Still in the winter months their hours are much shorter, and there is no diminution in the rate of wages. On these grounds then, I think a half-holiday in winter is undesirable, but from March till the end of September, I hold that gardeners should, where practicable, have this privilege, not from any carping or vindictive spirit, but entirely from an intellectual point of view, so that the young gardener may have time to visit neighbouring places and his brother gardeners, where he may be enabled, by observing the various systems of gardening, to lay up for himself a store of knowledge which I doubt not, would be of the greatest advantage and help to him in after life.

Sunday visiting is, I think, to be deprecated, but under existing conditions the young gardener has no other course before him. That Saturday is *not* the *worst* day of the week for a half-holiday, I have had ocular demonstration, having served in a place in Berwickshire where we stopped work at twelve noon on Saturday all the year round. Still the work seemed to be kept well under hand all the same. The place had to be tidied up, kitchen supplied for the morrow, plants watered, houses washed out and everything put straight by that hour, and the men who were to be on duty on Sunday were left in charge for the remainder of the day. This plan worked admirably, with advantage, I trust, to employer and employed. Never, may I say, did I serve in a place where there was such harmony between master and man, or where the work was got through with better spirit.

I have also had the privilege of two hours off on Saturday afternoon, this being granted after it was respectfully petitioned for, and was much appreciated. But the most suitable hour, in my opinion, at which to stop work, would be 2 p.m., which in Scotland and a great many places in England is the general dinner hour. This is only three working hours of a concession, and one that would suit most establishments. There is nothing to hinder the chief to get through with the work should he throw precedent and conservatism to the winds; old customs die hard however. Of course we are aware that there are places where should the head gardener propose a half-holiday for his men he would be told decisively to have one man less in the gardens. I am also aware of all the arguments against the movement, as to men having too much spare time, visiting public houses, &c., there are always a few black sheep in every community, but this needs no comment, I have more faith in gardeners than that.

I am afraid a half-holiday will never become general, but in the great majority of cases we hope soon to see that the half-holiday is conceded. True, it is an accomplished fact in some places, and all honour to the humane gardeners who take that fellow interest in their men, that genuine and friendly feeling, the example of which will in time, we hope, fulfil the words of Scotland's pre-eminent bard,

"When man to man the warl o'er
Will brithers be."

—*W. M.*

I cannot make out how a Saturday half-holiday can be wholly conceded where glass structures are predominant. Yet I see no great obstacle to a general closing time at four, as the solar rays are then losing power, and careful stoking, watering earlier, damping down, and giving a little ventilation if need be, no great risk could possibly be run. It is more a matter of determination, perhaps, both on the part of superiors and subordinates. Let the two study one another's interests and work together, and success would be the result. I worked at one place under two separate chiefs, and I then invariably noticed that we had better crops and a neater kept place when we got away by four than was the case when we had to toil until near six. It has been related of Sir Joseph Paxton that he once fell fast asleep on the magisterial bench while a case was being tried, and when the officials aroused him he said, "two months, two months," and being asked why, "Oh," retorted he, "I tried the case to myself yesterday." The fact was that Paxton always anticipated his work, as every good gardener will do who intends to succeed. If the head will personally supervise his men in a kindly and considerate manner, the rule to cease labour at four o'clock would follow, as night follows day.—*B. L.*

GARDENING MISCELLANY.

CHRYSANTHEMUMS IN MAY.

The admirers of this class of plants are determined not to lose sight of their favourite flower whatever be the time of the year. A correspondent from Edinburgh writes to the following effect:—"The twelve Chrysanthemum blooms which I put before the Scottish Horticultural Association on the 2nd inst. were cut from plants bearing from ten to eighteen blooms each, and I said I thought they would admit that for size, colour, and breadth of petal they were equal to the same varieties when flowered in the height of the Chrysanthemum season. I may have more to say when I exhibit again in June, as I shall have more varieties in bloom by that time. The present lot were eight blooms of Madamoiselle Melanie Fabre, four of Mons. Freeman, four of Madamoiselle Lacroix, and one of Madame Louise Leroy. This year I finished cutting my late Chrysanthemums about the middle of April. At that time my early ones were opening their flowers, and as far as I can judge at present, like Tennyson's brook, there will be no difficulty in keeping them flowing (or flowering) on for ever."—*A. McM., Trinity Cottage.* [Eight flowers of the four varieties were sent us, and we must say that their size and freshness was wonderful for this season of the year. The soft, rose-coloured blooms of Madamoiselle Melanie Fabre were particularly fine and distinctly fragrant, but were without the gold centre seen in autumn.—Ed.]

RANUNCULUS SPECIOSUS FLORE PLENO.

Of the several species of Buttercup, of which there are double forms in cultivation, that under notice is conspicuous for its dwarf habit, yet robust character of the leaves and stems as well as in the size of the flowers, which are of a bright golden yellow. Double forms of R. aconitifolius and R. acris have been in cultivation, probably for centuries, and their wide distribution in gardens should be evidence of their popularity. The double form of R. speciosus is of more recent origin or introduction, and should be accorded a general welcome by those who are fond of hardy flowers, for it makes a brave show during the month of May, or even earlier, in advanced or forward seasons like the present. It increases very slowly, and is therefore not liable to overrun its neighbours. The flowers are as double as those of a Caltha, but even more regular, and might be used for mixing with cut flowers as well as in border or rockwork decoration.

CHRYSANTHEMUM TCHIHATCHEFFII.

Some years ago great value was attached to this plant as a substitute for grass under trees and similar shaded places. It might also be profitably employed for planting in dry positions or for covering banks where it holds its own in seasons like the present. The finely divided leaves lie close to the ground on the procumbent or creeping stems, and are of a rich dark green colour. The heads are borne singly on naked or leafless footstalks 6 in. to 12 in. long. They have white rays generally reflexed, with a prominent golden disc, and in themselves are too like those of a Matricaria to be highly appreciated. Independently of that, however, the plant is serviceable for the purposes above named. The species commemorates a Russian botanist, M. Tchihatcheff who died quite recently, and is often grown in gardens under the name of Pyrethrum Tchihatchewii. In any case the name is difficult to pronounce, and even more difficult to spell, as many Russian names are.

NARCISSUS TRIANDRUS CALATHINUS.

This beautiful little Daffodil is sometimes considered a distinct species, and although that is stretching a point too far, it is certainly the most distinct of the varieties of N. triandrus. The segments are oblong-lanceolate, reflexed, and white or creamy white, and the campanulate corona is equally long and of the same colour or even purer. In all the rest of the varieties of this variable little species, the corona is always shorter than the segments. It is a native of the Isle of Glenans, Brittany, and has recently been reintroduced to cultivation. Under fairly natural conditions it flowers with us during April and May. Attempts should be made by those who grow it to acclimatise it in this country by sowing seeds and raising plants of stronger constitution which would perhaps enable it to be grown by everybody under ordinary treatment in the open border or upon the rockery.

MORISIA HYPOGÆA.

Without exception, probably, this is the earliest flowering species of the Evening Primrose family in this country whether wild or cultivated, with exception, perhaps, of Fuchsias grown under glass and which would not, of course hold good here. The leaves are linear, runcinately lobed somewhat after the style of the Dandelion, with obliquely triangular lobes, and of a rich, dark green colour. The flowers are of a bright yellow and produced singly on footstalks just arriving above the dark green foliage. The plant, therefore, has the appearance of a tuft of foliage studded with yellow flowers. The best place for it is a sheltered position on the rockery, where it will occupy but a small amount of space and prove both interesting and pretty in spring. It may be seen in the nursery of Messrs. Barr & Son, Long Ditton, Surrey.

LEWISIA REDIVIVA.

A fine batch of this curious but showy and succulent plant may be seen in the nursery of Mr. T. S. Ware, Hale Farm, Tottenham, where the plants are grown in small pots in the poorest sandy loam mixed with some pieces of sandstone in a cold frame. We saw them recently and they had commenced to bloom while flowers still in bud were

showing plentifully. The plants are six years old and have been in the same pots for the last three years without being repotted. They flower every year notwithstanding this apparently rough treatment. The fact is the plants are really of a succulent nature, particularly the fleshy rootstock, and should be kept on the dry side during winter, whether grown in pots in a cold frame or planted upon the rockery.

TULIPA PULCHELLA.

Where dwarf species or varieties of Tulip are desirable, that under notice has much to recommend it. The season has been a dry one and has assisted no doubt in keeping the flowers thus dwarf, but T. pulchella is naturally so, with glaucous much undulated leaves lying upon the ground. The flower scapes only measure 3 in. to 6 in. to the top of the flower. The latter is intense red or crimson, with a black blotch at the base of each segment, and the blotch surrounded by a golden-yellow band. Of course, these markings being inside are only observable when the flowers are fully expanded under the influence of sunshine. They are then very attractive, and although of medium size compared with T. Gesneriana, yet the species is well worthy of cultivation either on the rockery or border. It may be seen in the nursery of Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

ERYSIMUM MARSHALLI.

This plant is said to be a garden hybrid between E. ochroleucum, with pale yellow flowers, and E. Perofskianum having reddish-orange flowers Features of the plant substantiating this idea are that the plant has the habit of E. ochroleucum but is more erect simulating the other parent and, like it, often liable to die after flowering. In other words the plant produces few barren branches by which the plant may be continued and flowers itself to death, as it were. The flowers resemble those of E. ochroleucum in size but are of a warm orange-yellow and very showy. Furthermore the plant does not produce any fertile seed, and must be propagated from cuttings. In any case it is a handsome plant admirably adapted for cultivation on the rockery. It is flowering finely in the nursery of Messrs. Barr & Son, Long Ditton.

IBERIS SEMPERFLORENS FLORE PLENO.

The single and typical form of this Candytuft is now far advanced and shedding its petals, having been in bloom for a long time. Double flowers of most kinds are rather later than the single kinds in coming into bloom, and such is the case with this double Candytuft. The flowers are just expanding, and though smaller and rounder than the single ones, they will get somewhat larger when fully expanded. In the eyes of many they would not be considered as beautiful nor graceful as the single ones; but they are conspicuous in the mass when seen from a distance and serve to prolong the season. The plants in the nursery of Messrs. Barr & Son, Long Ditton, have been in the open all the winter, and therefore under natural conditions. In cooler seasons, with more rain, the plants would bloom much later than they are now doing.

IRIS SUSIANA.

Most people admire the singular-looking flowers of this species and many desire to grow it, but seem afraid to attempt it. There is a prevalent idea that it is difficult to grow; but if kept rather dry in winter and given plenty of moisture when making its growth, the difficulties will vanish to a great extent. There are few species in the group to which it belongs and all possess great interest on account of the strange mixture of colours in their large flowers. The falls are heavily striped and mottled with blackish-purple on a lilac ground, and have a black disc bearded with black hairs. The standards are very broad and finely mottled with the same colours as the falls. The reflexed stigmas are mottled and marbled with purple. We noted it flowering in pots, stood in a cold frame and covered with cocoa-nut fibre, in the nursery of Messrs. Barr & Son, Long Ditton. The fibre keeps the roots cool and moist, while everything in the open ground is baked with the drought.

Calceolarias.—As the plants push into bloom it will be necessary to shade them to prevent their being burried on too rapidly by the dry weather and bright sunshine. Give the plants plenty of water at the roots and liquid manure about twice a week until they come into bloom. Should there be any trace of greenfly, fumigate the plants before the flowers open.

SOCIETIES.

Royal Horticultural, *May 9th.*—The meeting on this occasion was not so large as those on either of the two previous dates, and the exhibits consisted chiefly of plants grown under glass, such as Orchids, New Holland plants, forced Roses, stove and greenhouse plants generally, and hardy herbaceous plants, including a fine collection of the real old florists' Tulip. A large group of Orchids, consisting of Cattleya Mossiæ, Lælia purpurata, Odontoglossums, Cypripediums in variety, Broughtonia sanguinea, and others, were shown by Messrs. Pitcher & Manda, Hextable, Swanley, Kent, receiving a Silver Banksian Medal. A smaller group, including a considerable amount of variety, was exhibited by Messrs. F. Sander & Co., St. Albans. Amongst others were Vandaeteres, Ærides Savageana, Scuticaria Hadweni, Masdevallia dolosa, Cattleyas and Odontoglossums in considerable variety. A Silver Flora Medal was awarded to W. F. Darnell, Esq. (gardener, Mr. G. W. Davis), Devonshire House, Stamford Hill, for a group of Cattleyas, Lælias, Miltonias, Dendrobiums, and other Orchids, set up with Caladiums, Dracænas, Maidenhair Ferns, and other fine-foliaged plants. Fine pieces of Oncidium macranthum, Charlesworth's var., and O. serratum var. were shown by Messrs. Charlesworth, Shuttleworth & Co., Heaton, Bradford. Dendrobium Mentor, a hybrid, and Lælio-Cattleya Hippolyte were exhibited by Messrs. J. Veitch & Sons, Chelsea. Odontoglossum crispum roseum guttatum, Miss Florence M. Bovill. and O. c. de Barri Crawshay, were exhibited by De Barri Crawshay, Esq. (gardener, Mr. S. Cooke), Rosefield, Sevenoaks. Bifrenaria bicornaria and some grand spikes of Odontoglossum triumphans were brought from the Royal Botanic Gardens, Glasnevin. A variety of Cypripedium concolor was shown by R. B. White, Esq. (gardener, Mr. Brown), Arddarroch, Garelock Head, N.B. Cypripedium striatum was shown by C. L. N. Ingram, Esq. (gardener, Mr. T. W. Bond), Godalming, Surrey. Dendrobium Bensoniæ album, Stand Hall var., was shown by T. Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, Manchester. A hybrid Cypripedium, named C. Charles Rickman, was staged by Mr. Charles Rickman, Springfield. Major-General E. S. Berkeley, Southampton, exhibited Dendrobium bercoglossum, Galeandra nivalis, and Dendrobium transparens album, Cyrtopodium cardiochilum, was shown by Stephen White, Esq. (gardener, Mr. A. Tomalin), Crayford, Kent. Lælia purpurata Lowiana was staged by Messrs. Hugh Low & Co., Clapton.

A large and showy collection of single Pæonias, Irises, Pyrethrums, Doronicums, and many others was exhibited by Messrs. Barr & Son, King Street, Covent Garden. A great amount of interest was centred in a collection of the old English florists' Tulip representing all the sections into which the varieties are divided. A Silver Flora Medal was awarded. Near by was another collection of double Pæonies, Parrot Tulips, etc., for which a Silver Flora Medal was awarded. A similar award was made to Messrs. Wm. Cutbush & Sons, Highgate, for a showy group of Ericas, Saxifraga Cotyledon pyramidalis, Azaleas, Caladiums, Palms, etc. Some finely-flowered specimens of a new Polyantha Rose, named Turner's Crimson Rambler were shown by Mr. C. Turner, Slough. Half-a-dozen pots of a hardy white Rhododendron were shown by M. J. T. Seidel, Steisen, near Dresden. A Bronze Banksian Medal was awarded to Mr. Geo. Mount, Exotic Rose Nurseries, Canterbury, for two boxes of Rose blooms in fine condition. A Silver Gilt Flora Medal was awarded to Messrs. Wm. Paul & Son, Waltham Cross, for a group of new Roses in pots, and also cut blooms. A Silver Banksian Medal was awarded to J. C. Tasker, Esq. (gardener, Mr. P. Perry), Middleton Hall, Brentwood, Essex, for a showy group of Cannas in bloom. A group of Negundo aceroides variegata, Palms, Hydrangeas, Lælia purpurata and other subjects was shown by Messrs. E. D. Shuttleworth & Co, Peckham Rye, who were accorded a Silver Banksian Medal. A similar award was made to Messrs. Paul & Son, Cheshunt, for a collection of Rhododendron and Azalea flowers. A Silver Gilt Flora Medal was awarded to Messrs. J. Veitch & Sons, for a large group of Prunus Pissardi, Azalea mollis in variety, and the plants of large size, also Japan Maples, Spiræa confusa, the typical Viburnum plicatum, Spiræa Thunbergii and many other flowering and foliage subjects. They also showed some plants of Tillandsia Leodiensis, Phyllocactus Plato, &c. A small group of Myosotis was shown by E. A. Kirby, Esq., M.D. (gardener, Mr. M. Webster), Kelsey Park, Beckenham. A box of blooms of the new yellow border Carnation, named Pride of Great Britain was exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham. Some very showy plants as well as cut flowers of tuberous Begonias were shown by Messrs. H. Cannell & Sons, Swanley. A Silver Banksian Medal was awarded to Mr. Frank Cant, Braiswick, Colchester, for a collection of blooms of Tea Roses. A Bronze Banksian Medal was accorded to Messrs. E. D. Shuttleworth & Co., for a collection of hardy herbaceous plants including Auriculas, Mountain Cornflowers, double Poet's Narcissus and many others.

At a meeting of the Fruit and Vegetable Committee, a dozen melons were shown by Mr. E. Gilman, Ingestre, Stafford. A Cultural Commendation was awarded to Mr. W. C. Leach, gardener to the Duke of Northumberland, Albury Park Gardens, for a collection of Lettuces, Runner Beans, and Peas. A Cultural Commendation was awarded for fruits of the Brown Turkey Fig, and the old Red Tomato, exhibited by Mr. G. Wythes, gardener to the Duke of Northumberland, Syon House, Brentford. Cultural Commendations were accorded to Mr. Beckett, Aldenham House Gardens, Elstree, for Strawberries, Reading Perfection Tomatos, and a Potato named Snowdrop. Strawberries were also shown by Mr. W. Iggulden, gardener to the Earl of Cork, Marston, Frome, Somerset. Veitch's Earliest of all Cabbage was shown by Mr. T. W. Bond, gardener to C. L. N. Ingram, Esq. A seedling Melon was shown by Dr. Frankland, F.R.S. (gardener, Mr. C. Ritchings) The Yews, Reigate.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

Cattleya House.—Epidendrum prismatocarpum growing in this house is just pushing up its spikes, and as the plants have been resting for some time, it will be best to thoroughly soak the compost by placing pots that are not too large up to the rim in a pail or tub of water provided for that purpose, or the spikes will not develop properly if the plants are at all shrivelled.

Miltonia spectabilis and M. Moreliana.—Our plants are showing well for bloom again this year, especially those that are grown in baskets and suspended close to the glass on the north side of the Cattleya House. They seem to do best when rather confined for room. Some of the growths are a long way over the sides of the baskets, and the small roots are quite four inches long.

Manure water.—It will be easily understood by those that are not altogether opposed to manure water for Orchids in any form, that some stimulant must be given either by evaporation by placing manure water in the troughs on the pipes, or by applying it direct when watering. Ours get it both ways and while they keep on breaking double and flowering freely, depend upon it it will be continued. The manure water for the troughs is made by putting horse droppings into a tub, and that afforded when dipping the plants is made by placing a small quantity of guano into a pail of water. The use of manure water for Orchids has long been practised by some of the best growers, and when used with care and judgment I feel sure that the best results will follow. Newly imported plants of course do not require anything until they are well established and flowering freely, when a little assistance will be of great benefit. That they all can be grown well without it I am well aware, but they will do a great deal better with it. My advice is, however, do not overdo it, and give only to those that have plenty of healthy roots and are growing freely.

Cool House.—On looking over the plants of Oncidium tigrinum to day I find that they have commenced to grow, and will be encouraged by having a good watering so that the bulbs may become plump prior to their being re-potted, which operation will take place in about another fortnight. We use rather small pots for this species, and pot very firm as the roots are rather small. Very little water will be needed until the roots have got well

hold of the new compost, which should be good tough peat, a little sphagnum, and bits of broken potsherds.

Give Plenty of Air through the bottom ventilators both day and night on all favourable occasions, as this is as essential in keeping a collection of Orchids in good condition as keeping the temperatures just so, in fact it is much better for them even if the temperature drops a few degrees below what is generally thought to be the minimum, by giving air, than by closing the houses and keeping up the temperature.—*C.*

Arrested development of a Leaf.

Sometimes a spell of fine weather in autumn will start Orchids into a second growth, which is not always favourable to their well being when on the eve of passing through the trying ordeal of our winter. A specimen of Phalænopsis started to grow in this way during autumn in the collection of F. Wigan, Esq., Clare Lawn, East Sheen, but the first leaf became arrested or ceased to grow on the advent of bad weather. In spring the same leaf commenced to grow again at the base, and completed a well-formed leaf as far as its lower and larger portion is concerned. The apical portion did not grow any more, but was merely carried up by the rest as it lengthened. It still remains in good condition, but is made conspicuous by its being much narrower than the rest of the leaf. A similar phenomenon may be seen by the observant in the leaves of several of the species of Streptocarpus. This is, of course, natural and of regular occurrence.

Nanodes Medusæ.

This is one of those Orchids which makes its appearance at intervals and then drops out of sight as it were for another period of time. There are collections, however, where they find a secure retreat during their periods of neglect, such as that of F. Wigan, Esq. (grower, Mr. W. H. Young), where we noted it recently. The stems are procumbent over the sides of the basket in which they are grown, and are covered with closely-arranged leaves in two ranks. From the ends of these are produced few-flowered clusters of singular looking flowers. The sepals are oblong and densely mottled with purple, while the petals are linear and similar in colour. The lip is orbicular or nearly so, concave at the base, deeply fringed all round the margin and wholly of a deep maroon, or lake as some would call it. There is no difficulty experienced in growing this plant if suspended in a basket near the glass.

Lælia majalis.

Many growers attempt the cultivation of this Mexican species, and who fail to flower it satisfactorily or to flower it at all. No difficulty is experienced with it in the collection of F. Wigan, Esq. (grower, Mr. W. H. Young), Clare Lawn, East Sheen. Here the plants are grown in baskets and flower regularly every year. The baskets are suspended near the glass and that no doubt largely accounts for the success. Other growers have hung it up in the same way, but merely fastened to blocks where the roots must frequently be starving for want of moisture, during the warmer period of the year, when the plants should be making substantial progress. Mr. Young also keeps the plants dry for about eight months of the year, merely giving sufficient moisture to keep the pseudo-bulbs from shrivelling. This treatment resembles what they get in their native habitats and no doubt contributes to the success. All the three plants here are flowering.

Hybrid Dendrobiums from Broomfield.

A box containing three hybrid forms of Dendrobium has reached us from Mr. Wells (gardener Mr. R. Hinde), Broomfield, near Manchester. Very conspicuous amongst them were two trusses consisting of three flowers each of D. splendidissimum grandiflorum, with long, rosy purple sepals and petals darker at the tip and white at the base. The lip with its large blotch of rich Indian purple was also conspicuous. Some flowers of a seedling of Sir W. Marioat's seemed closely similar to D. Ainsworthi. D. Dominianum is a hybrid between D. nobile and D. Linawianum, and is notable for the size of its flowers, the rosy purple sepals and the more intense hue of the upper half of the petals. On the whole, this hybrid is comparable to D. nobile nobilius, except that the lip is rather small. Accompanying the above was a fine flower of Phaius Cooksonii, a hybrid between P. Wallichii and P. tuberculosus. The sepals and petals were soft rose tinted with yellow-brown along the centre. The markings or blotches on the upper half of the lip were almost crimson, and the side lobes brownish crimson. Mr. Hinde says it is a free flowering Orchid, a fact the more remarkable when we remember the difficulty in growing P. tuberculosus, the pollen parent

WHAT TO DO IN THE GARDEN.

Achimenes.—Plants of this class, whether in pots or baskets, should be kept as near the glass as possible, and regularly attended to in the matter of watering. It may be necessary occasionally to dip the baskets into a tank or pail, to make sure of wetting all parts. Weak liquid manure should also be given, but the baskets in this case should not be dipped into it otherwise the foliage would get injured.

Cyanophyllum magnificum.—Old plants which have had the tops taken off furnish a plentiful supply of side shoots, which when taken off and rooted, make useful little plants for various decorative purposes. Insert them singly in small pots in light sandy soil and plunge the pots in the frame in the propagating pit.

Variegated Pineapple.—When old plants of this produce a head of fruit, the latter may be left on the plant till little shoots are produced from the crown, or this may be taken off immediately and put in a pot till it produces sprouts. These produce nice little plants that grow slowly and retain a graceful character for a longer period than plants raised from suckers.

Heaths and Epacris.—Plants of this class that were put into heat to start them into fresh growth should be removed to cooler quarters when growing freely, to prevent their being overdrawn. Later on when the nights are warmer they may be transferred to the open air.

Fuchsias.—The early batch of Fuchsias should not be stopped after this but allowed to develop their flowers so as to take the place of spring flowering subjects as they go out of bloom in the conservatory. The main batch may still be kept pinched to get them into shape and bushy, furnishing every part with branches.

Balsams.—These should be kept in a brisk atmosphere to urge them into good growth. They must at the same time be near the glass and freely ventilated, otherwise they will soon get drawn and spoiled. Remove all flowers as they appear on the main stem to encourage a good development of the lateral shoots.

Cucumbers.—As soon as this year's set of plants comes into good bearing, those that produced the winter's supply may be rooted up if they show signs of diminished vigour. The house may be filled again immediately with young plants that soon come into bearing at this season of the year. Continue the operation of thinning, regulating and stopping the side shoots on the bearing plants so as to keep them in good order without severe pruning.

Summer Bedding.—The fine weather we have been enjoying for some time past will tempt many to have their bedding plants put out. There has been no frost for some time of any consequence and planters may be a little over-confident. All the hardier subjects may however be planted, including Pelargoniums, Calceolarias, Fuchsias and others of that class and hardiness. The Tulips, Hyacinths and Narcissi being long out of flower, will offer another inducement to have the bedding out accomplished. But another fortnight at least may be allowed to pass by before such things as Heliotropes, Alternantheras, Coleus, &c., are committed to the open ground.

QUESTIONS AND ANSWERS.

Names of Plants.—*R. G., C.*: 1 and 2 are double forms of Narcissus incomparabilis not in character; 2, Odonis vernalis. *C. W.*; Eupatorium atrorubens also known as Hebeclinium atrorubens. *A. W.*: 1, Ulmus campestris (The English Elm); 2, Fraxinus Ornus (The Manna Ash). *Omega*: Anthriscus sylvestris, the Wild Chervil. *Timber*: 1, Rhus typhina; 2, Pterocarya caucasica; 3, Spiræa Lindleyana; 4, Berberis stenophylla; 5, Rubus spectabilis; 6, Abies concolor; 7, Pinus Strobus.

Paris Green on Gooseberries.—*Raglan*: If you have syringed the bushes lightly or given them a light spraying, there will be comparatively little poison on the fruits. If they have been syringed until the moisture ran off them, it is both a mistake and a waste of the mixture. Many of the varieties of Gooseberry are hairy and would retain the poison more than the smooth ones. Currants are smooth and occasion little danger. In either case you should well syringe the bushes, or better still, use the garden engine upon them, washing both sides of the bushes. In ordinary seasons cultivators that have been spraying their trees and bushes trust to the rain to wash them, but we have had no rain for a long time, so that you could give the bushes two good washings with clean water and there will be little fear of danger.

Ficus repens in Porch.—*Reader*: The species is a native of China and Japan, and is half hardy in this country. We should not be afraid of growing it in the porch you mention, provided the conditions had been more favourable to growth. Those who designed the porch had very little idea of plant life if they intended it for plants. If the glass had been transparent the leaves and wood would have gained greatly in strength and the plant would have been altogether more hardy. We should use a compost of sandy loam with a little leaf soil, or make the soil sufficiently light by adding plenty of sand. Pots that are rather small for the size of the plant should be used as the roots thrive better. Considering that the porch is unheated you may be prepared for losing your plants in severe winters by having some good-sized plants in reserve, or the old plants might be taken into a heated greenhouse during severe weather.

Plum not Bearing.—*M. M., Aberdeen*: The fact of the Czar being covered with bloom proves that it cannot be the soil which prevents River's Early Prolific from flowering equally freely. You must put it down to the individual peculiarity of that particular tree, and try to bring it into fruitfulness by root pruning it early next October.

Lilium Thompsonianum.—*M. M., Aberdeen*: This Lily, which more properly should be called L. roseum, is doubtfully hardy at Aberdeen, and you should try it planted out in a north aspect frame. In the south it is usually grown in pots, and flowered in a cold house.

Pelargoniums.—*Omega*: The spotted Pelargoniums, or Geraniums of the greenhouse, as you call them, belong to or originated from Pelargonium cucullatum chiefly. They have, therefore, a different specific origin from the zonals or bedding varieties, which are of a somewhat composite origin. All those with a dark zone upon the leaves owe that character to Pelargonium zonale. Others again have entirely green leaves, that is without a zone, like Master Christine, and owe this to P. inquinans. The strain of some other species may be mixed up with them likewise, but these two are generally considered the original parents.

Seakale Flowering.—*Omega*: The flower stems should be cut down as near the ground line as is convenient. It is a matter for your own judgment on seeing the plant. If the crown of the root is some distance out of the soil, you had better not cut so low at this late period of spring. Your object should be to get one to three strong buds springing from the crown of the root. If you can see any cut the stem down to them, but leave the buds uninjured. If more than three buds arise, remove the weaker ones leaving three if there is plenty of room for them to develop; if not, then only one may be left.

Communications Received.—H. G. C.—W. G. H.—M. & Sons—W. M.—E. S. D.—J. L. & S.—S. & S.—J.—G. J. I.

TRADE CATALOGUE RECEIVED.

James Veitch & Sons, King's Road, Chelsea, S.W.—Catalogue of Plants including Novelties for 1893.

Charles P. Kinnell & Co., 65, Southwark Street, S.E.—Garden Appliances and Sundry Fittings.

H. B. May, Dyson's Lane Nurseries. Upper Edmonton.—Ferns and other Plants.

Jean Souheur, Antwerp.—Insecticides and Fungicides.

Merryweather & Sons, Greenwich.—Fire Engines, Pumps, and Water Supply Apparatus.

John Laing & Sons, Forest Hill, S.E.—Special list of Caladiums.

LONDON SEED TRADE.

May 9th, 1893.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a moderate inquiry for Agricultural Seeds. Prices of Red Clover, White, and Alsike have advanced owing to short supplies. Ryegrasses unchanged. Rapeseed dearer.

COVENT GARDEN MARKET.

May 10th, 1893.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Tasmanian Apples per case	5 0	10 0	Melons ... each	2 0	3 6
Grapes, per lb.	2 0	3 6	Strawberries, per lb.	1 0	3 6
Peaches ... per dozen	6 0	18 0	Pine apples. —St. Michael's, each	2 6	6 0

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
Asparagus per bundle	1 6	5 0	Horse Radish, bundle	2 0	4 0
Artichokes Globe doz.	3 0	0 0	Lettuces ...per dozen	1 6	2 0
Beans, French, per lb.	1 6	2 0	Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	5 0	Seakale .....per bkt	1 6	2 0
Celery.....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers .....each	0 4	0 8	Spinach ... per strike	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	1 6	2 0
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	

Linden's Novelties,

FOR 1893.

ARISTOLOCHIA GIGANTEA, Mart. et. Zucc.

Among climbing plants, the Aristolochias occupy a pre-eminent place as much for the beauty of their foliage as for the grandeur and the strange form of their flowers. A gigantea (which must not be confounded with A. gigas) is of a size really gigantic; its flowers, with a creamy yellow lamina, spotted with purple, measure 1 ft. in length by 8½ in. in width. They adorn the roof of greenhouses in a manner extremely curious and attractive, and they possess the advantage of not exhaling a disagreeable odour, such as we meet with in several other species.

Price 7s. 6d. each.

BEGONIA LANATA, Lind.

A beautiful species with ample and fleshy leaves, of a beautiful clear green, covered with a fine and very dense villosity; the stems are likewise very hairy. The plant in its appearance has the aspect of luxuriant robustness, and its growth confirms that impression.

Price 21s. each.

SMILAX ARGYREA, Lind. et. Rod.

This delightful novelty obtained a First-class Certificate at the Exhibition of the Royal Horticultural Society of London (Temple Show), on the 25th of May, 1892. From the point of view of elegance of aspect and colour, it is one of the most beautiful introductions of modern times. It has long leaves, with a very short petiole, oval lanceolate, with three very pronounced nerves of a beautiful lovely green, irregularly variegated with silvery white. They measure close upon 6 in. in length, and about 1½ in. in width. This Smilax can be considered as one of the most charming of climbing plants with variegated foliage that is known, and one of the most robust.

Price 21s. each.

STENANDRIUM LINDENI, N. E. Br.

Figured in L'Illustration Horticole.

This superb ornamental plant recalls very much the appearance of S. igneum, or Eranthenum igneum, but it is distinguished in a very decided manner by its brilliant colour and its much more ample leaves. The leaves have the margins and the interspaces of the veins of a beautiful dark green, while the veins are of a very clear yellow, and broadly margined with pale yellowish green. The lower surface is tinted with purple upon the margins and between the veins. S. Lindeni obtained a First-class Certificate at the Exhibition of the Royal Horticultural Society of London (Temple Show) in May, 1892.

Price 12s. 6d. each.

PEPEROMIA METALLICA, Lind. et. Rod.

A charming plant with ornamental foliage, of very pretty aspect and distinct colour, which cannot but be sought for by collectors. Its lanceolate, oblong leaves have the lamina dark glossy green, variegated with metallic green on white shadings along the median line and the centre. The stems are entirely coloured with reddish-brown or violet.

Price 12s. each.

TRADESCANTIA ELONGATA. Lind.

A beautiful species of very elegant appearance, with oblong acuminate leaves, of a dark green hue, relieved by bands of silvery white on both sides of the mid-rib, with a violet-purple tint in the centre. It is a vigorous plant of majestic appearance and is bound to become very popular on account of its decorative value.

Price 21s. each.

TRADESCANTIA REGINÆ, Lind. et. Rod.

Figured in L'Illustration Horticole.

The name of this magnificent plant commemorates a visit made by the King and Queen of the Belgians to the establishment L'Horticulture Internationale, in 1891. Her Majesty the Queen, in the course of that visit, very much admired the new Tradescantia, which was just then introduced, and expressed a wish to accept the dedication of it. It is in effect a species of superior beauty and worthy of such homage. Its leaves, larger than those of T. elongata, measure more than 4 in. in length by 1½in. to 2 in. in width; they are variegated along the median line with green, purple, and rose lines; the margin of the lamina is covered with dark green patches shading into the greenish-white ground; the nerves are of a brighter green. The lower surface is of a superb dark violet colour.

This beautiful species received a First-class Certificate at the Temple Show in London, in May, 1892.

Price 21s. each.

☞ The seven above Novelties 105s.

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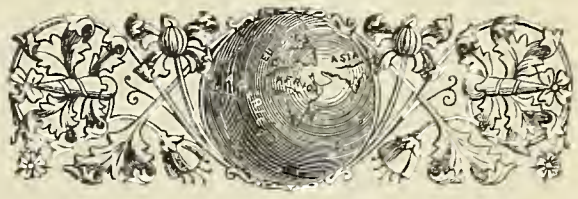


"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, May 23rd.—Special sale of Orchids in flower and bud, at Protheroe & Morris' Rooms.

WEDNESDAY, May 24th.—Midland Counties Pansy Show at Tamworth.

THURSDAY, May 25th.—Royal Horticultural Society's Show in the Temple Gardens (2 days).

FRIDAY, May 26th.—Sale of Orchids at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, MAY 20th, 1893.

MR. DODWELL'S REMINISCENCES.—Few of our readers probably left unnoticed the most interesting outline of a florist's experiences for half a century, as told by Mr. E. S. Dodwell in special relation to the Carnation, in our last issue. How much of interest is there in this story to all who are florists, and especially to that section who are lovers of the Carnation! To any who would some time later wish to become historians of floriculture, such information as is found in these reminiscences should be most helpful. It is well that we have Mr. Dodwell still with us to tell the tale. Who will do the same for the Auricula, the Pansy, the Dahlia, the Rose, and some other of the older florists' flowers, so that these records may be secured whilst there are living those who are qualified to furnish them?

A complete history of floriculture would prove to be a singularly interesting work, but it would, as years rolled on, need many addenda. Nearly all the old florists' flowers still have their fanciers, and perhaps on the whole they are as popular now as at any previous time. But then what numbers constantly crop up that also need ample reference: Gladioli, Begonias, Gloxinias, Delphiniums, Phloxes, Pyrethrums, Pæonies—indeed the list is an endless one, and ere twenty more years have passed we may see numerous other forms introduced that shall occupy popular attention and demand universal admiration. We may have a limit, as it were, to the beginning of a history of floriculture, for it certainly had a commencement, but its end can only come with the crack of doom.

To-day our horticultural Press furnishes all the needful data to enable exact history to be written. Fifty years ago no such data was to be found, hence the value of such information as Mr. Dodwell has supplied, and which we could wish to see many others doing in relation to florists' flowers in general, whilst they live to prepare it. We have no reason to suppose that floriculture in its highest or most exact form will ever decay, indeed, so long as flowers are grown so long will men strive to evolve from out of them the most perfect floral conceptions of which Nature is capable of producing.

The Spring Flower Shows.—With the heat that has been so long prevalent it does seem irregular to write of the May flower shows as belonging to the spring. Still, in so doing we are but following tradition. Really they are so plentiful in London now that we have hardly time to breathe, and at the close of the month may well cry, hold, enough for the present. Hardly had the Drill Hall meeting been cleared away last week when a brilliant exhibition was prepared at the Crystal Palace, and that was immediately succeeded at Earl's Court on Saturday by an opening show, a very pleasing display and a delightful function.

Then on Wednesday of the present week there was the usual Botanic Show, always a very beautiful, if not a very extensive, one, and yet further in the week there was, on the 18th, a great Orchid Show at Earl's Court, whilst on the following day opens the great Whitsuntide Exhibition at Old Trafford, Manchester, when Mr. Bruce Findlay, who is rarely a false prophet, promises one of the grandest Orchid shows ever seen. And so far as the present year is concerned he may be right, for it is certain that down south Orchids are so forward, and the atmosphere being so dry they are not keeping well, so that the usual grand show in the Temple Gardens may be shorn of some of its customary Orchid attractions.

With that display always before, and we hope again, a truly grand exhibition of flowers and other products, we shall be next week pretty well satisfied, and for a time may well be glad to rest. We have no desire to see bad weather interfering with the success of any of these shows, but probably there is not one person who would not all the same regard a heavy rainfall as a great blessing. Happily, after the present glut of shows is over we shall narrow down next month to a few that will be all the more acceptable.

Gooseberries.—It is true that for the proverbial Gooseberry pie we need not wait until Whitsuntide, early as that festival comes this year, for earlier still is the season, and there are already plenty of the incisively sharp fruits in the market. But the Gooseberry is this season the subject of a severe insect affliction. We have seen extensive breadths of bushes that, so far from being of the normal green tint, are literally reddening unto death with red spider. In all such cases it is morally certain that not only will the season's crop of fruit be a very poor one, but, still further, that the bushes will so suffer that they will hardly be of much service next year.

It is obvious that here we have a difficulty which is not easy to grapple with. It is so easy to write about insect pests and how to destroy them, but it is so very difficult to utilise those antidotes on a large scale. A breadth of a few dozens of bushes need trouble no one, but when it is a breadth of thousands, then the difficulty is considerable. Of course there would be no antidote like that found in frequent rainfalls. Plenty of moisture at the roots and a humid atmosphere might work wonders, but such a state of things is long delayed, and in the meantime every additional dry day is but extending the evil. When every leaf is eaten up it may be that the insect pests will prey upon the Currant foliage, or perhaps upon that of the top trees.

So far as is possible there seems to be no better course than to well wash the bushes, and ere dry smother with sulphur, for soot is too obnoxious when fruit is on the bushes. After a few days of this coating, another washing may be given to cleanse where there is plenty of water, and who just now has that, and to spare?

Artificial Rain.—That some extra foolish questions are asked in the House of Commons is made but too evident by the query put to the Minister of Agriculture the other day, as to his intentions respecting the artificial production of rain. When people are so credulous as to accept as gospel all the wonderful stories that come from America, they will, of course, believe anything. If these American experiments in artificial rain production had been successful, then we should not have read of frequent complaints of drought. It is very true that here we have great need for rain, although with us it is very far from being so bad as in some other countries.

But in spite of our oceanic surroundings and with what is, or should be, a highly vaporous atmosphere, yet would it be impossible by any aerial experiment with dynamite or by producing violent atmospheric concussions to obtain the rain we so sadly need. The fact is there is, or at least for the past several weeks has been, no humidity in the air, and therefore none to draw down. If we would have artificial rain we must look to more mundane causes. Perhaps some day science may enable us to utilise the ocean, to remove its saline properties, and then cast it in the form of rain in enormous quantities over vast areas of land. That, however, is but a dream of to-day when it is so dry, to be only scorned and condemned when it is wet.

The worst aspect of the present dryness to us seems to be the possibility of its very long continuance even, all through the summer. That is, indeed, something terrible to contemplate. However, we have Gilbert White's evidence that when, in 1776 up to May 30th, the fields were burnt up and naked, and the Barley not out of the ground—and matters are not so bad as that yet—with ten days' rain so wonderful a change was wrought that the earth then bore the promise of plenty.

Gardening Engagement.—Mr. Thomas Gray, late gardener to Captain Smyth, Ballynegall, Mullingar, has been engaged as gardener to J. B. Houston, Esq. Orangefield, Belfast.

Herbaceous Calceolarias.—At the Cheltenham Show, last week, Messrs. Sutton & Sons were awarded a Medal for a fine exhibit of their strain of herbaceous Calceolaria, the only medal ever awarded by the society for a similar collection.

The Gardeners' Silver Wedding Presentation to Mr. and Mrs. Veitch.—The subscribers to the handsome Silver Wedding present made to Mr. and Mrs. Harry J. Veitch last summer will be glad to know that the committee who had the matter in hand have this week concluded their labours by the presentation to Mrs. Veitch of the portrait of her husband in oils, which the subscribers decided upon last autumn. The completion of the portrait has been delayed somewhat longer than was anticipated owing to certain unavoidable contingencies which arose, but it has lost nothing in value on that account, the artist selected, Mr. George Clausen, having succeeded in securing an exceedingly life-like and successful three-quarter length portrait. We may add that the portrait, with the sanction of Mrs. Veitch, will be on view at the Chelsea Nursery all next week, where it can be seen by any of the subscribers who may be coming up to town for the Temple Show.

New Plants Certificated in Ghent.—At the meeting of the Chamber Syndical of Belgian Horticulturists, held on the 9th inst., Certificates of Merit were awarded to M. Leon Poelman for Vriesia Malzinei rubescens, Nidularium rutilaus, N. Maréchali, and Vriesia Kitelliana; to M. Louis De Smet for Asparagus albens; to M. A. Van Imschoot for Streptocarpus species, Masdevallia Heathi, and Medinilla Teysmanii; to Mr. Ed. Pynaert for Miltonia vexillaria punctata, and Phyllocereus hybride; and to Mr. Jules Hye for Odontoglossum Wilckeanum Vinckeanum, Lælia purpurata var., Cattleya Mendelli var., Odontoglossum Verbeeckianum, Cattleya Gaskelliana alba var., Imschootiana, and Lælia grandis tenebrosa.

American Forests.—From statistics presented to the Forestry Congress at Philadelphia it appears that the woodlands of the United States now cover 450,000,000 of acres, or about 26 per cent. of the area. Of this not less than 25,000,000 acres are cut over annually. It was also stated that while the wood growing annually in the United States amounted to 12,000,000,000 of cubic feet, the amount cut annually is just double that enormous quantity, besides a vast amount destroyed by fire, and not included in the estimate. The country's supply is being depleted therefore (says Mr. J. E. Jones) twice as fast as it is being reproduced, which clearly goes to show that a timber famine in America is approaching quite rapidly.

Scottish Horticultural Association.—An examination took place at the close of the season's lectures under the auspices of the Scottish Horticultural Association with the following result:—Science: 1, Ernest Waller, Leith Walk Nursery; 2, G. C. Paton, Morton Hall, Liberton; 3, Oswald Clark, Morton Hall; 4, L. S. Sinclair, West Coates Nursery; 5, Wm. Jobson, West Coates Nursery; 6, William Milne, Newhailes, Musselburgh. Hardy Fruit: 1, Oswald Clark, Morton Hall; 2, William Milne, Newhailes; 3, George Beach, Morton Hall; 4, G. C. Paton, Morton Hall; 5, Wm. Jobson, West Coates Nursery; 6, William Douglas, East Duddingston. The money for the lectures was provided by the Edinburgh Corporation.

The Drought in the West of England.—West Cornwall, up to the time of writing has (says our correspondent) escaped the heavy storm of rain and hail which did so much damage to fruit trees and gardens generally in the eastern part of the county on Monday. So violent was the storm at Crediton that Potatos and other produce were literally removed wholesale from their growing positions. Leaves were absolutely cut from the trees. In other parts the rain was more gentle and came as a blessing after the two months of drought experienced, and where everything seemed to be failing for lack of moisture. In West Cornwall, all fruit, except Cherries is abundant. These are, apparently, withering when half-grown in the drier places. There is but little moisture found nearer than 18 in. from the surface, which is somewhat extraordinary on a soil which is naturally of a damp description. Strawberries are as plentiful in Cornwall as Blackberries in autumn.

The Climate on the West Coast of Inverness-shire.—Dr. Ogilvie Grant, medical officer for the county of Inverness, in a recent report states, with reference to the climate on the west coast, that the average temperature of the county is equable, having no great extremes of heat or cold. The average temperature of the past year was 45·6; the highest average, 46·6, being at Kyleakin and Monach on the west coast; the lowest 44·7 and 44·8, being noted at Inverness and Fort Augustus. On the shores of remote, wild, and inaccessible Loch Hourn, Mr. Birkbeck has demontrated in a practical way the mildness of the climatic conditions:—"There in the open air such plants as Lapageria, Dracæna, Darlingtonia, Camellia, &c., plants that are considered tender about London, have flourished in the open air at Loch Hourn Head for six or seven years. All Chili plants, and most of the New Zealand shrubs, thrive in this

garden, as well as the health giving Eucalyptus globulus, which not only stands the winter, but keeps growing throughout the winter." Professor Bayley Balfour, of Edinburgh University, writes that such plants would not thrive about Edinburgh.

GARDENING AT EARL'S COURT.

GLORIOUS weather favoured the executive for the opening of the Gardening and Forestry Exhibition, at Earl's Court, on Saturday last, and a very large company assembled for the ceremonial. H.R.H. the Duke of York, who received a most enthusiastic reception, declared the Exhibition open at mid-day. The gardening section was well advanced, and a few days only will be required to make all bright and attractive, but the Forestry department was a disappointment, and might well have been kept closed until there is something more in position to be seen. The Flower Show, which was one of the special attractions of the opening day, was greatly enjoyed, being for the most part under canvas, a great improvement on last year's arrangements. The gardens want rain badly to assist the Rhododendron blooms to open, and given a good shower soon, there will be a grand display.

Turning to the flower show proper, we may say that the first prize for nine stove and greenhouse plants was awarded to Mr. J. F. Mould, Pewsey, Wilts, who had fine specimens of Erica Cavendishi, Bougainvillea glabra, Statice profusa, Erica ventricosa magnifica, and E. tricolor Wilsoni. Mr. H. James, Castle Nursery, West Norwood, took the second place; and Mr. J. Curry, Salisbury, was third with smaller plants. The first prize for a group of twenty-five Roses was awarded to Mr. C. Turner, Slough, who had the freshest specimens which have been shown this year. He also had the first awards for show or fancy Pelargoniums and Souvenir de la Malmaison Carnations. Amongst the fancy Pelargoniums, Ellen Beck, Delicatum, and Phyllis were well flowered, and the show varieties, Alice, Gold Mine, Magpie, and Josephine, were equally floriferous. The Carnations bore large flowers, but were not fully expanded. His right to the first prize for greenhouse Azaleas in large conical specimens was indisputable. Mr. H. James took the second place, with greatly inferior specimens. The groups of flowering and foliage plants were a decided feature of the show. Messrs. J. Laing & Sons, Forest Hill, took the first position with a group of Palms, Lilies, Anthuriums, Crotons, Cattleyas, Begonias, Caladiums, Gloxinias, etc. The second place was taken by Messrs. B. S. Williams & Sons, Upper Holloway, with another group of high quality, containing a great number of Orchids, the flowers of which had an enlivening effect. Mr. J. Curry took the third place. Mr. H. James showed the best foliage plants, and was followed by Mr. J. Curry. Mr. J. F. Mould took the third place. Messrs. B. S. Williams & Son were the only exhibitors of Clivias and Amaryllis, taking the first prizes. The Calceolarias shown by Mr. J. Ford, gardener to Sir C. Piggott, Bart., Wexham Park, Slough, were admirable samples of cultivation, and took the first award. The second prize went to Mr. J. Mowbray, gardener to Major the Hon. H. C. Legge, Fulmer, Slough, whose specimens were dwarf and floriferous. A second prize for Auriculas, now out of season, was awarded to Mr. C. Turner. Messrs. Perkins & Sons, Coventry, took the first prizes for three hand bouquets, a bride's bouquet, and a basket of cut flowers for table decoration. Mrs. Butt, West Kensington, was second in the latter class; and Miss May Foden, Hemel Hempstead, was third. The latter was first for three stands or vases of flowers and foliage. Miss L. Hudson, Gunnersbury, was second; and Mr. F. W. Seale, Sevenoaks, was third.

There were numerous miscellaneous exhibits not for competition, and extra prizes were awarded in the undermentioned cases:—In the large tent Mr. T. S Ware, Hale Farm Nurseries, Tottenham, had a group of Lilium Harrisi, Spiræa palmata in fine condition, Pyrethrums, Iberis sempervirens flore pleno, Primula Sieboldi, Delphinium nudicaule, and others. A grand group of Clematis in pots was shown by Messrs. Richard Smith & Co., Worcester, including fine samples of La France, Mrs. Geo. Jackman, Madame Van Houtte, Sensation, and others. Messrs. Collins Bros, 39, Waterloo Road, had a group of herbaceous plants, such as Columbines, Lilies, Spiræas, Lupins, Pyrethrums, Trollius, etc. Messrs. Paul & Son, Waltham Cross, had a group of pot Roses, and cut flowers. Mr. C. Turner had a Cultural Commendation for a group of the Rose Crimson Rambler. Mr. A. Waterer, Knap Hill, Woking, had a large group of hardy Azaleas. In the exhibition building Messrs. Barr & Son, King Street, Covent Garden, had three tables of Pæonies, Irises, Lupins, Pyrethrums, Florists' Tulips, double Poet's Narcissus, and other herbaceous subjects. Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, had a collection of Apples and Pears, as well as Irises, Pæonies, Aquilegias, Violas, and others of that class. A collection of fruit, including Strawberries, Cherries, and Melons was shown by Mr. J. Miller, gardener to the Right Hon. Lord Foley, Ruxley Lodge, Esher A group of herbaceous plants including Pyrethrums, Irises, Tulips, Centaureas, etc., and another of Palms and Heaths, with other accessories, were shown by Messrs. Wm. Cutbush & Son, Highgate. A fine group of dwarf Calceolarias was staged by Messrs. J. James & Son, Woodside, Farnham Royal, Slough. A group of Leschenaultias was exhibited by Messrs. W. Balchin & Sons, Hassocks, Brighton. Messrs. H. Cannell & Sons, Swanley, staged some well-flowered Gloxinias and some Begonias. Some Apples were staged by Mr. James A. Hester, gardener to W. G. Dawson, Esq., Plumstead Common, Kent. A group of plants and a collection of fruit were shown by Mr. G. Wythes, Syon House.

The large beds in the open grounds have been re-filled and in some cases re-arranged. Some of them have been filled by Messrs. B. S. Williams & Son with large conical specimens of Euonymus, standard Laurels, Cypresses, Thuyas, Aucubas, &c. Mr. C. Turner has several beds of Pelargoniums, Cannas and Fuchsias. Some spaces are occupied with forest and other trees and shrubs. Various evergreen and deciduous trees and shrubs in the form of standards, including Robinias, Golden Ivy, Weeping Willows, Rhododendrons and others have been planted by Messrs. Lee & Son, Hammersmith. An interesting collection of fruit trees has been planted in market garden style, showing methods of double cropping, by Messrs. J. Cheal & Sons. Apples and Pears are grown as pyramids, bushes and standards, with Gooseberries, Currants, Strawberries Peas and various vegetables between. Dwarf and Standard fan-trained Peaches and Plums are grown upon a wall, and there are also samples of espalier training. Some styles of formal gardening may also be seen in one part of the grounds Instead of Palms and other hothouse plants, the beds in the Exhibition building are occupied with Rhododendrons and various other flowering subjects, which are very gay just now. They have been planted by Messrs Wm. Paul & Son, and Messrs. H. Lane & Son, Berkhamstead.

EVOLUTION IN THE FLOWER.

AT a recent meeting of the Ealing Microscopical and Natural History Society, the Rev. G. Henslow presiding, Mr. J. N. Green, professor of botany of the Pharmaceutical Society, London, delivered a lecture on "Evolution in the Flower." The lecturer, in the course of his remarks, as reported in a local paper, described the structure of a typical flower, and the uses of its several parts. He then dealt in an interesting manner with the processes under which fertilisation or pollination of certain flowers is effected by means of pollen involuntarily conveyed from one flower to another flower of the same species by insects (flies and bees) which visit the flowers for the purpose of extracting honey from them. He also alluded to the question of the evolution of flowers from their earliest or original forms to the elaborate examples now to be seen in our greenhouses, and asserted that it was impossible to say in what the original or elementary forms of the highly-developed flowers with which we were at the present day familiar might have consisted. The presence or absence of colour and fragrance in flowers, according to whether those qualities were or were not required to naturally attract an insect to any particular flower, was likewise briefly spoken of, the lecturer pointing out that observation had revealed the circumstance that one description of insect (bees) would naturally visit flowers of certain hues, whilst another description (flies) would prefer and be drawn to flowers of other tints.

The mechanisms that various flowers that Professor Green named possess for depositing their pollen on the bodies of insects that visit them in search of honey, with the object that that pollen, on the insect's visit to another flower of the same species, should be transferred to that flower, and propagation be thus caused, was the more interesting, as it was the principal feature of the lecture. He delineated the process of pollination in the "prison," flowers of Aristolochia and Arum, into which flowers flies entered, but could not escape until they had fertilised the pistil. The propagation by means of insect's visits of the Cornflower, Violet, Birds-foot Trefoil, Salvia, Ophrys, and Cypripedium was also described, the methods of pollination being different in each case.

At the close of Mr. Green's address, the Rev. Professor Henslow, in moving the customary vote of thanks, expressed his own sense of the entertaining and instructive style in which the lecturer had touched on many attractive points, as well as tried to solve many deep problems, connected with the subject of which he had spoken. The causes that had led to the evolution of flowers from original or primitive to present-day forms must, added Professor Henslow, be matters that must be, to at all events a very large extent, speculative; the genealogical history of flowering plants was a subject on which scientists even at the present day were decidedly ignorant. It was known that environment changed the character of plants, but contributing causes to that change, beyond that cause of environment, remained still theoretical and speculative rather than actually known and practically demonstrated. He (Professor Henslow), was himself inclined to attribute much more influence to the agency of the insects themselves in the "making of flowers" than to natural selection preserving any variations which happened to show a useful tendency. Drawing on analogy from the changes easily brought about in the vegetative system of plants by a change in their surroundings, he said he thought that flowers responded in an analogous way to the irritations set up by insects, and so gradually changed in adaptation to them; not all at once, but during several generations, when visited by the same species of insect. Both these views were, however, theoretical, and the question was which had the greater probability in its favour.

PROPOSAL FOR AN INSTITUTE OF HORTICULTURE, MUSIC, AND THE FINE ARTS.

WILL you kindly favour us with space in your valuable columns to submit a project for the establishment of an Institute of Horticulture?

To-day England is very much behind other great nations in this respect, and although efforts have been made to provide suitable accommodation for our ever increasing needs, we have no Institute of Horticulture but exhibitions must be held at odd places, some of them very ill-adapted for such displays.

The financial aspect has been the difficulty. In order to meet this we would suggest that with Horticulture should be associated Music, the Fine Arts (all kindred in sentiment), and that the proposed Institute should be designed especially to meet the requirements of these societies. There is distinctly a need for a suitable Institute for horticulturists, and there is also as great a need for an Institute to receive and exhibit the large proportion of paintings which are not hung at the Academy.

Without going into details, we would suggest that a meeting might be held of horticultural gentlemen to confer upon this project, and perhaps meet representatives from the Royal Academy, Royal Albert Hall Amateurs' Orchestral Society, Stock Exchange Orchestral Society, or other similar associations, and believe the outcome of such a conference would be the establishment of an Institute of Horticulture, Music, and the Fine Arts, where *all the year round* pictures and sculpture would be exhibited, concerts of vocal and instrumental music held, and lectures, conversaziones, and exhibitions arranged under the auspices of the Royal Horticultural Society, and all these might, if desirable, proceed at the same time in the same hall, affording attraction to everyone (for assuredly everyone is interested either in music, pictures, or flowers), and the effect of the three in combination is always harmonious.—*Wm. Wood & Son, Wood Green, N.*

RETENTIVE SOILS.

RARELY have we had a spring season which so thoroughly tested the retentive nature of soils as the present one. Happily all deep rooting things, such as trees, have suffered little. The test has rather been with surface, fruit, and vegetable crops, and these suffer just as the soil on which they are growing has been shallow worked. It is very difficult indeed to impress upon all who cultivate soil the absolute need there is for deep working. It is needful to keep on reiterating the old and familiar truth that soil constitutes both a reservoir of food and of moisture, but that such stores are available only for plant sustenance the wider the doors are open to them by trenching or other form of cultivation.

The man who cultivates an acre of ground 12 in. in depth cannot understand how it is that his neighbour who trenches two feet in depth secures such abundant crops, but he forgets that his neighbour is cropping nearly twice his own area, if not superficially at least vertically. But even the best supplies of plant food may be inoperative without moisture, and that has long now been the case with surface manurings. On the other hand, manures buried down in the well worked and fertilised subsoil are there in the moisture which exists, giving up to roots that have gone down in search of it ample stores of food, so that the crops are making almost luxuriant growth, whilst those on shallow worked soils are starving.

We must regard deep cultivating the soil as the very A B C of horticulture, the foundation on which is later to be erected the structure of success. All the scientific or chemical knowledge in the world is mere folly as compared with the common-sense practical knowledge found in deep cultivation. Given that, then all the rest may be added with advantage.—*A. D.*

VIOLAS FROM HAWICK.

A LARGE boxful of Viola blooms in bewildering number has reached us from Mr. John Forbes, the Buccleuch Nurseries, Hawick. All the leading types were represented in a great variety of forms with exception of the miniature types which included Violetta only.

YELLOW.

Bullion we must give the front place, on account of its rich golden yellow hue and free flowering propensities. In the same way, but larger, is Mary Gilbert, and Eynsford Gem is also larger but paler. A number of the yellows may be classed together for their rich golden hue, but they are all characterised by heavy brownish black rays or even blotches. Amongst the rayed ones are Wemyss Gold, neat but small; Royalty, heavier rays; Goldfinder, medium size and handsome; Yellow Gem, pale yellow; Wonder, a useful, erect growing and neat yellow; George Corbett, in the way of Ardwell Gem; and Daldowie Yellow, rather shaded with slate colour on the back to be choice. Canary is one of the most distinct on account of its long, slender, branching rays. Some of the medium-sized yellows have one to three black blotches at the base of the lower petals, including Sovereign, Brilliant, and Oriflamme, the first two being best. Several of the large sulphur yellows have heavy black lines round the eye as in Abercorn Gem, Sulphurea, and Seedling No. 4. Cheftain differs by having long slender rays, and Warden by having blotches. Goldfinch and Duchess of Fife are very choice, but too well known to call for comment. Flowers of the latter were sent for Ardwell Gem, but this must have been an oversight or a sport. Rob Roy may be placed here, as the three lower petals are golden yellow and the upper ones mahogany except the edges. Jackanapes has the whole of the upper petals of a deep mahogany.

WHITE.

Countess of Hopetoun, in our opinion, should take the first rank in its class; but we are surprised to see it producing about nine short rays round the eye. Miss Kinnear, at this stage at least, is much in the same way as the last named. Several others have darker and more decided violet rays, including Jeffrey's White, Lady Polwarth, Mrs. John Clark, creamy white, and Mount Blanc, a neat little flower and fragrant. Buccleuch Gem is very pure, but has also numerous, long, slender, violet rays. Neatness is almost sulphur-coloured, with long rays, and Beauty is too indistinctly shaded with blue at the margin. Pilrig Park and Mrs. Langtry have three violet blotches, the latter being the best. Marchioness of Tweeddale is delicately shaded with lavender at present.

BLUE.

Max Kolb and Archibald Grant are two of the finest large dark blues we have, but for utility as bedders, floriferousness, and continuous flowering we should give Holyrood and Beauty of Chipping Norton the preference, both of which have, of course, much smaller flowers. Astern, on the other hand, is much larger, and the upper petals are shaded purple. Lottie is a large but clearer blue flower. Startler is a dark ultramarine blue, but the colour is too much run to our taste. Blue Bell is still a popular and well-known flower. Souvenir, Diana, Formosa, and Distinction are sorts in the way of the old Blue King, but lighter in colour with more pronounced blotches in some cases as in Distinction. Lilacina is a light-coloured, old and free flowering sort. At present Ariel is of an intense sky blue, with a white eye, but later on it will become almost white, in the south at least. Duchess of Sutherland is also dark, but will soon change to a delicate and charming lavender shade.

PURPLE.

Acme and John Morrison are amongst the largest and finest of the intense purple varieties but we are doubtful if they flower so freely as some of the smaller kinds. Aurora is smaller but shaded with blue and black round the eye. Meta seems a good clear purple. Le Grand resembles Aurora considerably but is much larger. Duchess of Albany is blue purple, shaded white at the edges. Bronze Queen is much overlaid with bronzy maroon on a purple ground, but Favourite is larger and deep bronzy over a great part of the centre.

VARIEGATED FLOWERS.

We have now a host of parti-coloured flowers of all shades and suitable to meet various tastes. The Countess of Kintore will represent a class with blue or purple centres and white upper petals. Neptune is also most floriferous but smaller, as is Hugh Ainslie. The Mearns is a large purple flower shaded with white on the upper petals and very choice in its way. Clouded Gem is blue purple, shaded white on the upper petals and Mrs. H. Bellamy is more decided in both colours. Magpie is an old and well-known sort. Mrs. Forbes is distinct from either, being deep purple shaded in centre with white and ultramarine blue. Blue Cloud is the well-known white with a heavy ultramarine blue border. Mrs. Hood has a broader but paler shading, and we should think is sportive. Rainbow differs from Blue Cloud in having a broad purple margin to the upper petals only and the rest blue. The upper petals of Joy are heavily blotched with purple. Gipsy Queen and Columbine are well-known old sorts of light hue. Moonlight shows a curious mixture and is getting well known. The buff purple border of Peter Barr is hardly yet in its true character. Dawn of Day is a beautifully shaded flower, sky blue, lavender and white, but the plant is very troublesome to cultivate. Miss Nisbet is a curious flower heavily shaded with bronzy buff on a yellow ground, giving the whole a livid appearance. H. M. Stanley is very sportive and flaked with dark and light purple. Something in the way of the last is Duke of Albany, but splashed with a white shading. Dorothy Tennant is rosy purple shaded with white on all the petals. A white variety was also sent under the last name but this must surely be a mistake. It resembled Purity very much.

INSECTS ON FRUIT TREES.

THE Board of Agriculture being advised that caterpillars and other insects are now present in numbers on fruit trees, consider it desirable to republish information with regard to remedial measures to be taken against them, which have at various times been suggested in particular cases.

Upon examination of fruit trees, and especially Apple and Damson trees, it will be seen that many caterpillars are at work eating the forming fruit and the leaves.

The caterpillars at first are greyish, and so small as to escape notice unless attention is specially directed to them, but they can be found in alarming numbers in many orchards and fruit plantations, and it is most important that steps should be taken at once to check their progress.

In their later stages the caterpillars are light green, and nearly three-quarters of an inch long.

First.—It should be noted that syringing the trees infested with caterpillars has proved advantageous in many places in previous seasons; it has been more particularly useful in respect of Plums, Damsons, and small Apple trees. The large old Apple trees are beyond the reach of ordinary garden engines used for this purpose, and it is only in Hop-growing districts where Hop-washing machines are generally used that the systematic syringing of large standard trees has been adopted. These machines can be moved about easily enough in orchards. In plantations, with fruit bushes under the standards, it is more difficult to move them about and to get the supplies of liquid brought through the thick undergrowth.

The mixtures to be employed for syringing fruit trees are:—

1. The extract of 10 lbs. of quassia—obtained by boiling quassia in water—to 100 gallons of water and 7lbs. of soft soap.
2. The extract of 5 lbs. of quassia, to 100 gallons of water, with 6lbs. of soft soap and 4 pints of paraffin, well stirred.
3. The extract of 5lbs. of quassia to 100 gallons of water, with 6lbs. of soft soap and 4 pints of Calvert's carbolic acid, No. 5.
4. 8 lbs of soft soap and 2 lbs. of finely-ground hellebore, and a quart of paraffin, boiled, and well stirred together. This is sufficient for 100 gallons of water.

The soft soap is dissolved in a tub with hot water. The quassia chips are boiled in water and put into another tub. Where paraffin is used it should be well stirred up with boiling soap and water before it is mixed with the cold water. Water carts, ordinary barrels, or wine casks, set upon frames with wheels, should be brought full of water to where the materials are being prepared, either at the farm buildings or in an extemporised shed with a copper in it, and the requisite amount of dissolved soap and other ingredients added. The Eclair and other similar hand machines can be used for small Apple trees, Plum and Damson trees, and for Filbert and Cob nut trees, which are also badly infested.

It is important that syringing should be done at once, as to be effective it must be commenced early. Directly there are signs of infestation the processs should be begun. As the hatching out of caterpillars is not simultaneous, but is extended over some days, the syringings must be renewed.

Secondly.—Some fruit growers in several parts of the country have tried the arsenical insecticides used extensively in the United States and Canada. These have not been generally adopted in this country on account of their poisonous properties. The time has now arrived when they should be fully tried.

There are two special substances of this nature. The one, "Paris green," or "Emerald green," is strongly recommended by several American and Canadian entomologists.

Professor Lintner, the entomologist of the State of New York, says that, in his opinion, fruit growers who do not use Paris green as a remedy against caterpillars infesting fruit trees are guilty of culpable negligence. Professor Lintner believes that the produce of fruit land may be doubled by the judicious use of this substance.

A full trial of this is urged. Care must, however, be taken to observe strictly the regulations laid down for its use, or injury will be caused to the foliage and blossoms.

The latest advice from experienced practical entomologists is to put 11 lbs. of Paris green, in the form of paste which is far better than powder, into from 165 to 200 gallons of water.

The mixture must be kept well stirred in order that the solution may be maintained at an uniform strength.

The object is not to dislodge the caterpillars, but to poison their food with the arsenical solutions which should fall, like gentle rain, upon the leaves and blossoms. For this purpose fine "rose" jets should be used. Riley's "cyclone nozzle" is used in America. The Vermorel nozzle is also a good distributor.

The other arsenical compound is "London Purple," obtained in the manufacture of aniline dyes, and composed of lime and arsenious acid.

One pound of London Purple should be mixed

with from 160 to 180 gallons of water, and kept well stirred, being applied in the same manner as the Paris Green, sprayed on in the form of a heavy dew or mist, and not squirted violently upon the leaves and blossums.

London Purple can be obtained as a powder, and in a fluid form ready for mixing with water. It is as poisonous as Paris Green.

Stock must not be put on grass in orchards where these arsenical solutions have been used on the fruit trees until a considerable period has elapsed and rains have fallen; nor must they be used where bush fruits for early picking and vegetables are grown under the trees.

Three or four days will elapse before the effect of these solutions is apparent, and, as a rule, it will be found necessary to repeat the applications.

These solutions can be put on with hop-washing engines, ordinary garden engines, the Eclair, hydronettes, and other pail engines. Syringing with Paris Green, London Purple, and other solutions recommended above will be equally detrimental to the Apple Blossom Weevil (*Anthonomus pomorum*) now present in large numbers, and to the Apple Sucker (*Psylla mali*), which is causing unprecedented harm in many localities.—*Whitehall-place, S.W., May, 1893.*

A THOUSAND ACRE PARK.

The magnificent thousand-acre park, which extends from near the heart of San Francisco to the very portals of the famous Golden Gate of the Pacific coast, and after which it is named, is one of the most engaging places in California to an eastern visitor. It is interesting, first of all, as a fine and extensive example of consistent landscape gardening, under conditions of great irregularity of the surface of the area included. It is interesting because its western end is washed by the waters of the earth's greatest ocean, and because of its inviting ocean beach, and not least because of the famous seal rocks, the home of hundreds of great barking sea lions, which are within a few hundred feet of the mainland. And lastly, it is interesting because of the commanding view afforded of the Golden Gate itself, and of the shipping entering or departing from San Francisco bay. But of all things, Golden Gate Park is a most attractive spot to the eastern horticulturist and plant-lover, because of the character of the vegetation within its limits, differing as it does so greatly from everything of this kind one is accustomed to see anywhere in the country, away from the mild climatic influences of the Pacific.

Of the trees, shrubs, and plants, with which the park is heavily embellished—although much of the growths in some parts is yet of small size—a fair general conception may be had to many minds when it is said that of trees outside of the conifers, the Eucalyptus, or blue gum, is the most extensively used. The catalogue of the park and its nursery shows that of this fragrant, sub-tropical evergreen, the large number of forty-seven species and varieties are represented in these grounds. As the Eucalyptus plants, that are only grown in greenhouses in the east, succeed here perfectly, being a more common feature of the vegetation of the coast region than any other tree, it will be readily understood that nearly all plants known as greenhouse plants in the east succeed in the park and along the coast, the year round, without protection. The surprises which the eastern plant-grower is sure to meet in his jaunts through this park, with the vast collection which its flora represents, are by no means few. Among plants and shrubs which are as commonly employed here as the deciduous shrubs, trees, and evergreen conifers are in eastern parks, the following may be mentioned, together with the number of distinct species represented, when there is more than one such: Abutilons, four; Acacias, twenty-six; Aucuba Japonica, Aloysia citriodora, Araucarias, two; Bambusa Taike, Benthamia fragifera, Bouvardia, two: Broussonetia papyrifera, Casuarina, two; Cistus, four; Cytisus, eight; Darwinia citriodora, Deeringia celosioides, Diosma, four; Erica, many; Eucalyptus, forty-seven; Fabiana imbricata, Ficus, three; Genista, five: Habrothamnus, two; Hardenbergia, two; Heliotropium Peruvianum, Hibiscus, six; Indigofera Dosua, Jasminum, two; Laurus, two: Myrtus, three; Olea sativa, Orobus, two; Pancratium maritimum, Pittosporum, seven; Plumbago capensis, Rhododendron, many; Shaddock, pink; Solanum, twelve; Stevia serrata, Sterculia, two; Tecoma australis, Veronica, ten; Viburnum Tinus, Zauschneria Californica, Achryanthus, all sorts; Ageratum Mexicanum, Begonia, twenty-one; Calceolaria, bronze, Centaurea, two; Cherianthus, seven; Geranium, eleven; Lobelia, four; Linaria Cymbalaria var. variegata, Mahernia odorata, Mesembryanthemum of sorts; Thymus, two; Verbena venosa, Viola, three; Cobæa scandens, Maurandia Barclayana, Passiflora, two; Tacsonia, Arundo Donax, Agapanthus umbellatus, Agave, seven; Brahea filamentosa, Chamœrops excelsa, Cyclamen Persicum var. giganteum, Dracæna, two; phœnix, five; Yuccas and Roses, all classes in many kinds.

Of the foregoing, some kinds which particularly impress the visitor by their beauty, vigour, and the large number employed, are the Veronicas, Geraniums, Laurestinus, Habrothamnuses, Roses, Acacias, Araucarias, and Pittosporums. Most of these, as well as many others in the list above, assume the form of well-rounded shrubs, from three or four feet high and of equal width up to ten feet high, and of the same width. The Eucalyptuses, of stronger habit, form trees sixty and seventy feet high. As all vegetation of the foregoing class is evergreen here, and many kinds of shrubs are in full bloom, and as the lawn grasses are in good appearance the winter through, it may readily be imagined that Golden Gate Park is in a complete lining of green and bloom even in mid-January, when I visited it. The deciduous trees and shrubs of the east were leafless at that date, but these are so in the minority, as compared with the kinds enumerated above, as scarcely to be noticeable.

Turning to the Conifers, many of the kinds common to the east are met, but in addition large numbers of beautiful sorts that will not succeed in the east, because of being too tender. Among the hardier sorts, I noticed many Pines, Firs, Spruces, Junipers, Larches, and Arborvitæ. Of more tender kinds, particular mention must be made of the Cypresses, of which the valuable native Monterey Cypress (Cupressus macrocarpa) is by far the most common. This handsome, easily-grown tree is very common all along the coast line of California. It is useful to plant singly for ornament, or for setting in hedges and screens. I know of no other Evergreen, not even the English Yew, which admits of being clipped into more pleasing or fantastic forms than this Cypress. Next to the Eucalyptus, it appears to be the most common tree along the central coast region of the State. Lawson's Cypress is also a most beautiful tree as grown in this park. The Cedars of the east and the Yews seem to thrive perfectly here. Of course the Sequoia gigantea and S. sempervirens are at home here, and without any doubt, by the time the famous monsters of these species growing in various parts of California at length succumb to the ravages of time, they will have worthy successors in this park. A total of 40,000 trees and shrubs were planted in the park in the year ending June, 1892, and these were mainly set in the newer, or ocean, end of the grounds.

Besides the many species grown the year round in the open air, there is an immense conservatory in the park which contains a large collection of "hot house" plants, as they would be termed in the east. Strictly speaking, there is no use for a "greenhouse" in San Francisco, for, as may be gathered from the foregoing, about all greenhouse plants of the eastern States are at home in the borders here the year round.

The dimensions of Golden Gate Park, in round terms, are three miles long by one-half a mile wide. It is almost identical in shape with Central Park, of New York. There are many beautiful drives and walks. A new walk recently completed and adjacent to the speed road is 6,000 ft. long, and 12 ft. wide, having drinking fountains and benches at convenient intervals along the sides. One of the most conspicuous features of the park is Strawberry Hill, near the centre of the area, and on which is located the Sweeney observatory, from which lofty height may be obtained an imposing view of the surroundings. A unique feature is met on this hill in the shape of a lakelet, or rather two of them and of some acres in extent, near the summit. These lakes serve, in fact, as reservoirs. Roadways and footpaths reach these elevated lakes at several points, and from which many beautiful views are to be had of the eastern portions of the park and the surrounding country. In connection with these elevated lakes, there is a waterfall of 70 ft. A short distance from Strawberry Hill is the aviary and the deer park, the former covering one acre of ground and the latter twelve acres. Both enclosures are admirably fitted for the purposes which called them into existence, the aim having been not to crowd the creatures confined there, but to provide them with surroundings approximating their natural habitats. The annual expenditure on the park is between $100,000 and $200,000. That this money is judiciously invested through the efficient superintendent, John McLaren, seems clear to a careful observer. The citizens of San Francisco are proud, as well they may be, of their beautiful Golden Gate Park. It is a magnificent place to-day; it is destined to grow more beautiful as time goes on and the extensive plantations increase in growth.—*Elias A. Long, New York, in American Gardening.*

MOSELEY BOTANICAL GARDENS, BIRMINGHAM.

The first exhibition for the year was held on the 10th and 11th inst., and artistic floral work was the primary object and feature of the exhibition, and handsome medals were offered for groups in a space 9 ft. by 4 ft. Messrs. Perkins & Sons, the well-known Coventry firm, were well first, winning the large Gold Medal with an extensive and most beautiful display of various designs, very tastefully arranged, and of the highest order of merit. Messrs. Pope & Sons, Birmingham, won the second Gold Medal with a well set-up group of shower bouquets, wreaths, baskets, etc., a fine display; and Mrs. Thewles, Birmingham, won the large Silver Medal for a lovely group of "white wedding" shower bouquets and bridal fans and other objects, composed entirely of white flowers and silvered grasses and Fern fronds, quite of a distinctive character and much admired. Messrs. Perkins & Sons were first respectively for a bride's bouquet, a bridesmaid's bouquet, a wreath, and a cross, but they had a powerful opponent in Messrs. Pearson & Sons' magnificent cross of white flowers, the only thing exhibited by the Chilwell firm.

It was quite evident that early exhibitions of artistic floral work on the lines of the Moseley Gardens Exhibition, not only bring out new ideas in designs, and afford opportunities for thoughtful combinations of colours, they are also immensely attractive to visitors and should form distinctive features at our great early spring and summer shows especially.

The display made by Messrs. Perkins & Sons was freely acknowledged to be the finest ever seen in the provinces, and excepting their similar display the next day at the Crystal Palace, probably than ever previously seen in London.

THE VEGETABLE GARDEN.

Vegetables at the Drill Hall.

At the meeting of the R.H.S., on May 9th, was shown a splendid dish of the Tomato "Reading Perfection," and a particularly fine sample of "Snowdrop" Potato, grown in a frame, and as good as could be wished for in July. I have never forced Snowdrop, but should think from this sample that it is well adapted for late frames. Some specimens of Veitch's Earliest of All Cabbage, said to have been sown on January 22nd, and ready for use during the first week in May, were also exhibited. They were small heads, and not to be compared with the beautiful heads of Ellam's Early, which are in use at the present time; but it may be a useful Cabbage to force if all the autumn-sown ones are killed, a misfortune which, however, does not often happen. Some good Lettuces were shown, of which the best were White Cos and Tennis Ball.—*G. H. S.*

Early Peas.

It may interest some of your readers to hear that I am now gathering Peas from seeds sown on the 25th of January in the open ground. I commenced gathering on the 9th of this month from four rows literally crowded with pods, and I would advise any one who requires early Peas to give a trial to Veitch's Selected Extra Early, which I have grown with other early varieties but have found none to equal it.—*R. G. Gapper, gardener to Professor Allman, Ardmore, Parkstone, Dorset, May 15th.*

FLORICULTURE.

The National Auricula Society.

It is with considerable reluctance I venture to continue the controversy concerning the National Auricula Society and myself, but as the Rev. F. D. Horner, as one of the chiefs of the "Auricula Ring," has taken up the cudgels in defence of the judge whose acts I have complained of, I am bound to carry the case a step further.

At the annual meeting of the society in 1892, I contented myself with entering a strong protest against the appointment of Mr. B. Simonite as one of the judges at the Auricula show, on the ground, that at the previous exhibition he had assisted to stage, and afterwards to judge, some of Mr. Douglas's exhibits. I thought this altogether unusual and most objectionable. I also objected to his bringing plants belonging to the Rev. F. D. Horner, dressing, staging, and judging them. My protest as a member the committee was overruled, and I at once retired from that body, but at the request of the secretary afterwards resumed my seat upon it.

I was quite willing to allow the matter to drop, but Mr. Simonite having in August last excused himself from attending the annual meeting of the Oxford Carnation and Picotee Union, on the ground, as he stated in a letter to a mutual friend, that he would not meet me as I had "maliciously insinuated that he and Mr. Horner were destroying flower shows," I at once wrote to him to justify or withdraw the statement, but repeated applications brought no response. As I had only in the committee of the National Auricula Society expressed my objection to Mr. Simonite being engaged as a judge, and the only paid judge, it was obvious that information made in the confidence of committee had been conveyed to him by a member. His letter followed close upon the heels of the meeting of the Midland Counties Carnation Society, at which the treasurer of the National Auricula Society was a fellow judge with Mr. Simonite, and the coincidence is at least remarkable.

At the annual meeting of the National Auricula Society, held at the beginning of the present year, I entered a strong protest against words spoken in the confidence of the committee being made public to the prejudice of the speaker, as both unusual and unjustifiable. When Mr. Simonite was, as usual, nominated as the only paid judge I expressed an opinion that he would not come to London to meet me, expecting of course that he would object to do so upon the same grounds as at Oxford. It was said he would come; then I further protested against an invitation being given to a person who had made charges against a member of the committee which he would neither justify nor withdraw, and especially against his judging under the peculiar circumstances anything I might stage in competition. To make such a protest as this was both natural and proper. But it was stated that in order to inspire confidence among the cultivators of show Auriculas it was indispensable that Mr. Simonite should be invited to judge them. By inviting him the members of the society practically endorsed the accusation he had brought against me, and I at once withdrew from the society. One would have thought, knowing that I was a member of the committee, and certain to compete, that Mr. Simonite would have put forward the same objection to meet me in London as he did at Oxford, but he did nothing of the kind.

What happened at the recent show? The Rev. F. D. Horner came south, bringing with him a number of plants. On the morning of the show Mr. Simonite, though engaged as a paid judge, assisted Mr. Horner to dress and stage his Auriculas. I am happy to state that though it was said that it was absolutely necessary that Mr. Simonite, in order to inspire confidence among the growers, should judge the show Auriculas, a sense of decency prevailed among the executive, and he was told off to judge the Alpines and other things, and this notwithstanding I had proposed Mr. Joseph Lakin as a judge in the Alpine classes. The treasurer always objected to him on the ground that he does not grow them, and that to accurately judge Alpines, a judge should be a grower of them, and yet neither the Rev. F. D. Horner nor Mr. B. Simonite grow Alpines. Again, in the class for a basket of Primroses, in which only true Primroses have been shown since its institution, they awarded Mr. Douglas a first prize for a basket of Polyanthuses, although one is distinctly differentiated from the other in the schedule of prizes. I wondered then and wonder still, how it was the secretary of the National Auricula Society allowed a basket of Polyanthuses to be staged as a basket of Primroses. It may be said, why did you not protest? Because it is useless to protest against irregularities when a member of the Auricula ring is interested, and so I kept quiet.

Having now re-stated by case against the National Auricula Society, and my more recent experience of its practice, I proceed to notice a few particulars mentioned by the Rev. F. D. Horner on p. 532. My first point is the heated Auricula houses at Reading. I can say in reference to the single exception, that I have been in the Auricula houses of both Mr. T. E. Henwood and Mr. W. Badcock, when artificial heat was being applied to the development of the flower, I am depending upon what I have seen, Mr. Horner upon hearsay. I do not condemn the employment of artificial heat by any one; all I contend for is that the growers of Auriculas in unheated houses or frames compete at a disadvantage with those who employ artificial heat. Two growers at Reading cultivate wholly in cold frames—one is Mr. Thomas Fife, the other Mr. J. Gibson. The support of the former is lost because plants are shown from his town, grown and bloomed by means of artificial heat. Mr. Gibson supports the society, but cannot compete, his plants are not fully in bloom at the time of the shows. I should not have alluded to the matter of artificial heat, had not Mr. Douglas stated in one of the gardening papers that at the time he was writing, the temperature in which Auriculas were growing should not be allowed to fall below 40°; as at that time we were in London experiencing nightly 12° and 14° of frost, I was at a loss to understaud how the temperature could be maintained without artificial means.

That the Rev. Mr. Horner should be found practically approving of the meanness which makes known matters spoken in the confidence of the committee, and the expression of a libellous statement which is neither justified nor withdrawn, is, to my mind, regrettable. I have already in this paper shown the society's "pettifogging" ways. The sub-editor of a gardening paper, not at all friendly to myself, told me a few days ago that the arrangements of the annual Auricula Show, at the Drill Hall, are so bad generally, that he would personally have nothing more to do with reporting it. The arrangements for the staging are almost always about as confusing and uncertain as they can well be, and yet they are on a very small scale. The society is "obscure" in the sense that its existence is known only to a few, and for the reason that so little publicity is given to it. Were it not for my own exertions no report of its annual meeting would appear in the gardening papers, the recognised representatives of the gardening Press never being invited to attend.

The theory upon which our London flower shows are conducted, is, that the judges have no knowledge of the ownership of the plants to which they are called upon to make awards. To this end, all the exhibitors' cards at our Auricula shows in London are turned face downwards. The fact that a judge dresses, stages, and then judges flowers is inconsistent with this practice, and a man who is trusted for special fairness and for knowledge, ought not to be placed in a position which imperils the exhibition of these qualities and their free and unbiassed employment. Mr. Horner's sarcasms and his imputations against myself will not turn me aside from the manly protest I am making against the judging arrangements at our Auricula shows, which favour too much of self-interests, and which operate to exclude from the post of judge men admirably qualified for the office, because they happen to have fallen under the displeasure of an official.—*R. D.*

Preparing for Battle! How we Composed the Twelve-bloom Stand.

The day before the show is of momentous import, and everything gives place to the preparation of the lovely flowers for the coveted prize stands. Visitors are ignored, or admitted to watch the work only on condition of absolute silence and obstructing neither light nor air. But the visit of two young friends, and the interest they showed in the work, have suggested to me that a description of the proceedings may have a usefulness for others who, like our friends, may desire to join in the race for honours and the excitements of competition.

For fifteen years I have been an annual visitor to my friend's collection, and with him watched and noted new and old, and compared notes of things present and things past. Fifteen years are a marked interval in a life, and alas, now neither my friend nor myself are, as we were at the beginning, good for sixteen hours of close work amongst the flowers. Then we rose at four a.m., and rested only when old Sol failed to give us light. Now it is different; less than half such hours suffice to exhaust our strength.

But I must halt, or my readers will cry me tedious. Well, we have risen, not at four, but at six; some six dozen flowers, each dropped in a separate bottle, have been selected; and brush and tweezers and other needful appliances at hand, the work of "laying" (to quote Hogg) the petals commences. Quickly, almost with bated breath, our Mentor gives a first lesson: "Have the flowers in their separate bottles before you, and never lift one from a back row over those in front, remembering a drop of water is sure to flow from the stem, and if it falls upon its peers it will leave a stain almost ineffaceable, quite enough in a close competition to lose a first place." Then the work went on silently, patiently, until a score of flowers had been prepared. Then lesson number two: The prepared flowers, still in bottles, are arranged in competing order, and their effect is carefully studied. How shall the beauties of combination or the force of contrast be best developed? How the "higher quality, the better growth, the more symmetrical form, the brighter colours, the better markings, and the greater variety" be more enhanced? The conditions of competition are, "twelve blooms, flakes or bizarres, dissimilar." How shall we most ensure dissimilarity? "Not much difficulty in this, with the wonderful variety of markings, the especial property of flakes and bizarres," says our friend. Take "two flowers from each of the six classes is the recent dictum of a great authority," remarks one of our visitors. "A sound rule in the abstract," says Mr. D., "all other conditions being equal, but not at all to be servilely followed. You may have a class wholly inferior, and thus you are bound to avoid it. Let the aim be, consistent with individual excellence in the flower, to attain the most effective picture." "Ay," said our old friend, "florists are poor indeed who cannot appreciate art." So changes—once, twice, thrice—were tried, until the most pleasing effect seemed gained.

Then the exhibition box, polished to the smoothness of plate glass, set at the exact angle fitted most effectively to display form, proportion, perspective, was called into use, and the flowers, previously viewed necessarily upon the level, were dropped into their places respectively, and arranged until every beauty was made most prominent--every defect most masked.

Then the box with its precious freight was consigned in its cupboard to the cool cellars of the Cottage.

And so we went to the Picotees. "Here," said our friend, "the markings lack the force and variety, the masculine beauty of the flakes and bizarres, and we have to look for elegance, gracefulness, harmony—points always of great beauty, to many eyes indeed more pleasing than the strident character of the stripe." And again, after the due "laying" and arrangement of the petals, the flowers were subjected to the same trials and the same critical inspections described for the flakes and bizarres. That completed, the box went to its companion in the coolness of the cellar.

Then came the miscellaneous—selfs, fancies, and yellow grounds, and here was wealth of choice, almost to a burden. Upon one point, dear to old and practised florists, absolutely essential indeed to the longitudinal markings of flakes and bizarres, or the graceful curve of the edged Picotee, the smooth edge, many of the varieties in these sections fall behind their fellows of longer development; but their infinite variety, and marvellous beauty of form and colour, compel an admiration always growing larger and wider as year by year I see more of them. "And," said Mr. D., as he took up a specimen of singular excellence, but with a delicately fimbriate edge, "drop the condition requiring the flower to be shown upon the card, and this delicate fimbriation, which is out of harmony with the smooth edge of the card, and therefore harsh to the eye, is no longer

painful, but to the truly trained eye an added beauty, because in very deed it is added variety." And now came another lesson in (again to repeat Hogg) the "laying" of the petals. In the flakes, bizarres, and Picotees, a point in size had been gained by reversing the upper points of the calyx, and dropping or drawing out the lower tier of petals to the extent thus attained. But now, with the majority, no such additional size was needed, and the work to be performed was to restore the symmetry of form where, from excess of impulse to bloom, the petals had burst irregularly into flower. This was effected, not by splitting down the calyx in its every division to the sub-calyx, "a practice," said Mr. D., "I think most reprehensible," but by skilfully returning the dropped petal to the support of the calyx, and building up the petals tier by tier to the centre. That effected, again the composition of the stand was studied and completed as before.

Then came the yellow grounds—the Kilmurrys, and six of any raisers. But here the work was more mechanical, six blooms offering relatively little scope for arrangement.

Meantime friends, with their precious cargo of flowers, had come in, and settled down to the work of preparation. Foremost in time, and, as the next day's work showed, amongst the very first in place, came Mr. Rowan and his son, a florist destined, unless I greatly fail to interpret accomplished fact, to attain very high rank amongst his fellows. And it was pleasant indeed, when the laying of the flowers had been completed, to watch the action of the old and experienced, and the eager intuition of the younger man, as together Mr. D. and Mr. R., jun., arranged and re-arranged until the best effect was seen to be attained. "First stand," said Mr. D., as the box was completed and closed, "with Read for a close second," and sure enough it came, for a finer twelve I have never looked upon.—*W. M. Hewitt, in Report of the Carnation and Picotee Union.*

THE FLORIST'S TULIP.

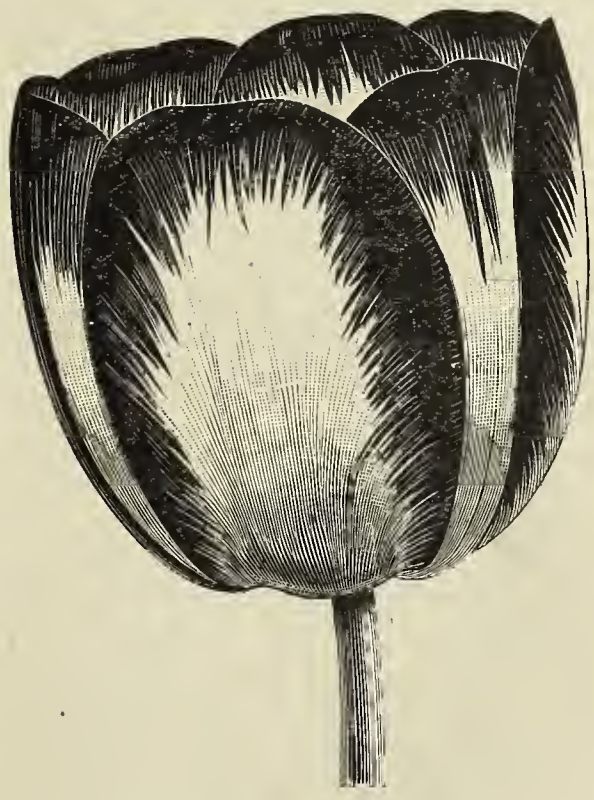
In order to elucidate our remarks more clearly in answer to the queries of a correspondent concerning the technicalities of the Florist's Tulip we give the accompanying illustrations. Independent of the original or "breeder" stage of the flower there are three classes into which the "broken" or "rectified" varieties may be classed. All of them depend upon the colour of the flower in the breeder stage independent of the markings which they ultimately assume in the "rectified" stage. The base, or bottom, of the flower of a Bizarre in the "breeder" stage is yellow, while the remaining and greater part of the segments is of some dusky brown or other shade of colour. When this becomes "rectified" after flowering for two or more years, it becomes what is termed flamed, if there is a central band of colour along the middle of the segment with dark maroon or crimson lines alternating with yellow ones along the edges. The flowers illustrated A and B would represent this stage. That in the

B.—Flamed Tulip, Nimbus.

A.—Flamed Tulip.

first column shows a large proportion of clear space without lines, and which is merely a development of the ground colour as seen in the yellow bottom of the breeder stage. The lines at the margin are termed the feather, but a perfectly or correctly flamed flower always has a feather, so that it is unnecessary to describe a flower as flamed and feathered, the word flamed being sufficient to describe it. Where the markings are confided solely to the margin the flower is said to be feathered, and if the ground colour including all the central portion is yellow, then the flower would be described as a feathered Bizarre. The illustration C is a heavy flamed flower while D is a light flamed flower.

The descriptions apply in the same way to the other two classes with exception of the colours. If the bottom of the "breeder" stage is white and the rest of the flower rose or some shade of red, it belongs to the Rose class. This in the flamed stage is rose along the centre, or some other shade of red, while the feather may be crimson or some other dark colour. The ground colour between the markings is white, and this is most largely developed in the feathered stage occupying all the centre of each segment of the flower as in the illustrations C and D.



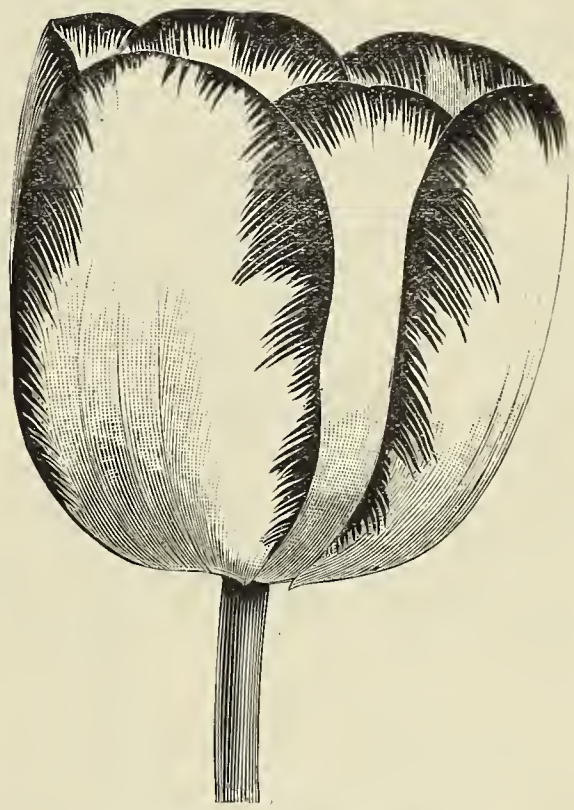
C.—Heavy Feathered Tulip.

The Byblœmens agree with the Roses in having a white bottom in all stages. The upper portion of each segment in the breeder stage is some shade of purple, violet or black. In the flamed stage the particular colour is continued in the central flame of the flower and shows itself also in the marginal feather. The feathered stage has the colours confined to the margin as usual and all the central portion, or ground colour, is white as in the Roses. Altogether, then, the "rectified" flowers may be classed as flamed or feathered Bizarres, flamed or feathered Roses, and flamed and feathered Byblœmens. No one can tell from the breeder stage whether the flower will become flamed or feathered in the rectified stage, but any one can determine to which of the three classes it belongs, unless the flower is of a mixed character and not worth attaining. There may be flamed and also feathered strains of the same variety.

INVERNESS-SHIRE.

The Weather and the Crops.

Judging from the large amount of blossom on trees generally, the hardy fruit crop promises this season to be above the average on the west coast of Scotland, and considering the perverse nature of last year, one is almost led to believe that wood ripening has not got such a great deal to do with



D.—Light Feathered Tulip.

future crops as is generally supposed. Be that as it may, with the exception of Plums, all other sorts seem this spring to have taken a new lease of life, doubtless the exceptionally fine weather experienced since the 18th of March having had a most beneficial effect in plumping up flower buds generally.

There was no rain here to speak of from the middle of March to the 11th and 12th inst., when nearly half an inch fell each day. So that the ground is now in a fairly moist condition. The bright sunshine and consequent heat, especially on the 22nd of April, was almost phenomenal, being within one degree of the hottest day last summer. This wave of heat, the cause of which is not immediately obvious, seems to have been pretty general all over these Islands, but owing to the heavy dews at night, and very slight showers at intervals, we have not suffered from the drought here to any appreciable extent.

Our fruit trees are all on walls with a few exceptions, and the wealth of blossom on a great many of the Apples and Cherries was really fine, not to say pretty. Plums this year are to be below the average; doubtless owing to the sunless weather in the autumn of last year, the wood did not get thoroughly consolidated. There was plenty of bloom but the individual flowers had not the size and substance which generally obtains. Amongst those which have set fair crops I may mention Victoria, good, Green and Transparent Gages,

Jefferson's and Coe's Golden Drop. A list of those Apples which gave most promise may be of interest to your numerous readers. They are—King of the Pippins, Cox's Orange, Downtown, Golden, Blenheim Ribston, and London Pippins, and Margil, which look very well; Lord Suffield, Yorkshire and Northern Greenings, Manks Codlin, Claygate Pearmain, Irish Peach, Worcester Pearmain, Hawthornden, Keswick Codlin, and Dutch Mignonne, are amongst the best. Pears are looking better than for the last two years, Beurré d'Aremberg, Autumn Bergamot, Williams's Bon Chrétien, Souvenir du Congrés, Black Achan, Swan's Egg, a splendid variety for tbis part of the country. Durondeau, Winter Nelis, Napoleon, and Fondante des Bois (Flemish Beauty), give promise of good crops, although I notice some of those which are set have a slight disposition to drop.

Cberries were a perfect mass of wbite blossom, and have set far too many fruits, particularly May Duke, Bigarreau, Elton, and Morello, the latter being exceptionally good. Small fruits also look better tban usual. Gooseberries and Currants, particularly tbe latter, have fine crops. We take tbe precaution of netting our bushes annually in early spring to save the buds from bullfincbes, which are most troublesome here. Raspberries are coming into flower and look well. Strawberries are also throwing up large quantities of flower spikes, so altogether, should the weatber we have had in the past continue, with occasional showers, the hardy fruit crop for 1893, in tbis unpropitious part of Scotland, will be one of the best for some years past. There is many a slip' twixt cup and lip, bowever, but we can only hope for the best.

The Apple and Pear moths bave been holding high holiday for some time back. Tbe weather was so much in their favour, and owing to the leaves being in whorles on tbe points of the young shoots, caused by the young depredators, it is very difficult to make an insecticide play upon tbe young grub or caterpillar before it takes wing; and before that metamorphosis takes places the leaves are very mucb cut up and tbe tree weakened to a certain extent. Owing to the absence of any lengthened spell of cold north or easterly winds, greenfly has been less common than usual. I notice that the Gooseberry caterpiilar (Abraxus grossulariata) and Nematus ribesii which feeds on tbe Red Currant have made their appearance, but not in great numbers so far.

I may say that we have had no frost since the 12th of April, althougb we have had several low readings since tbat date.—*William Minty, Raasay, Stromeferry, N.B.*

WHICH IS RIGHT?

I AM tempted to ask for an explanation of the perverse action of botanists as exemplified in reference to certain hardy plants that bitherto botb they and gardeners have termed Cbeiranthuses, and are now classed as Erysimums. In the apparently most arbitrary way, the botanist changes the appellations of plants so that the poor gardener, quite unable to follow the bent of these eccentricities, finds it almost needful to relieve his mind by vigorous ejaculations. Possibly the nomenclature of the perennial section of Wallflowers previously was all wrong, but not one grower in a thousand will ever call them other tban Cheiranthuses or perennial Wallflowers.

Does the conversion of these into Erysimums make them any the less Wallflowers, or if not so, tben wbat are tbey? It was always believed that the seed barrenness of C. Marshalli, as we bave always called it, was due to its being a bybrid between C. Alpinus and Erysimum Perovskianum, or, as some will have it, Perowskianum. That such a junction was possible cannot perhaps be questioned, as the two sections belong to the same natural order. However, tbe point to be cleared up is why this change of nomenclature after its existence for so many years? Still more, how much farther is it to go? Our dearest plant traditions never seem safe from the iconoclastic doings of the botanist.—*A. D.*

The Carnation: its History, Properties, and Management, with a descriptive list of the best varieties in cultivation. By E. S. Dodwell. Third edition with supplementary chapter on the Yellow Ground. London: GARDENING WORLD Office, 1, Clement's Inn Strand, W.C. 1s. 6d.; post free, 1s. 7d.—AD.]

PLANTS RECENTLY CERTIFICATED.

THE undermentioned subjects were certificated by the Floral Committee of the Royal Horticultural Society when exhibited at its meeting on the 9tb inst.:—

TILLANDSIA (VRIESIA) LEODIENSIS.—The leaves of this plant are suddenly pointed, grooved with a broad base, and arranged in a dense rosette of neat and attractive outline. The scape is 12 in. to 18 in. high, with the bracts densely crowded together in two ranks at the apex. The bracts are keeled, crimson-red at the base, and bright yellow upwards, finely dotted with red, and constitute not only the most durable part of the inflorescence but the showiest as well. The flowers are pale yellow with buff tips and produced singly in the axil of the bracts. A First-class Certificate was awarded it.

MAGNOLIA HYPOLEUCA. — The leaves of this Magnolia are obovate, featber-nerved, deep green above and glaucous beneath. The flowers consist of numerous wbite sepals and petals of a fleshy consistency that ultimately become tinted with a fuscous shade. The antbers and their filaments are deep purple, contrasting in this respect with the other parts of the flower. A First-class Certificate was awarded it.

PHYLLOCACTUS PLATO.—The stems of this variety are broad and flattened, with deeply rounded notches along the edges. The ovary and tube of tbe flower are covered with small pinkish bracts. The flowers themselves are very large and of a brilliant scarlet, including the filaments of the stamens and tbe style. The anthers and stigma are of a pale creamy yellow. An Award of Merit was accorded it when sbown by Messrs. J. Veitcb & Son, Chelsea, who also showed the Magnolia and Tillandsia.

BILLBERGIA SANGUINEA.—The leaves of this plant are few, strap-shaped, distantly serrate, and deep green. The flower stem is about 15 in. higb, and furnished in the upper part with bracts of a brilliant crimson red. The flowers are borne in a raceme, and are greenish, with deep blue tips to tbe sepals and petals. A First-class Certificate was accorded it when shown by Messrs. Charlesworth, Shuttleworth & Co., Heaton, Bradford.

DRACÆNA SANDERIANA.—The stems of this beautiful plant are slender and gracefully furnished witb short arcbing leaves that are narrowed into a petiole and then dilated at the base clasping the stem. Tbey are of a deep shining green witb a wide or narrow, pale creamy wbite margin ultimately becoming of an attractive and clear silvery wbite. Sometimes tbe central green portion is marked with pale gray bands. Plants of it were exhibited by Messrs. F. Sander & Co., St Albans who were accorded a First-class Certificate for it as well as a cultural commendation for the larger specimens wbich were grown in large pans, with several stems to eacb, giving the plant a handsome appearance. It is the best new plant that has been introduced for some time. Messrs. Linden, L'Horticulture Internationale, Brussels, also exhibited a tall plant of it (the originally imported plant, it was stated), under the name of D. thalioides foliis variegatis which they affirm is the true name. The Messrs. Linden were also awarded a First-class Certificate.

VIBURNUM PLICATUM.—The wild type of this species, generally seen only in the sterile state with large corollas like tbe Snowball tree, was exhibited by Messrs. J. Veitch & Son, who received a First-class Certificate for it. The flowers of the outer branches of tbe cymes are enlarged, while all the inner ones are small and fertile like those of the Wild Guelder Rose. In no other respect does it differ from the plant in cultivation.

CYCLOBOTHRA AMŒNA.—The stems of this Mariposa Lily are slender, branched and leafy, with many flowers upon the plant. The leaves are lanceolate, long pointed, twisted and glaucous. The sepals are ovate-lanceolate, short, glabrous, and purple. The petals are much larger, obovate-oblong, deep purple, coarsely and tbinly hairy on the upper face, and have the upper half folded over the flower, obliquely to one another before expansion, but after that they become twisted. A First-class Certificate was awarded it when exhibited by H. J. Elwes, Esq., Colesbourne, Andoversford.

BEGONIA HECTOR.—This is one of the tuberous Begonias with deep green obliquely beart-shaped leaves of moderate size. The flowers are of moderate size and likewise double with broad, nearly flat, outer petals, and the central ones forming a rosette and undulate like those of a Hollybock, to whicb type the flowers may be said to belong. An Award of Merit was accorded it.

BEGONIA R. B. PARSONS.—Here again we have a tuberous Begonia with deep green obliquely cordate leaves. Tbe flowers are double large, and of a delicate rosy-pink, deepening in the centre, with paler edges. The petals are arranged round several but not numerous centres. An Award of Merit was accorded it when exhibited by Messrs. H. Cannell & Sons, Swanley, Kent, who also showed the other variety.

ULMUS WREEDII AUREA.—This is a well-marked golden variety of the common English Elm (Ulmus campestris). The leaves are smaller than in tbe type, oval, densely crowded owing to the number of small twiggy branches given off by the stem, and a bright yellow, making the tree very ornamental for parks and shrubberies. A First-class Certificate was accorded it when exhibited by Mr. W. C. Leach, gardener to the Duke of Northumberland, Albury Park Gardens.

CANNA SOPHIA BUCHNER.—The four larger segments of the flower of this plant are of a brilliant crimson-scarlet. The flowers are ovate, relatively short, and glaucous. The plant shown by Messrs. Paul & Son, Chesbunt, was 2 ft. high, grown in a small pot. An Award of Merit was accorded it.

MELON INGESTRE HYBRID.—This was stated to be the result of a cross between Hero of Lockinge and The Countess. Tbe fruits are globular, sligbtly furrowed longitudinally, of a bright yellow, and finely netted. Tbe flesh is white, sweet, juicy, and of great thickness. Well-grown fruits would weigh about four or five pounds eacb. It was higbly flavoured for an early variety, and an Award of Merit was accorded it when shown by Mr. E. Gilman, gardener to the Earl of Shrewsbury, Ingestre Hall, near Stafford.

The undermentioned subjects received First-class Certificates at the Gardening and Forestry Exhibition, Earl's Court on the 13th inst.

CARNATION PRIDE OF GREAT BRITAIN.—This continues to be tbe largest and brightest self-coloured yellow Carnation we have. The flowers are not mucb inferior in size to those of Souvenir de la Malmaison. It is really a border Carnation althougb it submits to forcing very easily, for we have seen flowers so produced for several weeks past. A stand of flowers was exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenbam, who also received a First-class Certificate for it at the Crystal Palace on the 10th inst.

HIPPEASTRUM PRINCESS MAY.—Many nearly wbite varieties of Hippeastrum, better known as Amaryllis, have made tbeir appearance, but that under notice comes most nearly to tbe ideal. The flowers are large and pure white with exception of a pale green tint in the throat, and as nearly regular as possible. The segments are ovate elliptic, imbricate, and the lower segment is nearly if not quite as large as its fellows. This is very unusual in the genus, and must be agreeable to the florists. It was exbibited by Messrs. B. S. Williams & Son, Upper Holloway.

CROTON REIDII.—The leaves of this showy variety are broadly oblong, olive-green and variegated witb heavy salmon-red bands on tbe principal lateral veins, with a carmine midrib. The upper leaves are almost wholly yellow, in the young condition at least.

CROTON COMTE DE GERMINY.—The leaves are oblong, suddenly pointed, witb crimson veins and blotched or marbled with olive green on a clear yellow ground. The upper or young leaves are almost wholly yellow.

CROTON THOMSONI.—The leaves of this sort are obsoletely three-lobed in the style of C. Disræli, narrowed to the base, but much more highly coloured. They are of a bright yellow, irregularly blotched with olive green in the interspaces.

CALADIUM MRS. HARRY VEITCH.—The leaves of this variety are very large, beart-sbaped, partly connate at the base, red all over with the principal veins of a much more intense hue, and slightly shaded with green in the interspaces.

DRACÆNA AUSTRALIS VARIEGATA LAINGI.—The leaves of this variety are narrow with a silvery grey margin, and a reddish midrib when young. The three Crotons, the Caladium, and the Dracæna were exhibited by Messrs. J. Laing & Sons, Forest Hill.

Coleus Distinction.—This variety has the dark hue of C. fulgens, but the leaves are more decidedly rugose. They are ovate, revolute at the sides, and of an intense blackish-purple. The plant is of compact habit. A basket of plants was exhibited by Mr. J. A. Morris, Church Road, Acton.

GARDENING MISCELLANY.

ROSE AND CARNATION SHOWS.

The season of 1893 will be remembered as one which upsets flower show arrangements to a considerable extent, and judging from present appearances, the dates fixed for important exhibitions of the Rose and Carnation will have to be altered to earlier dates. Both, and so many other things as well, are either flowering, or will flower three weeks to a month or more earlier than usual; there is no keeping them back, and this is the cry from all parts of the kingdom. The early dates for Rose shows stand the best chance at present, and York, as one of the earliest, should have a much finer display than usual, and there is invariably a good turn out of Roses there; but it is at present an open question for consideration as to altering the dates of other later large exhibitions of Roses. As to Carnations, they are many of them already showing their flower-buds, with the half of May and the whole of June and July to go through before the Carnation shows commence. An expression of opinion from exhibitors through your columns would be advantageous just now, and lead up to definite information as to the future action of societies.—*W. D.*

A HALF-HOLIDAY FOR GARDENERS.

I am glad to observe that the important subject of a half-day's holiday for the gardener's assistant is receiving so many advocates, and that from somewhat unexpected sources, to say nothing of the daily and weekly Press. That "all work and no play makes Jack a dull boy" is equally as certain of the gardener's assistant as of any other class. But what I am most of all interested in is the future of this worthy and industrial class. In these days science must go hand in hand with labour, and woe to him who holds with a slack hand the advantages placed within his grasp to enable "Jack to become as good as his master." Societies are being advanced, teachers employed, and prizes offered for the best cultured amongst the class we have particularly to deal with, and all that is now lacking is the opportunity for attending the lectures and classes. County Councils are on the alert, and nothing is easier than for them to arrange the time for these to suit any given day upon which it may be decided to hold the weekly half-holiday in a given locality. There was a period in the history of the country when the lords of the land absolutely prohibited the labourer to learn to read or write. To-day, where is the man who dares to stand in the way of intellectual progression? Then let the first step be the weekly half-holiday.—*X.*

SAXIFRAGA COTYLEDON PYRAMIDALIS.

The value of this plant for decorative purposes cannot be over-estimated, when it has been properly grown with that end in view. The flowerless crowns should be separated and grown on singly in pots in a cold frame. Under this treatment, all other conditions being equal, each crown or rosette of leaves attains a large size, and is certain to throw a large, pyramidal panicle of flowers 12 in. or 18 in. long. The size of the pots may be regulated by the size of the crowns put into them, but the 48 or market size is a good average. Large crowns may be put into 32-size pots provided there are plenty of roots, but unless this is the case it is unwise to put them in a great quantity of soil that is liable to become sour and cause the plants to go wrong. If the crowns are small when taken off they should be put into 60-size pots and afterwards shifted on when they grow. The plant is a European species, but is often erroneously named S. nepalensis in gardens.

LYCHNIS FLOS-CUCULI ALBA PLENA.

When seen in its best condition this is a beautiful and graceful plant suitable for culture in pots if so desired, but being a British plant it is perfectly hardy and finds its rightful position in the herbaceous border. A naturally fair moist position should be selected for it, otherwise the flowering season will be of short duration in such droughty times as the present. Those who possess a bog garden will find it highly suitable for planting within reach of an abundance of moisture as it grows very frequently on the banks of rivers and ditches, or even in the ditch itself amongst the water if shallow. The stems are slender, graceful, 12 in. to 18 in. high, branched in the upper portion and bear a few flowers at the top of each branch. The flowers of the wild plant are rosy red, and the petals ragged, which justifies the popular name of Ragged Robin. The petals of the double white variety are ragged in the same way and render the plant both distinct and interesting. Propagation is easily effected by cuttings. The double white variety may be seen in the nursery of Mr. T. S. Ware, Tottenham.

SOCIETIES.

Crystal Palace. *May 11th and 12th.*—The Great Summer Exhibition was held on the above dates, and was generally acknowledged to be superior to those of several preceding years. This may be accounted for by the more liberal prize list and the abundance of sunshine that has prevailed for the past two months. The prizes offered for twelve stove and greenhouse plants in the open classes brought out some fine exhibits. The premier award was taken by Mr. J. Cypher, Queen's Road Nursery, Cheltenham, who had fine specimens of Erica Cavendishii, Pimelea decussata, P. Hendersoni, Bougainvillea glabra, Erica ventricosa magnifica, E. v. coccinea minor, and others. Mr. J. F. Mould Pewsey, Wilts, came in second with a fine piece of Erica Cavendishii, also Clerodendron Balfourianum, Statice profusa, and Erica tricolour Wilsoni in better condition than usual. Mr. Wm. Finch, gardener to James Marriott, Esq., Queen's Road, Coventry, took the third position with some good specimens. Mr. C. Turner, Slough, easily won the first prize for nine greenhouse Azaleas, with well flowered, large and conical bushes of Roi de Hollande, Etendard de Flandre, and Duc de Nassau. Mr. Albert Offer, Handcross Park Gardens, Crawley, Sussex, was second with much smaller plants, and Mr. Henry James, Castle Nursery, West Norwood, was third. The fine foliage plants were generally well coloured, especially the crotons; and Mr. A. Offer took the leading place. Mr. Wm. Finch was second and Mr. H. James was third. Mr. A. Offer again led in the class for nine stove and greenhouse ferns with fine samples of Cibotium Schiedei, Davallia polyantha, D. Mooreana and others. Mr. Wm. Howe, gardener to H. Tate, Esq., Park Hill, Streatham Common, was second, showing amongst others a grand piece of Polypodium subauriculatum. Mr. Joseph Howes, gardener to W. Cobb, Esq., Silverdale Lodge, Sydenham, had the best twelve exotic Orchids. Mr. A. Offer had the best nine Crotons, Weismanni, Chelsoni and Nestor being fine; Mr. H. James was second and Mr. J. F. Mould was third. Mr. J. Lambert, gardener to H. W. Segelcke, Esq., Elfindale Lodge, Herne Hill, had the best Dracænas, and was followed by Mr. H. James. There were two fine groups of well coloured Caladiums, and the first place was taken by Messrs. J. Laing & Sons, Forest Hill, whose plants had large leaves. Messrs. John Peed & Sons, Roupell Park Nurseries, Norwood Road, took the second place, with many small leaved kinds in front of their group. Mr. C. Turner was the only exhibitor in the classes for show and fancy Pelargoniums, being awarded the first prize in both cases. He was the only exhibitor of eighteen greenhouse Azaleas, and was awarded a second prize. The weather has been too warm for late Azaleas. The first award for eighteen Calceolarias was made to Mr. Henry Guyett, gardener to Thomas Gabriel, Esq., Elmstead, Leigham Court Road, Streatham. Messrs. Paul & Son, Cheshunt, took the first prizes for eighteen and thirty Roses in pots; Mr. C. Turner was second for the eighteen. Mr. J. Lambert was the only exhibitor of nine Lycopods. Mr. C. Turner had a first prize for Auriculas; Messrs. Paul & Son were second for Violas; and Mr. A. Smith, Prospect House, Downley, High Wycombe, was third for fancy Pansies. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, was the only exhibitor of single and double tuberous Begonias, taking the first prizes in both cases with neat and well-flowered plants. A first prize was awarded to Messrs. B. S. Williams & Son, Upper Holloway, for Amaryllis, the only exhibit of the kind made. The collections of hardy herbaceous plants made a fine display. Liliums, Spiræas, Irises, Pyrethrums, Saxifragas, &c. were very conspicuous. The first award was made to Messrs. Collins, Bros., 39, Waterloo Road; Mr. T. S. Ware had his plants of a kind in effective groups and was placed second. Messrs. Paul & Son were third with dwarfer plants. The plants suitable for dinner-table decoration were also attractive. The first award was taken by Mr. C. Lane, gardener to E. H. Coles, Esq., Burntwood, Caterham. Mr. Thomas McGregor, gardener to the Dowager Lady Hay, North House, Putney Hill, was second, and Mr. Jas. Portbury, gardener to W. N. Troy, Esq., Ripon House, Putney Heath, was third. The groups of Orchids arranged for effect were most conspicuous and a feature of the show. Mr. Jas. Cypher took the first award with Cattleyas, Dendrobiums, Lælias, &c., placed under tall, arching Palms. Messrs. B. S. Williams & Son were second with a more floriferous group arranged like a four sided pyramid with a huge piece of Cymbidium Lowianum on the top, and a wealth of Odontoglossums, Oncidiums, Lælias, Cattleyas, &c., on the sides. A few more Palms would have improved it, but it was wonderfully effective all the same. The groups of miscellaneous plants arranged for effect were also decided features of the exhibition. They were placed in semi-circular groups, and Messrs. J. Laing & Son, took the first award with tall plants of Cocos Wedeliana overshadowing various Anthuriums, Crotons, Orchids, Gloxinias, &c., amongst Maidenhair Ferns. Messrs. J. Peed & Sons, were second with a fine display likewise. Mr. J. Curry, West End, Wilton Road, Salisbury, was third with a flatter group, interspersed with relieving plants.

In the amateurs' classes the first award for six stove and greenhouse plants was taken by Mr. W. Chapman, gardener to J. Spode, Esq., Hawkesyard, Rugeley, Staffordshire, with grand specimens of Aphlexis grandiflora, Statice profusa, Tremandra ericæfolia, and others. Mr. A. Offer was second, with much smaller plants; and Mr. J. Curry was third. Mr. A. Offer had the best fine-foliage plants, and the best Dracænas. Mr. J. Douglas, gardener to Mrs. Whitbourn, Great Gearies, Ilford, had the best stove and greenhouse Ferns, the best Orchids, including a specimen of Dendrobium Dalhousieanum, with about thirty racemes of bloom, and the best Calceolarias, which were particularly fine; Mr. J. Howes was second for Orchids; and Mr. H. Guyett was second for Calceolaries. Mr. Wm. Howe had the best Palms. Caladiums in this section were good, the first prize going to Mr. Chas. Boatwright, gardener to E. Covell, Esq., Beckenham Place. Mr. J. Day, gardener to W. S. Gover, Esq., Casino House, Herne Hill, was second, with smaller but brighter plants. In the cut flower classes the first prize for twenty-four varieties of stove and greenhouse plants was taken by Mr. Wm. Finch. Mr. A. Gibson, gardener to T. F. Burnaby Atkins, Esq., Halstead Place, Sevenoaks, was second. Mr. C. Lane had the best Orchid flowers, and was followed by Mr. J. Prewett, Swiss Nursery, Hammersmith. Messrs. Paul & Son had the only collection of hardy flowers.

There were various miscellaneous and non-competitive exhibits, including a collection of Pæonies, Irises, Tulips, Violas, Aster diplostephioides, and other herbaceous plants exhibited by Messrs. J. Laing & Sons. They had a smaller group of Streptocarpus, Bertolonias, etc., and received an extra prize. Mr. T. S. Ware had a long table of Begonias, single and double, in the first freshness of the season, receiving an extra prize, and a stand of Carnation, Pride of Great Britain. An extra prize was awarded to Mr. H. J. Jones, Hither Green, Lewisham, for a long table of show and decorative Pelargoniums, inclnding two new varieties named respectively Mrs. H. J. Jones and Mr. H. J. Jones, as well as the best of the leading sorts. Messrs. W. Cutbush & Son, Highgate, had a similar table of Palms, numerous Heaths, Leschenaultia biloba major, etc., receiving an extra prize. A similar award was made to Messrs. Reid & Bornemann, Trewsbury Road, Sydenham, for a group of zonal, bronze, and tricolor Pelargoniums, Lilies, etc. Messrs. Richard Smith & Co., St. John's Nursery, Worcester, had a magnificent group of Clematis,

including such fine things as La France, Sensation, Mrs. Geo. Jackman, Madame Van Houtte, etc. Otaheite Oranges were shown by Messrs. B. S. Williams & Son; Roses by Messrs. Paul & Son, Waltham Cross, also by Mr. Wm. Rumsey, Waltham Cross; Turner's Crimson Rambler Rose by Mr. C. Turner; Leschenaultias by Messrs. W. Balchin & Sons, Hassocks, Brighton; and Gloxinias by Mr. Wm. Leapey, gardener to J. M Douglas, Esq., Kuparra, Upper Norwood.

ORCHID NOTES AND GLEANINGS.

THE undermentioned Orchids were certificated by the Royal Horticultural Society, at the Drill Hall, Wesminster, on the 9th inst.

Cattleya hybrida Harold.

THE seed parent of this hybrid was Cattleya Gaskeliana, and the pollen parent C. gigas. As yet the pseudobulbs are very short, ellipsoid or oblong, compressed, and ½ in. to 2 in. long, bearing a solitary, oblong, leathery leaf at the apex. The sepals are soft rosy lilac, the petals oblong-elliptic, wavy at the edges and similar in hue. The lip has a curved, purple tube, while the lamina is orbicular, emerginate, wavy at the edges, and of a deep rich purple, with a yellow throat striped with purple. The column is small, trigonous and white. An Award of Merit was accorded it when exhibited by Norman C. Cookson, Esq., Oakwood, Wyalam-on-Tyne.

Odontoglossum crispum de Barri Crawshay.

THE sepals of this variety are lanceolate and white, with a large, central, irregularly lobed brown blotch, shaded with purple at its edges. The petals are ovate, deeply toothed, with a central purple blotch, slightly shaded with brown in the middle. The lip is oblong, elongated, and white with a brown blotch in front of the crest, and yellow at the base. The column is of a deep purple on the back. An Award of Merit was accorded itwhen exhibited by De Barri Crawshay, Esq. (gardener, Mr. Cooke), Rosefield, Sevenoaks.

Dendrobium Bensoniæ album Stand Hall var.

THE flowers of this variety are of large size, and pure white with exception of the lip which has a large orange blotch and a creamy white margin. The sepals are lanceolate, and the petals ovate-oblong. There were seven flowers on a pseudobulb 14 in. long, on a plant shown by Mr. Thos. Statter, (gardener, Mr. R. Johnson), Stand Hall, Manchester. A First-class Certificate was awarded it.

Cypripedium Chas. Rickman.

THE leaves of this hybrid are oblong, grey, reticulate with deep green, and 3 in. to 4 in. long. The scape is only about 4 in. high and bears a single flower of large size. Thn upper sepal is roundish, soft purple, with deeper purple, incurved veins. The petals are oblong, strongly reclinate, about 1¾ in. long, and soft purple, dotted with crimson or black. The lip is of a deep nearly uniform purple; and the pubescent staminode is also deep purple, being darker than is customary.

Lælia purpurata Lowiana.

THE sepals and petals of this variety are of a pale rosy lilac, the lip being the most important and striking feature of the flower. The lamina is orbicular and of an intense crimson-purple with a pale blotch at the apex and striated with purple in the throat; the tube externally is of an intense crimson-purple and paler towards the base. An Award of Merit was accorded it when exhibited by Messrs. H. Low & Co., Clapton.

Odontoglossum Alexandræ guttatum.

THIS is really a variety of O. crispum, but differs from the ordinary O. c. guttatum inasmuch as the sepals are shaded or banded with rose externally. They are lanceolate ovate, and in addition to the rose band on the outer face they have a deep reddish-brown blotch on the centre of the inner face. The petals are wider, ovate, deeply toothed at the edges and wholly white or have one or two circular reddish-brown blotches in the centre. The lip is white and has a large reddish-brown blotch in front of the crest, which, together with the disc surrounding it, are bright yellow. The column is crimson on the back near the apex. It was exhibited by Messrs. B. S Williams & Son, Upper Holloway, at Earl's Court, on the 13th inst., and was accorded a First-class Certificate.

WHAT TO DO IN THE GARDEN.

Poinsettias.—The more forward of the shoots springing from the old stems may now be taken off with a slight heel of the old wood, inserted in pots and plunged in the frame of the propagating pit to root. They will furnish the first heads of bloom to mix with late Chrysanthemums in the conservatory.

Gloxinias.—Pot on young seedlings before they get crowded in the pans or boxes, or if already in small pots, before they get pot-bound. Plants in flower should be kept cooler and drier, though it may be well to remember that the atmosphere of an ordinary greenhouse is generally too cool and airy for the flowers to last well. A few plants may be taken there for the sake of variety; but an intermediate house is really the best for the main batch.

Begonia insignis.—This useful species is again being brought to the front as a useful and showy winter flowering species. The flowers are moderate in size, but produced in the greatest profusion where the plants have been well grown, and even neglected specimens furnish a wonderful amount of flowers to cut at a season when they are appreciated. Cuttings should be put in at once if not already done, to give the plants time to form nice bushy specimens before the advent of winter. With this aim in view, the plants may be pinched once or twice after they are rooted, potted off and commenced to grow again.

Celosias.—Give close attention to the Celosias, repotting them whenever this becomes necessary. If large plants are desired for the conservatory, they might be plunged in cocoa-nut fibre for the sake of bottom heat. Sow seeds now to get small plants for autumn work.

Balsams.—Keep these growing close to the glass in a warm, well-ventilated house, and supply them with plenty of water. Remove the blossoms from the main stem and train out the branches if large plants are desired. Repot the plants before the roots get pot-bound.

Cinerarias and Primulas.—The main batches may be sown now in a rather brisk heat. The pans in which they are sown might be shaded to prevent the rapid drying up of the moisture, and the consequent frequent watering that would be necessary. As soon as the seedlings are up they must, however, be inured to more ventilation and exposed to light.

Grapes.—The early house should be kept cooler when the Grapes are ripe, with a free play of air both back and front during the day. The white kinds will colour up better and be better flavoured if they are exposed to light by turning aside the foliage. Black varieties should not of course be treated in this way. Madresfield Court should not be allowed to get dry at the root when approaching maturity, or the Grapes will crack if allowed to get dry and then watered; the atmosphere should also be kept dry. The Muscat house should have a night temperature of 70° when the berries are swelling, with a rise of 10° by day.

Orchard House.—The fruit in the earlier houses being now well advanced, or even at the stoning period, a liberal supply of water at the root and plenty of syringing will be required. The temperature must not be kept too high at this time, as it would do more harm than good. Little growth will be apparent in the fruit for some weeks as it is confined chiefly to the formation and thickening of the stone.

Cabbages.—The continued dry weather is acting very prejudicially upon all subjects requiring to be planted. What would be of great benefit to the seedlings would be to transplant them from the seed beds before they get in any way crowded. They make better roots and sturdy stems, so that they readily take to the new soil when put in their permanent quarters. When planting out during dry weather a good plan is to take out a shallow trench with the hoe and plant in this, where the roots will be in contact with moist soil. Another good plan is to puddle the roots of the plants in a mixture of earth or clay and water before putting them out. A little soot added to this would help to keep the grub at bay. This, of course, applies to all of the Cabbage tribe, including Broccoli, Brussels Sprouts, Greens, etc.

QUESTIONS AND ANSWERS.

NAMES OF PLANTS.—*W.*: A small form of Odontoglossum crispum Andersonianum.—*Wm. Wilkinson*: The Bird Cherry, Prunus Padus.—*Joshua Atkins*: The flowers of that colour which predominates, are those of Laburnum Adami, a graft hybrid between Laburnum vulgare (yellow) and Cytisus purpurens (soft purple). It sports into the latter two which were the parents, and which you sent us.—*Learner*: 1, Ranunculus amplexicaulis; 2, Centaurea montana alba; 3, Polemonium humile, generally known as P. Richardsoni; 4, Tiarella cordifolia; 5, Doronicum austriacum; 6, Doronicum caucasicum; 7, Caltha palustris flore pleno.—*Omega*: The blue flowers are those of Scilla nutans, the English Bluebell; the other plant is the Red Campion, Lychnis diurna.—*A. K.*: 1, Saxifraga Aizoon; 2, Saxifraga cœspitosa; 3, Kerria japonica flore pleno; 4, Rhodotypus kerrioides; 5, Spiræa salicifolia; 6, Rosa spinosissima.

LÆLIA GRANDIS.—*Captain Twiss*: The pale flower you send is the typical Lælia grandis. The darker one is intermediate between the type and L. g. tenebrosa; but we should not speak of it as a hybrid. The outer face of the sepals and petals is nearly as dark as L. g. tenebrosa, but the inner face is paler, being of a clear and warm brown. For the sake of distinction you might call it L. grandis Birdhill var.

GERANIUM OR PELARGONIUM.—*Omega*: It is quite wrong to use the word Geranium in either case. The spotted flowered kinds belong to Pelargonium cucullatum. The bedding varieties are hybrids of Pelargonium zonale and P. inquinans. The Pelargoniums have irregular flowers with unequal sized petals and a nectary tube running down the stalk of each flower. The Geraniums proper are hardy herbaceous plants with regular flowers and no nectary tube on the flower stalks or pedicels.

GOOSEBERRY CATERPILLARS.—*Omega*: You can adopt or try several remedies for destroying caterpillars on the bushes, such as lightly spraying them with water in the evening and then dusting them with lime, flour of sulphur, or Hellebore powder. The last-named is poisonous and should be washed off with the syringe a few days after its application, when the caterpillars have had time to get destroyed by eating the leaves that have been dusted.

ARRANGEMENT OF COLOURS.—*Tuberous Begonias*: It is impossible from the mere names of colours to make a satisfactory arrangement of them in bedding if you are to mix the plants. It would be of great service to know which were tall and which dwarf growers, so that the former could be planted in the centre, and the latter round the outside of the beds. We have seen fairly good beds of mixed kinds, but greatly prefer beds wholly planted with one or two varieties. Seeing that you have three beds, we should advise you to plant one with the crimson variety and edge it with the red in one or two lines. Fill another with the orange-flowered sort and edge it with the yellow one, as the latter is usually dwarf. The third bed might be planted with the scarlet variety and edged with the white one. The colours in the first two beds would then harmonise with one another, while there would be a harmony of contrast between white and scarlet.

COMMUNICATIONS RECEIVED.—J. R. (thanks, very interesting)—H. J. J.—W. D.—S. W.—T. W. O.—G. H.—R. B.—W. P.—X.—W. H. B.

TRADE CATALOGUES RECEIVED.

WILLIAM CLIBRAN & SON, Oldfield Nurseries, Altrincham.—Plant Catalogue for 1893.

JAMES CARTER & Co., 237, 238, High Holborn, W.C.—Seeds for Summer Sowing.

THOMAS FARMER & Co., Lim., Billiter Buildings, Billiter Street, E.C.—The New Guano.

LONDON SEED TRADE.

May 16th, 1893.

MESSRS HURST & SON, 152, Houndsditch, and 59, Seed Market, Mark Lane, E.C., report a slow demand for Clovers and Grass Seeds at unchanged rates. Some speculative sales of French Trifolium Incarnatum for forward delivery have been made at very high prices.

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May 17th, 1893.

FRUIT.—AVERAGE WHOLESALE PRICES.

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Tasmanian Apples per case	5 0	10 0	Melons ... . each	2 0	3 6
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Peaches ... per dozen	6 0	18 0	Pine apples. —St. Michael's, each	2 6	6 0

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	s. d.	s. d.		s. d.	s. d.
Asparagus per buudle	1 6	5 0	Horse Radish, bundle	2 0	4 0
Artichokes Globe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, French, per lb.	1 6	2 0	Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	5 0	Seakale .....per bkt	1 6	2 0
Celery.....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers .....each	0 4	0 8	Spinach ... per strike	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	1 6	2 6
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

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CATALOGUE GRATIS.

KEYNES, WILLIAMS & Co.,
The Nurseries, SALISBURY.

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, May 30th.—Orchid Sale at Protheroe & Morris' Rooms.

FRIDAY, June 2nd.—Sale of Orchids at Protheroe & Morris' Rooms.

SATURDAY, June 3rd.—Leicester and County Pansy Show.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, MAY 27th, 1893.

THE RAIN—Wonderfully refreshing and invigorating have been the showers which have fallen since the weather broke from its long fit of drought on the 17th inst. What a marvellous change can be created in the appearance of the earth and everything growing out in the open in but a few days, when the air is charged with moisture and the parched and thirsty soil becomes once more satisfied! It is not that, after all, we have had heavy saturations, much of which would have run off into the watercourses and have been wasted; the rain has come in gentle showers, moistening the earth by degrees, so that every successive fall has gone deeper and deeper, until the roots have been reached.

It has come in good time, because not yet have the crops become too deep rooted or too much in leafage to have felt the drought severely. The grass or pasture has suffered most, but then it the soonest recovers. Already the brown, burnt fields have become of a rich emerald green, and though there can be no mowing for some time, yet in a few weeks, should the showers continue, there will be fairly good swaths lying under the edge of the scythe of the mower. The hopes of the farmers and gardeners, but the other day down in deep depths of gloom, are now greatly elevated, and in all directions soon shall we hear that common declaration "things are a long way better than in the height of the drought was thought possible."

Possibly the holiday folks, the butterflies of the human family, lamented the change in the weather, the converting of perennial sunshine into intermittent and frequent showers; yet perhaps few so thoughtless as not to realise how great a blessing has the change been for the country. How often is it shown that if we will but patiently wait all things will come right in the end.

THE TOMATO.—There are plenty of croakers who are too ready to shake their heads with awful solemnity and aver that the Tomato craze will soon wear itself out. We should very much like to know upon what ground that gloomy foreboding is based? We have not yet tired of Cucumbers, Marrows, Melons, or indeed of any description of garden produce which has grown into popularity and become established food. To us it rather seems as if the Tomato would have a very long innings, for few fruits, after all, seem to have in them such elements of continued favour. We can have them practically all the year round from somewhere. We can have them in very great abundance at home for fully six months of the year, and with the aid of heat fully nine months.

The Tomato is easily grown, easily raised from seed, is not at all above the efforts of amateurs and cottagers to successfully cultivate, and it is, after all that has been said about it, not specially susceptible to disease. We were in the houses of a grower the other day, whose plants were only 14 inches apart, growing on a soil bed some 14 inches in width, and which, under similar conditions last year, produced an average of 20 lbs. per plant. Putting this produce at the low estimate of 4d. per lb., that gives 6s. 8d. per plant, and we should like to learn of any other plant that would give so much of fruit value in so small a space.

This was at Mr. H. J. Jones's, Hither Green Nursery, Lewisham, where all the best market sorts are being grown, and where it is being constantly demonstrated that far better results come from limited root areas—the soil being fairly well fed during the season—than where there is excessive root room. The culture of Tomatos for market leads to the discovery of many matters that otherwise do not come within the ken of the ordinary gardener or amateur.

THE GUILD OF KEW GARDENERS.—It was a distinctly happy thought which prompted Mr. Watson and his co-workers in the Royal Gardens at Kew to band themselves with past employes in the same national establishment into a Guild, which, as the director, Mr. Thiselton Dyer, well points out in the "Journal of the Kew Guild," which has just been issued, cannot but have the effect of consolidating the *esprit de corps* which exists among the young men under his control, and in other ways be of great benefit to the great botanical garden of which we are all so proud.

The objects which the promoters of the Guild have in view are, we are glad to know, not to be of a purely "domestic" character—such a combination for the mere glorification of Kew and its staff would be too contemptable to think of—but are of the really laudable character of bringing together in a bond of fellowship all who have at any time been employed as gardeners at Kew, by means of a journal which will convey to them news of interest and enable them to communicate with each other, and to a scheme of this sort we can heartily wish all possible success.

The first number of the "Journal" now before us will, we are sure, be read by all Kewites with great interest, by those of the "past" perhaps more so than by those of the "present," for it contains a wide and most interesting range of information of peculiar value to the men more particularly concerned in the doings at Kew, and this feature of the Guild's operations may reasonably be expected to be improved and extended as time goes on, and many who are for the moment forgotten are brought into the fold. There was a time when Kew men, as a rule, were not held in any great esteem by their brother gardeners, having the general reputation of being too bumptious for the company of ordinary mortals, and not to love work too well. But such depreciatory feelings have, happily, long since passed into the limbo of obscurity, and the average Kew man of to-day has a better standing among his fellows.

DAHLIAS.—We have, happily, in the Dahlias plants that bloom so long and persistently that they cannot be said to have any special season, and it looks as if this year their blooming would be unusually prolonged. Those who had the courage to plant out early have been, so far, amply rewarded. They found the weather hot and dry, it is true, but the Dahlia will endure warmth, whilst water and mulching can soon be furnished; better these conditions, however, than cold winds, storms, or frosts. The earlier planting will naturally lead to earlier blooming, and we may hope that as a result, many seedlings, which were destroyed last autumn by that untoward September frost, will this season show their complete form, as also will new seedlings, which, put out late, require a long summer to enable them to completely bloom.

So far the only protection needed for the plants has been stakes and ties to hold them secure during strong winds. The recent rains have been productive of great good, hence Dahlias have been singularly favoured. Even the young plants from cuttings went out under unusually favourable conditions, because the strong sunlight had hardened the stems and rendered the plants more fit for exposure than is the case when the Springtime is cold and gloomy. There is, however, no reason to assume that it will be needful to bring forward the Dahlia Shows. On the other hand, we shall probably see good flowers much earlier than is usual at the ordinary Summer Shows, and that will be a great gain, and will help to popularise the Dahlia in many directions.

This will specially be the case with the beautiful Cactus section, for these flowers are often unduly late, and many tire of growing them for that reason. The section is a greatly improving one, indeed it bids fair to become the most popular in time. When to the best Cactus flowers have been added the growth or habit and floriferousness of the Pompon section, everybody will grow Cactus Dahlias.

Mr. James McNab, so well known "on the Road" as traveller for the Liverpool Horticultural Company, Limited, has joined the staff of Messrs. F. Sander & Co., St. Albans, in a similar capacity.

H.R.H. The Duke and Duchess of Connaught honoured Messrs. W. & G. Drover with a visit to their nurseries at Fareham, on Friday of last week. The royal visitors were received by Mr. W. Drover, and conducted over the establishment, the Duchess evincing great interest in the Stephanotis, Gardenia, and Rose houses, and on leaving, Her Royal Highness was presented by Mr. Drover with a bouquet of Pearl des Jardin Roses, together with a copy of the firm's illustrated book on the "Growth of the Chrysanthemum."

Gardening Engagements.—Mr. H. Watt, for the last twelve years gardener at Rockingham Castle, has been engaged by the Earl of Ancaster as gardener at Normanton Park, Stamford, in succession to Mr. John Gilbert.—Mr. G. H. Krumbiegel, for the last two years sub-foreman in the Propagating Department at Kew, has been appointed superintendent of the State Gardens at Baroda, India, which, during the past four years, have been remodelled and extended under the superintendence of Mr. W. Goldring.

Mr. Alexander McDonald, for the last four years foreman at Methven Castle, Perth, has been engaged as gardener to Sir Thomas Monro, Bart., Lindertis, Forfarshire.

Shipment of Potatos to New York.—Large quantities of Scottish Potatos are being shipped weekly from the Clyde to United States ports. Two steamers for New York are taking out 944 tons, which are valued at £3,620.

Early Strawberries.—As an illustration of the forwardness of the season in the metropolitan district, we may state that the first dish of Strawberries, Laxton's King of the Earlies, was gathered at Chiswick on Whit Sunday, and two other of Mr. Laxton's seedlings were ready on the following day, while Noble would not be ripe for a week. Mr. Barron having kept the plants well watered during the dry weather, has a grand crop this season.

The Temple Show.—By the time these lines appear in print the large tents erected in the Temple Gardens for the holding of the Royal Horticultural Society's annual exhibition will have been filled to repletion and all made ready for public inspection. So far as we can learn at the time of going to press, the display will be a notable one for a few special things, such as Orchids, hardy plants, Begonias, and Gloxinias, and the hardy plants alone, in pots and as cut flowers, will fill one of the great tents. Baron Schroder, Sir Trevor Lawrence, Bart., Messrs. Sander, Williams, Low, Cypher, etc., will be represented in the Orchid section as usual.

Finger-and-Toe in Turnips.—The Seeds and Plant Diseases Committee of the Royal Agricultural Society have instructed the consulting chemist and the consulting botanist to investigate, but upon perfectly separate lines, the disease known as "finger-and-toe" in Turnips. The agriculturists of the country are suffering very much from this disease through its unknown causes and its unknown treatment, and it is to be hoped that Dr. Voelcker and his coadjutor will be able to throw some light upon the matter.

A Plague of Caterpillars.—The Caterpillar is playing sad havoc with the fruit trees in some parts of Cornwall, and especially with the Apple and Pear trees. Indeed, some of the orchards are so stricken as to be completely stripped of fruit and leaf, and those which were a week ago in the height of bloom, giving promise of a splendid yield, have now a most miserable appearance. Poisonous water has been freely used, and other well-known remedies, but without that good effect that could be desired. This is another misfortune brought about by the long-continued drought. Nevertheless, taking the county all round, there are evidences of good crops in the parts not absolutely affected with the trouble mentioned—a continuation of the good supply already commenced.

The late Lord Derby.—At the dinner given to the judges and exhibitors at the Manchester Exhibition, last Friday, Mr. Joseph Broome, who presided, said they had to mourn the loss of their president, Lord Derby. His lordship was president of the society for thirteen years, and no president gave more attention to the duties of the office than he did. His purse was always open for anything the Council required for the advantage of the society, and his advice was always freely given, and if the speeches he had delivered at various times were collected and published in a volume they would make a very handsome memorial of Lord Derby's valuable services as president, and of the interest he took in the society. One of his last actions was to give a cup of the value of twenty guineas as a prize to be competed for. He hoped his lordship's memory would be cherished, as it deserved to be, in all ranks of society.

The Kentish Fruit Season.—Owing to the exceptional forwardness of the season the Strawberry crop in all parts of Kent is fully a month earlier than usual. A few sample pickings, destined mainly for the northern markets, are reported to have been made on Saturday last, and picking of the earlier sorts became general on Whit-Monday. The drought has somewhat affected the older plants, but those of two and three years' growth are showing well, and with a continuance of the mild, warm showers we have experienced lately, there is every prospect that the later varieties will yield heavily, the crop being fully equal, if not superior, to the average of the last few years. Owing to the hardness of the ground, caused by the long-continued

drought, it has been found impossible to plant any new runners, consequently next year's crop will be minus second-year fruit. Red Currants and Gooseberries are a splendid crop, but black Currants are very poor. Pears promise well; but, unless there is more rain shortly to wash the trees from insect pests, the Plum harvest will be a very poor one, vermin having put in an appearance in abundance. There is every prospect of a very heavy yield of apples, and the Cherry crop is almost unprecedented, both for the quality and quantity of the fruit.

A change in the aspect of Cornish Market Gardening.—There has been just sufficient rain in West Cornwall to make the gardens pleasant and the orchards fresh, but for any other purpose only enough to wish for more. But there is a decided change in the prospects of the Cherry crop, for the rain has done wonders, and growers are likely to have a profitable year. Black Cherries bear a better appearance than the red and the growers will profit where the trees have been properly manured. The Strawberry has so far done remarkably well, for, although there may be a falling-off in quantity in some places, the quality all round has turned out to be excellent, and there is an absence of fungi and insects, usually very troublesome. The markets have had more than their usual supply for April, and the fruit has brought a much better figure.

The Tallest of Trees.—The giant Eucalyptus (Eucalyptus amygdalina), called also the Peppermint tree, is pronounced by a recent writer to be one of the most remarkable and important of plants. In its full development, in mountain ravines, it probably represents the tallest of all trees. It often exceeds 400 ft. in height, and a specimen at the foot of Mount Baw Baw, Victoria, reaches 471 ft. A specimen is known near Mount Wellington, Tasmania, which is 130 ft. in circumference at the base. The giant Eucalyptus takes foremost rank as a hard wood tree of rapid growth, and in yield of volatile oil by its foliage it is unsurpassed. This species supplies most of the oil in commerce.

PLANTS RECENTLY CERTIFICATED.

The plants and flowers here described were exhibited at the Summer Exhibition of the Royal Botanic Society on the 17th inst.:—

Rhododendron Primrose.—This may be described as a hybrid greenhouse Rhododendron of the Javan type. The flowers are very large and bell-shaped, with the segments revolute at the tips, and of a uniform deep primrose yellow. Floricultural Certificate.

Rhododendron Ceres.—The flowers in this case are similar in form and size to those of the former, but bright yellow with a darker tube externally. The filaments are red and the anthers purple. Floricultural Certificate.

Rhododendron Balsaminæflorum Rajah.—Although belonging to the same class as the previous two, the leaves of this variety are much narrower, lanceolate, and elongate. The flowers are double, with the outer segments bright yellow edged, with orange scarlet and the central petals smaller and orange scarlet. They are borne in large trusses. Floricultural Certificate.

Tillandsia leodiensis.—For description of this showy Bromdiad, see p. 598. Botanical Certificate.

Pterislongifolia Mariesii.—The fronds of this fern are pinnate, arching 12 in. to 15in. long and much more graceful than those of the type which is a coarser plant. The pinnæ are linear-lanceolate, gradually widened towards the base and subcordate there, wavy at the edges and of a rich dark green. Botanical Certificate.

Begonia decora.—In this we have a dwarf species with something of the habit of B. imperialis but larger and differently coloured leaves. The leaves are obliquely cordate, hairy, and of a deep metallic green, especially when young, with the principal veins of a silvery grey. The under surface is of a bronzy-red. Botanical Certificate.

Phyllocactus Niobe.—This is one of the numerous hybrids that are now being made, and has flattened stems with moderately deep rounded notches at the edges. The huge flowers are of a deep scarlet, shaded with purple-crimson, and the anthers and stigmas are creamy white. Floricultural Certificate.

Streptocarpus or Cape Primrose.—The strain of hybrid Streptocarpus is now getting very rich and varied in colouring, and the large, drooping, or nodding flowers show a great many shades, from pure white to dark purple, and more or less of violet. A Floricultural Certificate was accorded a large boxful of them shown.

Gloxinia Ariadne.—The flowers of this variety are funnel-shaped, erect, six-lobed, crimson, with a broad white margin to the segments, and finely spotted in the throat. Floricultural Certificate.

Gloxinia Orion.—The lamina of this variety is marbled with deep purple on a white ground, fading to pale lavender at the edge, which is not spotted. The throat is creamy-white, finely spotted with purple, and the flowers are erect. Floricultural Certificate.

Gloxinia Brilliant.—The seed parent of this sort was said to be Gesnera pyramidalis, while the pollen parent was a Gloxinia named Radiance. It would therefore be a bigeneric hybrid, with large, oval, spreading, dark green leaves, that are revolute at the edges, and marked with a few light green patches. The flowers, as far as shape is concerned, are tubular, and drooping like those of the old type of Gloxinia. The tube externally is rose-red, and the lamina scarlet fading to rose at the edges. The lower side of the tube inside is white, spotted with purple, while all the rest is rose-red. The colour is therefore rich and handsome. A Botanical Certificate was awarded it. The eleven subjects above recorded were all exhibited by Messrs. J. Veitch & Sons, Chelsea.

Gymnogramme Mayi.—This fern forms a close, or compact plant of drooping habit and moderate in size. The fronds are 12 in. to 15 in. long, tripinnate, densely farinose, and silvery beneath, and somewhat hoary above, especially at the edges. It received a Botanical Certificate.

Begonia Lady Brooke.—The double flowers of this tuberous Begonia are of large size and bright salmon shaded with scarlet in the centre. The broad sepals are somewhat wavy and arranged round a single centre. Floricultural Certificate.

Begonia Earl of Craven.—There are several centres to the flower of this tuberous variety, but they are so disguised as to appear only one. The outer petals are much longer than the inner ones, and all are of a dazzling and brilliant vermillion-scarlet shaded with something difficult to describe. Floricultural Certificate.

Begonia Duke of Fife.—In this we have another double tuberous sort, with large double flowers of a beautiful salmon rose with the outer sepals paler. The leaves are of moderate size, half cordate and dark green. Floricultural Certificate.

Caladium Mons. Leon Say.—The leaves of this sort are large, heart-shaped, soft, uniform red, with the principal nerves carmine, and irregularly shaped grey blotches scattered over it. For description of Caladium Mrs. Harry Veitch, see p. 598. Both received Botanical Certificates.

Croton Comte de Germiny and C. Thomsoni.—For description of these two varieties see p. 598. Botanical Certificates were awarded each of them. The above eight, including the Gymnogramme Begonias, Caladiums, and Crotons, were exhibited by Messrs. J. Laing & Sons, Forest Hill.

Carnation Pride of Great Britain. For description of this handsome Carnation see p. 598, Floricultural Certificate.

Heuchera sanguinea.—The dark green, heart-shaped leaves of this plant contrast well with the racemes of small, but graceful, deep red flowers. The plant may be had in bloom in succession for a considerble period of time, and is well adapted for forcing. Botanical Certificate.

Verbascum phœniceum album.—For some years past there has been a considerable amount of variation in V. phœniceum, chiefly of light shades of colour. The variety under notice is pure white, with the exception of the yellow anthers, and is therefore very choice, more especially by contrast with the deep purple flowers of the type. The oblong leaves are chiefly confined to the base of the stem. The stems vary from 18 in. to 3 ft. high. Botanical Certificate. The Carnation, Heuchera and Verbascum were exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

Petunia Pallas.—The flowers of this Petunia are of moderate size but compactly double, with the outer petals reflexed at the tips. They are rose-coloured, with crimson veins towards the base of the petals. The plant is also of compact and sturdy habit. Floricultural Certificate.

Mimulus gloriosus.—The flowers of this garden variety are of great size, orange-crimson, often tinted with a coppery velvety-brown hue. The lower lip has one to three large maroon-crimson blotches on the middle of the lobes, giving the flower a more striking effect. The throat is yellow internally. Floricultural Certificate. Both the Petunia and the Mimulus were shown by Messrs. J. Carter & Co., High Holborn.

Pelargonium Ryecroft Surprise.—This is one of the ivy-leaved types, with large double flowers and loosely spread-out petals in large compact trusses. They are salmon-pink, with a few small crimson spots at the base of the petals. The leaves are five-lobed, very fleshy, and dark green. The plant is of dwarf, compact habit, and therefore a great improvement upon the straggling stemmed varieties which used to be grown, while the flowers are both choice and showy. Floricultural Certificate. A small group of plants was exhibited by Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham.

Begonia Hon. Sydney Herbert.—The flowers of this tuberous variety are large, clear rose, and have the sepals arranged round a single centre with a few less conspicuous rosettes. The leaves are very moderate in size. Floricultural Certificate.

Begonia Mrs. Jenkins.—The blooms in this instance are very large and double, with several centres and of a soft primrose yellow. The sepals are slightly wavy. The obliquely heart-shaped leaves are of a rich dark green. Floricultural Certificate.

Begonia Lady Beatrice Herbert.—In this instance the leaves are small and of a deep olive green. The flowers, on the contrary, are very large, and bright salmon, with wavy sepals arranged round several centres. Floricultural Certificate. The above three varieties were exhibited by Mr. J. R. Box, Croydon.

Canna Sophie Buchner.—For description of this variety see p. 598. It received a Floricultural Certificate when shown by Messrs. Paul & Son.

Rhododendron Helene Schiffner.—This is one of the R. ponticum type of hybrids with large trusses of pure white flowers of moderate size. The pale brown anthers are the only trace of colour in the bloom. A Floricultural Certificate was awarded it when shown by Mr. T. J. Seidel, Handelsgartner, Dresden.

The undermentioned plants and fruits received First-class Certificates when exhibited at the Gardening and Forestry Exhibition, Earl's Court, on the 18th and 19th inst.:—

Pelargonium Rosy Gem.—The flowers of this show variety are of moderate size, smooth in the petal and of a beautiful rose, with a white throat. It was exhibited by Mr. Charles Turner, Slough.

Canna Comte de Ganay.—The three upper segments of the flower are heavily suffused with crimson-red on a yellow ground with yellow edges, and splashed with red on the back. The lower segment is marbled with yellow near the base. The leaves are ovate and glaucous. Both this and Canna Sophie Buchner were exhibited by Messrs. Paul & Son, who received certificates for each.

Strawberry Sensation.—The fruits of this variety are large, sub-compressed, obtuse at the apex, and furrowed longitudinally along the centre as if two fruits were grown together side by side. The surface is deeply pitted and of an intense crimson-red. The variety promises to be a valuable one for forcing purposes.

Strawberry Royal Sovereign.—This is considerably earlier than Sensation under the same treatment and also promises well as a good forcing Strawberry. The fruits are conical or often wedge-shaped like a cock's-comb. The surface is comparatively shallowly pitted and of a clear, soft scarlet. The fruits are of good flavour. Both were exhibited by the Marquis of Salisbury (gardener, Mr. G. Norman), Hatfield, Herts. Both varieties had of course been grown under glass.

The Carnation: its History, Properties, and Management, with a descriptive list of the best varieties in cultivation. By E. S. Dodwell. Third edition with supplementary chapter on the Yellow Ground. London: Gardening World Office, 1, Clement's Inn Strand, W.C. 1s. 6d.; post free, 1s. 7d.—Ad.]

TECHNICAL EDUCATION.

At a meeting of the Aberdeen County Council, held in Aberdeen, on Friday, 19th inst., the Technical Instruction Committee submitted their report for the past winter session. The committee was appointed at the statutory meeting of the Council, held on 20th December, and a remit was made to it to carry out the Technical Instruction Scheme of the Council, sanctioned at the meeting on 1st July, 1892, in so far as that had not already been done. The committee, therefore, in framing its report, finds it necessary to refer, not only to the work it has itself undertaken, but also to the scheme of appropriation of the Residue Grant ratified at the July meeting of the Council, and to the work of the former Technical Instruction Committee, as embodied in a statement entered in its minutes at the period of its demission of office.

The scheme of appropriation sanctioned by the Council has been, says the report, closely adhered to throughout, and the present committee's work has consisted in carrying through, in regard to the several items of it, the arrangements that had previously been inaugurated. The experience of last year showed that the work in the departments of agriculture and horticulture could be overtaken by three instructors, and the number was accordingly reduced to this by combining geology and chemistry. The instructors appointed last year had given such general satisfaction that the committee offered re-engagement to as many of them as the scheme admitted. These were:—1: Chemistry and Geology of Soils, Dr. Milne, King Edward, Banffshire; 2: Botany of Cultivated Plants, Mr. Robert Turnbull, B.Sc., Edinburgh; 3: Natural History, Mr. Alexander Meek, B Sc, Dundee.

The method of itineration, and the organisation of the classes, were conducted on pretty much the same lines as last year, save that the courses of instruction were somewhat lengthened. The attendance at the classes has been on the whole remarkably good. The numbers were:—First group, 385; second, 307; third, 440; fourth, 577; total 1,709, giving an average of 46 per class, as compared with 45 last year. These numbers are calculated on the average attendances, and there were many occasional visitors in addition. Looking at all the drawbacks with which the classes have had to contend, the results must be regarded as very satisfactory. Of the fresh departures in the committee's work, by far the most important has been the establishment, in every parish willing to undertake them, of classes taught by public school teachers in connection with, chiefly as preparatory to, the itinerant classes. In order that these teachers might in some measure be qualified for their task, the committee arranged for a vacation course of training for teachers in the University of Aberdeen, conducted by the Fordyce Lecturer, assisted by the Professors of Botany, Natural History, and Natural Philosophy.

The course was attended by forty-five teachers from the county, and though, necessarily, a short one, was, within its limits, in every way successful. Subsidiary classes, to the number of forty-four, were taken up (a few were subsequently dropped), by certain of the teachers thus instructed, and by others who had previously been qualified by attendance at Edinburgh University, at South Kensington, or elsewhere. It is rather premature to speak of the results of these classes, as they have not been quite finished yet. The average attendance will probably be found to be about twenty, so that by them some 700 or 800 pupils will have been brought under tuition. In many cases the classes have been composed of pupils just beyond the compulsory standards. In a few instances they have been taught under the rules of the Science and Art Department, and independently of the scheme of itinerant instruction.

Uniformity has been studied as far as it was possible, and to secure this, a syllabus was drawn up by the committee for the guidance of the classes; but, as this was the first year of the scheme, it was felt that it ought in every way to be encouraged, and with a view to this, modifications of the syllabus were in many cases admitted, which will disappear by another year, if the classes are continued. So far as can be judged, the results are most hopeful. The committee desires to acknowledge the heartiness with which the proposals were taken up by the teachers, and the great diligence that has been shown in the teaching of the classes, often under considerable drawbacks. The pupils have (many of them) been of a susceptible age, and there is every reason to believe that a considerable number of them will follow up the subjects they have now begun. In future it may perhaps be found advisable to work the subsidiary classes to a much greater extent, if not entirely, in connection with the Science and Art Department. It must also be borne in mind that the action of the Department itself in withdrawing its grants for apparatus and for passes in the second class of the elementary stage, has thrown the duty of encouraging such classes on the County Councils more directly than heretofore.

THE HAKGALA GARDEN, CEYLON.

The Hakgala garden is the mountain branch of the botanic gardens of Peradeniyia, Ceylon, and is situated at an elevation of 5,581 ft. above the level of the sea. As the highest mountain in Ceylon, Pidurutalagala, is 8,296 ft. high, the climate varies very much, both as regards temperature and moisture. Any one who can afford it has here a chance of living in a climate of anything they like between 90° Fahr. in the shade in the low country, and 25° Fahr. on the grass in the highest locality, with an annual rainfall varying from 250 ins. at Padupolla, in the Western Province, to 30 ins. at Hambantota, in the Southern Province.

The average mean temperature of Hakgala is 62° Fahr., the maximum being 78° Fahr., and the minimum 35° Fahr. I have, however, registered as high as 150° Fahr. in the sun, and as low as 25° Fahr. on the grass. This latter reading has only occurred once in my experience of eleven years, namely, on February 12th., this year, lasting only a few hours. Very little damage was done by it. The average rainfall here is 90·00 ins., but the average number of raining days is as high as 204. Occasionally we get droughts of from three to four weeks' duration. These generally occur at the beginning of the year. Heavy rains fall, usually, during the last three months of the year. I have registered as much as 33·77 ins. in one month, December, 1877. We have our share of wind, too, June and July being the windiest months. The calmest months are December, January, and February, but we never get much wind until the burst of the monsoon in May; it then continues more or less until October. Notwithstanding heavy rains and strong winds this is without doubt one of the healthiest climates to be found in this or any other country. The surroundings, too, are perfectly lovely. At our back, the south-west, stands the grand twin mountain of Hakgala, with its almost perpendicular face, covered for the most part with forest trees and scrub, but in places quite bare and overhanging. The top of this mountain reaches to a height of 6,981 ft., or exactly 1,400 above the garden; and as the intervening space is covered with thick forest, it forms a splendid background. To the left, or northwards, is a mountain nearly as high as Hakgala, with a deep gorge between, the whole being covered with beautiful forest, thousands of acres in extent. The rich deep claret colour of the young foliage of the Eugenias, which occur plentifully in this forest, often dotted with masses of the white flowers of Calophyllum Walkeri and other trees, and the numerous and ever-varying shades of green, are special features in the scenery.

Looking at the garden, in front, from the north right round to the west, the eye rests on a series of mountains: those in the foreground steep and undulating, covered with patana, or grass-land, with patches of forest here and there, the hills rolling down 3,000 ft., when the Paddy fields are visible, five or six miles away, their sites being marked by silvery streaks, caused by the sun shining direct on the water which irrigates the Paddy fields after sowing, or, later on, by the rich golden hue of the ripening corn.

Monkeys, leopards, elephants, and plenty of Sambur deer and other smaller game inhabit the forests round about. The leopards occasionally take a calf or some stray goat or dog that comes in their way. The Samhur deer give trouble by eating off the tops of Fuchsias, Babrothamnus and other shrubs. The other animals named rarely do the garden any damage, but hares and porcupines do. Hares go in for almost everything we grow—Carnations, Iresines and Verbenas they are particularly fond of, and this year they have taken a liking to Alternantheras! Porcupines pay special attention to all bulbous plants, apparently preferring Liliums.

The garden contains over 3,000 species and varieties of plants, having representatives from many parts of the globe. Growing side by side, or within a few yards of one another, are such things as Cinchona and Heliotropium from Peru, Cryptomeria from Japan, Musa Ensete from Abyssinia, Musa and Stillingia from China, Moræa Robinsoniana from Lord Howe's Island, Gentian, Daisy, Violet, Myosotis, and Primrose from Europe; Cohæa and Opuntia from Mexico, Acalypha from Fiji, Fuchsias from Chili, Tacsonias and Passifloras from Brazil and North Grenada, Carica from Colombia, Franciscea, Yucca, and Bocconia from the West Indies, Ceroloxylon from South America, Phœnix from Arabia, Calla and Mesembryanthemum from the Cape, Salix from the Caucasus, Cupressus from California and Himalaya, Dammara from Queensland, Olearia from Tasmania, Myrtus from the Mediterranean, Aberia from Africa, Amygdalus and Punica from Persia, Neillia from North America, Callistemon and Eucalyptus from Australia, Pimenta from Central America, Eugænia from Malaya, &c.

The fernery, which is partly natural, contains about 30,000 plants of ferns, Begonias, &c. Some of the tree ferns have stems 18 ft. to 20 ft. high, with a spread of fronds of from 12 ft. to 18 ft. high. There are two pieces of ornamental water, three summer arbours, herbaceous and Rose gardens, nurseries, and over two miles of paths and drives. The borders and shrubberies contain many interesting trees and plants.

We have also a glass propagating house and two propagating pits, and the staff consists of a Singalese foreman, two educated Singalese young men as students, who are being taught general horticultural work, and about twenty-six Tamil and Singalese labourers. The extent of the enclosure in which the garden is located is 550 acres. It is six miles from Nuwara Eliya, the sanitarium of the Island, and is visited by persons from all parts of the world. —*W. Knock, in the Journal of the Kew Guild.*

A MANUAL OF ORCHIDACEOUS PLANTS.*

The ninth part of this useful work is now in the hands of the public, and shows that it has been executed with the same care and with the same amount of collated information as in former parts. As in the case of Parts VII. and VIII. the present one is devoted to a description of all the more popular and useful species belonging to the great tribe, Vandeæ. Fifty-one genera, some of which are now reduced to sections of genera, with their cultivated species are described, including Cymbidium, Zygopetalum, Lycaste, Maxillaria, Acineta, Stanhopea, Trichopilia, and others of minor importance. Besides numerous woodcuts distributed through the text, there are five full-page illustrations of some of the more notable species on tinted paper. We miss the maps of former parts indicating the geographical distribution of the species described, but this deficiency can hardly make any difference to the value of the work as far as horticulture is concerned.

The genus Zygopetalum is a large one and includes Zygosepalum, Huntleya, Bollea, Pescatorea, Warcewiczella, and Prominea, as well as a number of species which used to be included, though erroneously, under the genus Batemannia which is now reduced to B. Colleyi, the species on which the genus was founded by Lindley. At p. 31 a figure is given of what portends to be Grammatophyllum Fenzlianum var. Measuresianum, but which is really G. F. Seegerianum. If the one is deserving of a distinct varietal name so is the other, for both are quite distinct from the type and from one another. Reichenbach's name of Bifrenaria Harrisoniæ is accepted for a species that may be seen in different collections under the names of Lycaste and Maxillaria Harrisoniæ. Paphinia is also separated from Maxillaria on account of the difference in the pollinia and the pendulous, two or more flowered scape. Colax jugosus is also retained as distinct on account of the structure of its pollinia. Warrea is reduced to one species, namely W. tricolor, five others being relegated to Zygopetalum and one to Aginisia. We have now four species of Cochlioda, and which have been relegated to their proper place instead of being muddled and mixed up with Odontoglossum and Mesospinidium as they usually are in gardens. They are certainly widely distinct in structure from Odontoglossum.

Many cultural notes are given, and occasionally information about the conditions and environments under which certain Orchids are found in their native habitats, with the view of assisting cultivators in growing those species which hitherto have proved most troublesome and baffling in all attempts to successfully establish them in gardens.

* A Manual of Orchidaceous Plants, cultivated under glass in Great Britain. Part IX.—Cymbidium, Zygopetalum, Lycaste, etc. James Veitch & Sons, 544, King's Road, Chelsea, S.W. 1893.

WAKEFIELD PAXTON SOCIETY.

This flourishing society held its usual weekly meeting on the 20th inst., at the Saw Hotel. A good number of members were present and Mr. Whitely was voted to the chair, and Mr. Brown, of Hatfield Hall Gardens, Wakefield, to the vice-chair. The proceedings commenced at 8.15 p.m., and after the adoption of the minutes of the last meeting the Chairman, in words appropriate to the occasion, called upon Mr. G. Hudson, of Wooley Park Gardens, who had promised an essay on the "Rhododendron." The paper treated on Rhododendrons, greenhouse and hardy, and embraced methods of propagation by seed and grafting, their treatment as to pot culture and in the open air, the preparation of soil and that most suitable to the hardy species; the method of planting and their arrangements in groups and beds and also the selection of varieties.

An apt and beautiful illustration to a very practical and interesting paper, was a fine display of cut Rhododendrons from the Woolley collection, also some splendid types of the Ghent Azaleas, most varied in colour and generally sweet-scented. Other members of the society also contributed cut blooms, and the whole formed quite a Rhododendron show. Great attention was paid by an appreciative audience, and an unanimous vote of thanks was accorded to Mr. Hudson, who was by no means new to the members in the capacity of essayist.

A discussion followed chiefly in relation to the time of sowing the seed and the good results proved to be attained by the removal of the seed pods. Cut blooms of a good strain of Calceolarias were also exhibited from Woolley Park Gardens, and were the subject of much favourable comment, Mr. Hudson being well-known in the district as a very successful grower. The society is fortunate in-so-much that it includes amongst its members some of the leading business men of a busy city, and no doubt its flourishing condition is in a great measure due to their support. At the close of the meeting the blooms exhibited were sold, the proceeds going towards a subscription to the Gardeners' Orphan Fund.

INSECT LIFE.

An inevitable consequence of such a season as this —a season drier, warmer, and in brief more altogether satisfactory to a man who has no grass or roots to think of, than most of us can clearly remember—is the abundance of all kinds of insect life. More favourable conditions for insects of all kinds (says a writer in the *Daily News*) could not be imagined, and if the drought continues the result can hardly fail to be most disastrous to crops of all descriptions. Swarms of destructive caterpillars have ruined already the prospects of the fruit growers of Normandy. There is hardly a point in our economy which is not the object of attack from some member or other of the insect world. Our grain and roots, our fruit and timber trees, our cattle, our houses, our books, and our clothing are all destroyed. Our very selves are not secure. There are even insects which can cut their way through plates of metal. At this moment our gardens are haunted by crowds of butterflies, whose grace and beauty are forgotten when we reflect what brings the insects there; when we remember that these exquisite creatures will probably be parents of hosts of voracious grubs, which, were it not for the ceaseless labours of tit and blackbird, and the much calumniated sparrow, would sweep our gardens clear of all green things. The present year is remarkable already for the great abundance of some kinds of butterflies. Some that we see are worn, frayed and faded, survivors from last year, that have slept through the winter. But there are others, born in this beautiful weather, whose untarnished wings lend still more beauty to the summer day. We have no quarrel with the brimstone that like a gleam of sunshine flits along the woodland path. The orange tip, whose wings might have been tinged with sunset-gold, is not an enemy of the farmer; nor the tiny sylphs in soft and radiant blue, nor the exquisite fritillaries, whose rich golden-brown is the joy of the young butterfly-hunter. But there are other insects unfortunately, pests many of them, that have appeared unusually early, and in unusual numbers. Fruit trees are already suffering severely from destructive insects whose name is legion.

The Apple is a tree that seems especially singled out for attack. It is the prey of whole armies of pests, moths and flies, weevils and aphides, which, if left to themselves, would leave neither bark nor wood, fruit nor foliage. The Apple moth, after passing through the chrysalis condition in the ground, sets itself to craw up the stem of the tree to lay the eggs which shall produce the next generation, the grubs that live at free quarters in the fruit. Since they reach their destination by crawling, not flying, they are easily stopped by a smear of some poisonous substance on the bark, or even by tying round the tree a quantity of cotton wool, in which they become entangled. It is otherwise with the weevils—the tiny beetles that are so destructive to stone fruit, especially Plums and Cherries in the fruit districts of America. They fly to their work, and no coal tar or evil smelling smear of any kind upon the trunk avails to stop them. Some fruit growers whitewash the whole tree, others syringe it with an arsenical compound, such as Paris green, which appears to leave no ill-result on the fruit, and has been known to improve the crop to the extent of 75 per cent. These weevils simulate death when they are frightened, and when the tree is shaken they fall readily to the ground. Trees planted where poultry have access are found to prosper, as the fowls devour the beetles that have fallen before they have time to fly back to their work of destruction. There is indeed nothing like shaking the tree.

One fruit-grower, "having a fine Plum tree growing near his pump, tied a rope from the tree to his pump-handle, so that the tree was gently shaken every time there was occasion to pump water. The consequence was," continues the Report of the American Department of Agriculture, "that the fruit of this tree was preserved in the greatest perfection." The amount of trouble expended by American growers on their fruit would perhaps astonish some of their English friends. It is quite a common practice in the States to fumigate the whole tree—indeed the whole orchard—containing perhaps thousands of trees, at the rate of 200 or more in one night. Each tree is enclosed in a tent, under which is generated either hydrocyanic acid or arseniuretted hydrogen gas. A few minutes' fumigation suffices to destroy the greater number of insects on the tree, without serious injury to the leaves or the crop. The United States Government have even taken the trouble to import from Australia a species of lady bird, which is the particular enemy of the "red scale," so harmful to Orange and Lemon trees. Lady birds play a useful part in our own gardens. The Rose has perhaps as many enemies as the Apple. There are leaf-cutter bees that take neat, round pieces of the foliage to line their nests. Several kinds of moths lay eggs on the tree, and the resulting grubs make havoc of both leaf and flower. Sawflies, again ruin the foliage altogether. In some places, where Roses are cultivated on a large scale, chafer grubs—those pests of the farmer—destroy the roots. One French Rose-grower is said to have lost 100,000 trees from this cause alone.

One of the commonest Rose pests is the aphis, the "blight" of the gardener. Clinging motionless in thousands to the bark, they suck up the juice of the tree, and slowly destroy its vitality. That these little plagues should swarm in our rosaries is not surprising when we consider the rate at which they multiply. Bonnet found that the descendants of a single aphis amounted in one year to eleven generations, the last of which might, if there had been no check on their increase, outnumber all the inhabitants of the globe by hundreds of millions. Happily for us, like all creatures that tend to multiply at enormous rates, they are kept in check in many ways. Wind and rain dislodge them. They are devoured wholesale by birds. Flies eat them. Lady birds, both in the larval and perfect states, live upon them. Were it not for Nature's police we should be devoured alive, like those short-sighted farmers who shot down the birds of Killingworth, falsely supposing them to be not friends but enemies. Did all the caterpillars that soon will be swarming among our Cabbages come to perfection we should be in sore straits indeed. Perhaps our most important allies in keeping down insects of all kinds are the ichneumon flies. These useful operators pierce the skin of the caterpillar and insert an egg, or perhaps more. The caterpillar continues feeding, apparently none the worse, and often has sufficient vitality left to change into a chrysalis in spite of the fact that even half-a-dozen grubs are steadily devouring its inside. Réaumur found twenty-five out of thirty Cabbage caterpillars had been thus affected. Out of 100 caterpillars of the emperor moth taken last summer on the Yorkshire moors, only twelve have this year produced perfect insects. All the rest, or nearly 90 per cent., had fallen a prey to ichneumons. Insects which devour other insects in the egg, larva, pupa, or perfect condition, are innumerable.

We owe not a little, again, to the toad, who is an indefatigable collector, especially of beetles. The cuckoo feeds largely on woolly caterpillars. The woodpecker's life is mainly spent in destroying insects that bore into and injure trees. Small birds, especially tits, are at work all day killing flies and beetles and chrysalids. The blackbird, who now and then takes toll of the fruit, has destroyed thousands of the insects that but for him would have made utter havoc of it. Let him be. He is not levying blackmail. He is but drawing well-earned wages. He has borne the burden and heat of the day—a day lasting from the first gleam of daylight until after sundown. A pair of house sparrows have been observed to carry 3,000 grubs to their young ones in a single week. And yet there are those who hold the sparrow to be nothing but a thief and a vagabond, and will hear no word on his behalf.

Even the blackest of them all, the crow,
Renders good service as your man-at-arms:
Crushing the beetle in his coat of mail,
And levying havoc on the slug and snail.

THE VEGETABLE GARDEN.

Vegetable Marrows.

By this time a good stock of Vegetable Marrow plants should be ready for planting out. For the earliest I generally plant in the forced Turnip frames by drawing out a few in the middle of each light, and putting a couple of Marrows in. They are then getting established as the Turnips are being used, and when the Turnips are all used, the frames may be shut up again to give them more help if necesary. Any old manure rubbish or leaf soil heaps are good places to grow them, or they will grow well, but not so early, on the ordinary garden soil following early crops of Cauliflower or Lettuce.

Scarlet Runners.

This extremely useful vegetable should be sown a two or three different times, make the first sowing in the middle of May, and again once or twice up to the middle of June. The ground should be well manured, and if a place can be selected where the soil is moist below so much the better. The plan of sowing which I prefer is in single rows and trained to a single row of poles about 7 ft. high. I saw last year one of the finest rows of Runners I have ever seen, growing close to the edge of a stream of running water, and last year mine were growing where they had all the spare sewage, and they gave excellent crops. For an extra early supply sow four seeds in 32-pots, and plant out when ready. They may be used to hide untidy corners or to cover ugly walls and fences. In small town gardens a good many Runners may be grown where hardly any other vegetable would thrive.—*G. H. S.*

General Remarks.

At last, after eleven weeks of dry weather, we have had some rain, not much it is true, but still enough to do a lot of good. Last Wednesday, May 17th, we had one hour's heavy rain, and since then several showers. According to the daily papers, a great quantity has fallen in some places, but the above has been our share. We are daily gathering good dishes of Strawberries, "Noble" in the open, the first on May 20th; this is, I believe, a record in the neighbourhood of Richmond, last year it was June 1st.—*G.H.S.*

The Chicago Exhibition.—It is reported that the handsome horticultural building at Jackson Park is to remain a permanent attraction in Chicago. For several weeks past, park officials and a number of influential and wealthy citizens have been discussing the advisability of purchasing all of the Palms, wonders of tropical vegetation and flowering plants, shrubs and cacti now exhibited at the horticultural building for permanent display in that structure, and to form the nucleus of a botanical garden for city.

FLORICULTURE.

The National Auricula Society.

I HAVE read with great regret the paper by my good friend 'R. D.' at page 596 of your last issue. As an old florist, and one who has had a large experience of exhibitions of special florists' flowers. I am bound to say I have no sympathy with the complaint 'R. D.' makes as to the appointment of judges, nor the slightest respect for the theory he avers London shows have hitherto been conducted upon, viz., that "judges shall have no knowledge of the ownership of the plants to which they are called upon to make awards." I deliberately say in the case of the Auricula or the Carnation, I know no one worthy to judge from whom this knowledge could be withheld —to the fully informed there are indications outside all question as to their ownership—therefore the affectation of concealment is a delusion and a snare, opening the door to a charge of culpable partiality easily made, impossible to be refuted, and resulting, as unhappily appears in this case, in a sense of injury which cannot be appeased. Nor, to my surprise and regret, is my friend historically accurate in his statement of the practice of London flower shows. Some forty-five years ago, in the late forties, when the late Dr. Lindley was leading the Royal Horticultural Society, a disappointed exhibitor averred certain of the judges having knowledge of certain collections had, with guilty partiality, awarded prizes to these collections in defiance of all warrantable judgment. The Doctor replied with unanswerable force, that whilst mistake and error might be admitted in all human judgment, and left no stain, a charge so easily made —so frequently the resource of the disappointed competitor, imputing dishonour of the gravest kind to the judge—was intolerable, and such as no one should be exposed to. Therefore, that no such pretence should be possible in the future he ruled that all exhibits should be labelled with the name and address of the exhibitor prior to the entrance of the judges, and be in their full view, and this was a practice which obtained, to my certain knowledge, up to the death of Dr. Lindley. And as I saw in this practice an answer to imputations unscrupulous individuals had launched against the executive of the Midland Horticultural Society in connection with its earlier exhibitions, I promptly adopted, and always since in exhibitions where my voice could prevail, have maintained this practice.

I have no knowledge of the beginning of this controversy, and desire to avoid even the semblance of taking sides. But I feel bound to say I utterly dissent from the expressed desire of 'R. D.' to eliminate seedlings or varieties not in general commerce from the exhibition table, or the adoption of a special class for old varieties, and equally strongly I dissent from the assumption that A having rendered floral service to B in the preparation of his flowers is thereby incapacitated from giving an opinion as to their merit when compared with C's.

Most of all, I regret to see the reference to the communication I received from Mr. B. Simonite, wherein he spoke of his inability to act as judge for the Carnation and Picotee Union last August. I have not retained that communication and can only speak from memory, but I am sure my friend has exaggerated its tenour far beyond warrant. I placed that note in his hands in the full expectation that a word of explanation would dissipate the difficulty, but when, to my regret, I found it might only lead to wider divergence of feeling, I stringently declined to permit its publication or use for hostile action.

This much of explanation I feel bound to give in vindication of myself, and I hope that the tension of feeling, of which 'R.D.' has apparently been a sufferer, may speedily pass away.—*E. S. Dodwell.*

Swallowing fruit stones.—A German paper states that a very peculiar patient is at present under treatment at the Augsburg State Hospital. A man, aged forty, had set himself the task of swallowing some 250 fruit stones. Having finished this extraordinary meal, he experienced excruciating pain. While under treatment on the first day in the hospital the medical men succeeded in removing 200 Hazelnut stones. The man had taken all this trouble to place his life in jeopardy for a wager of five shillings.

JUDGES AND JUDGING.

ALTHOUGH there appears to be some little personal feeling in the discussion raised in your columns respecting the employment at the Auricula Show of an expert to judge, who is also an assistant, and occasionally an exhibitor, yet I cannot help thinking some good may result from it, because there can be no question but that the very base and foundation of confidence in exhibiting for prizes in competitions is found in the entire honesty and impartiality of the judges. It does sometimes happen that the capacity of judges may be called into question, though happily rarely. That, however is not the case in this instance because the judge whose acts are criticised, all the floricultural world knows is a very capable man, so far as concerns show Auriculas and some other flowers.

As I understand the case, it is not perhaps so much actual partiality, as of possible partiality arising from the fact that any man, however ordinarily honest he may be, yet comes to the consideration of the merits of respective exhibits in the competition with some feeling of bias, because he himself knows them and their owner, and it may be has done his utmost to make them presentable. Now, it does not matter what is the nature of the show or of the exhibits, or under what conditions competitions may be held and judging takes place, but it is a matter of almost absolute impossibility to prevent judges in all cases from having what may be called physical knowledge of the exhibitors and of the things they may have to judge. But there is a wide distinction between this physical knowledge and mental knowledge. In the former case the judge knows and that is all. In no sense does it trouble or affect his mind. In the latter case the knowledge so far is impressed upon his mental faculties that there is bias in favour or against, a form of bias that the judge cannot help if he would, and which will force itself into the decision, yet unconsciously. Thus in all cases it is so much better for judges to have no knowledge whatever of the exhibitors, or else in the other case if there be knowledge, it shall be of the mere physical and not of the mental kind. Judges and their awards must be not only merely absolutely honest and impartial, but they must have no semblance of being otherwise.—*An Old Judge.*

ROSES UNDER GLASS.

Now that Roses are coming rapidly into bloom out of doors, there is not the same demand upon those plants grown under glass. Roses in pots, especially the Tea-scented and Noisettes, are still in full growth and flower. There is a great advantage in having these in two batches, and to secure an extra early one we must soon commence preparations. Fairly strong, and well matured growth is what we need, and unless this can be managed, it is of little use attempting to force a Rose early.

HYBRID PERPETUALS AND HYBRID TEAS.

We will touch upon these first, both classes being much alike as regards habit of growth, &c. I have coupled them the same as I shall the Teas and Noisettes. It is even more necessary to secure well-ripened growth of these than of the Tea-scented class. We will suppose you have been growing h. perpetuals for early bloom, and to aid in showing off the softer colours of the Teas. By the way, only the dark varieties are worth pot culture, lighter colours being of more service when chosen from the Teas, as these continue to flower longer and are much more free. As the h. perpetuals seldom produce a second crop of bloom of any merit, they are apt to be neglected after the first and main crop is realised. This should not be the case, as if neglected at this time the plants seldon do well for another season. A little care in affording sufficient water, with a few doses of some liquid stimulant, and an occasional syringe is all they need. This will conduce to fairly strong growth, and by the time these notes can appear the plants may be stood on the north side of a hedge for the summer season. Do not keep them dry, nor must they have too much water, or the growth will break prematurely. The aim should be to keep them growing very steadily until growth is completed, and then to allow this to mature thoroughly. Never let the wood shrivel for want of moisture; a sprinkle overhead will prevent this to a large extent without the necessity of much root watering. By the end of September prune the plants and stand them in a cool pit or frame until they commence to break. Here they may stay until the early part of December. At pruning time let the pots be well overhauled, the drainage made good, and some of the surface soil removed. This may be replaced by a rich loamy compost. Remove to the house in December, but by no means hurry the plants until the beginning of January. A temperature of 45 to 50 degrees up to this time is ample. Where a succession of bloom is wanted, choose out the forwardest plants and introduce them to the house a fortnight to three weeks before the next batch. The six best dark h. perpetuals for forcing are General Jacqueminot, Countess of Oxford, Eclair, Fisher Holmes, Prince C. de Rohan, and Souvenir de C. Montault.

TEAS AND NOISETTES.

So much alike are these that our leading authorities do not agree as to which class several of the best known belong. Among this class we get yellow, orange, buff, apricot, peach, coppery-yellow, and fawn. All shades of these colours are well represented, and no Roses are more free in growth or bloom and so admirably adapted for pot culture. Like the hybrid perpetuals these may now be stood out of doors, that is, the earliest batch. The later ones may still remain in the house for a few weeks until their second or third crop, as the matter may be, are secured. It is always best to move them after their bloom is secured, and while they are most free from young growth. Stand them in the same position and treat them similar to the hybrid perpetuals. It is difficult to secure so apparent a ripeness in the case of Teas and Noisettes. There are two distinct classes in these sections, viz., the strong and vigorous climbers that make an annual growth of from 4 to 15 ft.; and those of ordinary vigour. As long as the stronger growers, like Maréchal Niel, Climbing Niphetos, William Allen Richardson, &c., continue to grow, they should receive no check whatever.

The secret in cultivating these varieties is to get as long a rod as possible, one, two, or three upon a plant, according to size and age, being far more profitable than a number of medium growths. In order to secure this, the growths should be removed as soon as they have flowered, cutting them back to the most healthy eyes breaking from the base, and treating them very generously. Well matured rods will carry bloom from almost every eye throughout these strong shoots, and as they only flower well once a year—like the bulk of the hybrid perpetuals—they are much better cultivated in this form. To the inexperienced it looks to be the wrong treatment to cut away so much healthy wood as usually remains after the flowers are over; but, however well this may look, it is practically useless unless grown into long shoots, and as these almost invariably break from the bottom, it is folly to exhaust the plant by sustaining the weaker and shorter wood. On no account must these climbers be hurried in their ripening, nor will they bear a hasty forcing at the commencement. After they have broken into new growth some 2 to 3 in., an increase in the temperature will do no harm. A few plants that may have ripened much earlier and more efficiently than the rest may be forced into bloom by Christmas, indeed such plants are by far the most reliable for producing winter bloom.—*Experience.*

A HANDSOME GREENHOUSE CLIMBER.

A CORRESPONDENT sends us to be named a flowering shoot of a very showy, but not widely known or grown greenhouse plant, Kennedya prostrata Marryattæ. There are something like eleven species of Kennedya, all natives of Australia, and the finest and showiest of all is K. prostrata Marryattæ, a variety by no means the most common. Most of them that are fairly common in cultivation have a flowering period, after which they show nothing but leaves for the rest of the season. The leaves consist of three oblong, blunt, wavy leaflets bearing in their axils short racemes of large, light scarlet, Pea-like flowers much larger than those of other species in cultivation, and these are produced for many months in succession as the twining stems continue to elongate. The stems, when trained up under the rafters of a greenhouse or conservatory, give off laterals that hang in the most interesting and effective manner, owing to the great profusion of flowers. It was introduced in 1834, and is far from being so common as it ought to be. The accompanying illustration of the tip of a flowering shoot will serve to give an idea of the appearance of the plant.

FLOWER SHOW AT EARL'S COURT.

The second show of the season was held on the 18th inst., in the large marquee in the western gardens, when the display consisted of Orchids, Roses, Azaleas, Pelargoniums, foliage plants, &c. In the amateurs' class for a group of Orchids and foliage plants for effect, the first prize was awarded to Mr. G. Wythes, gardener to the Duke of Northumberland, Syon House, Brentford, the display consisting of Dendrobiums, Cattleyas, Lælias, Vandateres, &c. A second prize in the open class was awarded Mr. Henry James, West Norwood, for a similar group. The first prize for a collection of Roses was awarded to Mr. C. Turner, Slough, who had some fine specimens of Juno, Ulrich Brunner, Madame de Montchaveau, and the showy Crimson Rambler. Messrs. Paul & Son, Cheshunt, were second with some good plants. The first award for a group of Crotons was taken by Mr. A. Offer, gardener to John Warren, Esq., Handcross Park, Crawley, with some well-coloured specimens of Undulatum, Queen Victoria, Aureo-punctatum, &c. Mr. W. Howe, gardener to Henry Tate, Esq., Park Hill, Streatham Common, was a good second, having small plants in front of his group. Mr. H. James was third. Mr. W. Howe had the best group of Dracænas, showing green and highly-coloured sorts in good condition. Mr. A. Offer was second, and Mr. H. James was third. The first award for a group of greenhouse Azaleas was taken by Mr. C. Turner who had some large, conical specimens of Duc de Nassau, Etendard de Flandres, &c. He was followed by Mr. A. Offer with many smaller specimens. The well-flowered group of Pelargoniums shown by Mr. C. Turner took the first prize. He was likewise the only exhibitor of Malmaison Carnations, both the type and the pink variety. The first prize for twelve bunches of cut Orchids was awarded to Mr. J. Prewett, Swiss Nursery, Hammersmith and Lancaster Street, Bayswater, who showed fine bunches of Cymbidium Lowianum, Cattleya Mossiæ, C. Mendelii, Cypripediums, and others. Mr. G. Wythes was second. The same order of awards was observed for a basket of Orchids suitable for table decoration. The first prize for cut Roses was awarded to Mr. G. Mount, Canterbury, who had fine blooms of Niphetos, Maréchal Niel, Anna Olivier, &c.

The exhibits of fruit, although not extensive, were very interesting. The first prize for three bunches of Black Grapes was taken by Mr. J. McIndoe, gardener to Sir J. W. Pease, Bart., Hutton Hall, Guisborough, who showed Black Hamburgh. Mr. T. Osman, gardener to J. L. Baker, Esq., Ottershaw Park, Chertsey, was second; and Mr. G. Thompson, gardener to Messrs. W. & E. Wells, Hattonhurst, Hounslow, was third. Mr. J. McIndoe was again first for White Grapes, showing Foster's Seedling. Mr. E. Longley, gardener to W. J. Twigg, Esq., Croxted House, West Dulwich, was second. The Marquis of Salisbury (gardener, Mr. G. Norman), Hatfield House, Herts, had by far the best Strawberries in the exhibition, and took the first prize for three dishes, consisting of the varieties Competitor, Sir Charles Napier, and Vicomtesse Hericart de Thury, the first two kinds being of remarkable size. Lord Suffield (gardener, Mr. W. Allan), Gunton Park, Norwich, took the second position with smaller fruits of Lord Suffield, Empress of India, and Gunton Park. The Marquis of Salisbury again headed the list for one dish of Strawberries, showing Auguste Nicaise, of enormous size, and handsome. All of his fruits were, of course, grown under glass. Lord Suffield was again second; and Messrs. W. & E. Wells, took the third place. Peaches and Nectarines were also noticeable on account of their high colour. Col. Lee (gardener, Mr. W. Robins), Hartwell House, Aylesbury, took the leading place for Peaches, showing Alexander. Messrs. T. Rivers & Son, Sawbridgeworth, were second; and Mr. J. McIndoe took the third place. Messrs. T. Rivers & Son were first for Nectarines, and Mr. J. McIndoe followed. The latter had the only dish of Cherries in the exhibition, showing Black Tartarian.

Miscellaneous exhibits were no unimportant feature of the exhibition, furnishing as they did a considerable amount of variety. A large and handsome group of Calceolarias, consisting of eighty-five plants, all branched, bushy, 12 in. to 18 in. high, and laden with their huge and richly varied coloured flowers, was exhibited by Messrs. Sutton & Sons, Reading, who received a Silver-gilt Medal. A Silver Medal was awarded to Mr. G. Mount, Canterbury for four boxes of Rose blooms, some of which were of wonderful size and good quality. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, had an extra prize for a collection of Liliums, Pyrethrums, Irises, Spiræas, Aquilegias, Delphinium nudicaule, and various other useful subjects. The Marquis of Salisbury exhibited Sensation and Royal Sovereign Strawberries, which were certificated. A basket of Coleus Distinction was exhibited by Mr. J. A. Morris, Church Road, Acton. Messrs. Thomas Rivers & Son had a box of Early Rivers Nectarine, receiving an extra prize. A similiar award was accorded to Messrs. W. Balchin & Sons, Brighton, for a group of Leschenaultias. Mr. P. Perry, gardener to J. C. Tasker, Esq., Brentwood, Essex, had a similar award for Cannas. A group of Heaths, Aphlexis humilis purpurea and other New Holland plants was exhibited by Mr. A. Offer, gardener to J. Warren, Esq., Handcross Park, Crawley, who received an extra prize. A similar award was made to Mr. A. Waterer, Knap Hill, for hardy Azaleas. In the main exhibition building a collection of Apples and Pears, Iceland and Oriental Poppies, Irises, Pyrethrums, Aquilegias, and many of the leading varieties of Violas, was exhibited by Messrs. J.

A Beautiful Greenhouse Climber: Kennedya prostrata Marryattæ.

Cheal & Sons, Lowfield Nursery, Crawley, who was accorded an extra prize. A similar award was made to Messrs. Barr & Son, Covent Garden, for two tables of Irises in quantity, Lupins, Lilies, Pæonies, Pyrethrums, Candytufts, Florists' Tulips, etc.

FLOWER SHOW DATES.

As flower shows are fixed to date only by ordinary routine, and not by immutable laws, it is equally open to the same routine to vary those dates according to circumstances. It is to some such matter that one of your correspondents last week directed the attention of your readers, and I hope that his remarks will have due consideration. There can be no doubt but that the extraordinary nature of the spring time, its drought and its heat, has materially caused variation in the blooming time of plants, so that dates found suitable generally are quite out of time this year. All familiar with Roses, for instance, know that the flower buds are this season fully from two to three weeks earlier than ordinary, and that is but a moderate estimate.

It is practically impossible that weather can now ensue that will check Rose development so much as to keep the flowers from expanding before the usual time. The season has, in fact, entirely upset all ordinary calculations. The same may be said of Carnations, and in the case of both these popular flowers, if the dates of the ordinary shows be not brought forward, it seems certain that the flowers will have come and gone before the shows are held. It was but the other day, in relation to Roses, that a wordy warfare was raging with respect to the fixing of the date of the National Society's Southern Show. The date was a week too soon for the Northern men, so they said. Now it looks as if the date would be a good deal too late for the Southern men.

I know that once fixed it is very difficult, as well as unusual, to vary it, but it is equally obvious that if shows do not catch the flowers they are intended to encourage when at their best, they are comparatively valueless. It was even suggested the other day that the recent hot weather would accelerate such far-off blooming plants as Chrysanthemums by a fortnight. That, of course, remains to be seen, because it is a far cry to November, but in the case of the other flowers, matters are different. I shall hope that your correspondent's request for expressions of opinion will be responded to.—*Rosa.*

WHICH IS RIGHT?

Your correspondent, "A. D." on p. 598, must surely have made a mistake when he puts all the blame on the botanist for the unfixable nomenclature of plants in gardens, but particularly in reference to Cheiranthus and Erysimum. The two genera are widely distinct from a botanical point of view, and do not in fact belong to the same tribe of the order of Crucifers. The Cheiranthus, or Wallflower, has accumbent cotyledons, while the species of Erysimum have incumbent cotyledons. Thir may be put down as a difference so small and inconspicuous as to be quite unworthy of serious attention; but the distinction of the numerous genera of the order depends almost entirely upon the structure of the fruit and seed, and by overlooking these facts the classification of the order upon a natural basis would be next to impossible.

It may be asked then why the botanists named the plants in question Cheiranthus, and now desire to change them to Erysimum. In the earlier stages of the science of botany it was impossible to prevent mistakes, especially in the case of plants superficially so much alike that their fundamental differances were not readily discernable. Is the present generation of botanists to be bound hand and foot that they cannot correct the mistakes of their predecessors? If so there would be an end to all progress in the science immediately.

The corrections in question are by no means new for Loudon recorded Erysimum helveticum and E. alpinum at least as early as 1829, although the wrong plant was described under the latter name, in fact a plant called Brassica alpina by Linnæus. The true Erysimum alpinum, with upright unbranched stems is very little grown if at all in cultivation. E. ochroleucum, with its stems decumbent at the base and branched there, has been doing duty for its congener in gardens, and is very plentiful under the erroneous name of Cheiranthus alpinus. The correct spelling of the annual Erysimum with orange-red flowers is E. Perofskianum or Perofski's Erysimum. The various changes in this name is due to the attempt on the part of various authors to give a euphonious rendering of German and Russian names having f or ff in them and which are changed into v or w according to the opinion of the author.

Moreover, botanists cannot be held responsible for many of the names attached to plants in circulation, because they are often given by horticulturists on their own responsibility without consulting a botanist. These, of course, can only be looked upon as garden names. For instance, a plant was put into commerce under the name of Dracæna Lindeni, and when it flowered it proved to be a variegated form of D. fragrans, and was then named D f. Lindeni. Recently we have an instance of a plant named D. Sanderiana, which is merely a garden name. Cases of this kind might be multiplied *ad infinitum*, but the botanists cannot be held responsible for them.—*Z.*

A KELSO NURSERY.

Being in Kelso last week I made my way to the nurseries of Messrs. Stuart & Mein, having heard that there was a treat in store there, viz., the Tulip beds. On arriving at the nursery I met with a guide who ably pointed out the various novelties and specialities for which the name of this firm is famed. The Conifers, fruit trees, and Roses revel in the mellow soil of which the nursery ground consists. A large space is devoted to Hollyhocks, one of their greatest specialities, and which were, to all appearance, in a very healthy state. Delphiniums also come in for a large share of attention, and looked exceedingly well. Gladiolus are looking well, considering the dry weather, and no doubt will retain the name they have already made.

They have, I believe, the finest collection of Tulips in Britain, and bestow all pains to develop them to the highest state of perfection. Enquiring as to their mode of cultivation, I was informed that in the first place the ground is duly prepared in the way of trenching; this being done, planting takes place early in November, 4 inches deep and 6 inches apart. When the young growths push through the soil means must be taken to protect them from frost and hail storms, these being detrimental to their growth. The flowers are produced early in May, and shading is important, both as a protection from sun and rain. The collection of flowering bulbs numbered over 1,000 and were in magnificent bloom; a quantity of the flowers had been cut, but of what was left I mention a few as very good:—

Roses.—Heroine, Mme. St. Arnaud, Annie McGregor, Mrs. Adkins, and Triomphe Royale.

Byblœmens.—Duchess of Sutherland, Trip to Stockport, Nulli Secundus, and Talisman.

Bizarres.—Dr. Hutchens, Masterpiece, Mr. Mills, Chadwick, Sir J. Romilly, and Ajax.

Pelargoniums, Fuchsias, etc., are represented by good sorts, inferior kinds being systematically weeded out and destroyed. The usual stove plants are grown, and Orchids also come in for a share of attention. The frame ground comprises a large selection of Dahlias, Mimulus, Marigolds, etc., ready to be removed to their flowering quarters. I would advise anyone who happens to be in the neighbourhood of Kelso to pay a visit to these nurseries. I am sure they will derive as much pleasure from their visit as the writer did.—*Visitor.*

GARDENING MISCELLANY.

PÆONIA WHITMANNIANA.

The constitution of this plant must be excellent, considering how quickly it has become established in this country. There is a plant in the nursery of Mr. T. S. Ware, Tottenham, which, four years ago, was sent home from the Caucasus as a small piece in an envelope. The first year this remained dormant, but commenced to grow the second year, and has since done well, forming a large piece with many crowns, which opened from twenty to thirty of its semiglobose, primrose yellow flowers. The leaves are relatively large and twice divided in a ternate manner with oblong, rugose segments. If this distinct Pæony should prove capable of being improved or of improving others, which there is reasonable hope it will, we may soon get a new race of Pæonies with yellow flowers of various shades. Rose, red, purple, pink, and white are the prevailing shades of Pæonies at present.

THROWING OPEN PRIVATE GROUNDS TO THE PUBLIC.

We learn with considerable satisfaction that Devon and Cornwall nobility (the two westernmost counties), are setting a good example by way of readily throwing open their parks and gardens to the public on special occasions, such as Bank Holidays. We know there are objections to this course when near to large manufacturing centres, but as a rule, unless some political meeting or demonstration of a particular character be the occasion, but little cause for complaint by way of damage to plants or shrubs is heard of, and beyond the necessity of employing additional labour to clean the walks, the adage "as you were" may be applied. We know of but one instance in Cornwall where damage of anything worth the name was done, even after a demonstration, and that was at Tregullow, the Cornish seat of Mr. Conybeare, M.P., when the rough mining populace took a more than passing fancy, not only to the, perhaps, finest Rhododendrons grown in England, but to the bushes, many of which were wilfully destroyed. This was quite an exceptional case, and under exceptional circumstances. How often has Mr. Gladstone had occasion to complain of his gardens at Hawarden being injured? We do not recollect a single instance. Mr. Bolitho, M.P., for the St. Ives Division, sets a noble example in placing his grounds at the disposal of the public, and therein are some very rare and fine tropical plants. How soon will other counties follow Devon and Cornwall, and allow the public to gain the advantage of now pent-up natural beauties?—*X.*

ANEMONOPSIS MACROPHYLLA.

The habit of this plant is similar to that of Anemone japonica, but conforms more strictly in the form of its leaves to those of Actea, Coptis, and Nandina, all plants belonging to the same order. The leaves are twice divided in a ternate manner with serrate segments. The plants grow 2 ft. to 3 ft. high, and like shade, but not an over dry position. In this respect it agrees with Anemone japonica, which likes plenty of moisture when growing and flowering. The flowers have nine sepals, of which the outer three are purple externally and lilac internally, and the rest, including twelve petals, are white. It is therefore a handsome plant, resembling an Anemone as the generic name indicates. It was introduced from Japan as long ago as 1869, yet the plant is comparatively little known in this country. There seems no difficulty in its cultivation. It flowers during the present and next month, and may be seen in the nursery of Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

PHLOX DIVARICATA.

The various spring flowering Phloxes have given great satisfaction notwithstanding the long continued drought. The most of them are either dwarf or procumbent, so that they protect the ground for themselves, retaining the moisture. Like P. ovata, that under notice is amongst the tallest of the spring and early summer flowering species. It is somewhat spreading, but not prostrate on the ground, and generally about a foot high, forming a close bushy plant, with forking trusses of blueish or lilac flowers in the more typical stage. There is a variety with pale, nearly white flowers, and named P. divaricata alba or more frequently P. canadensis alba. Whatever the colour of the flowers, the plants are very suitable either for herbaceous borders or the rockery, as they do not require staking. Propagation is easily effected, either by division or by cuttings under a frame or handlight.

ANEMONE SYLVESTRIS.

The Snowdrop Anemone is a choice subject for the herbaceous border or the rockery in the early summer months on account of the size of its white flowers compared with those of other white species which come into bloom at this season of the year. Com-

pared with A. japonica alba, the flowers are of medium size, and the plant is about 12 in. high. Those who undertake its cultivation should give it plenty of soil, as the underground stems are somewhat inclined to ramble in the same way as A. japonica alba, and therefore like plenty of space and friable soil in which to grow and extend. A space could easily be prepared for it on the upper reaches of the rockery, where it would not interfere with its neighbours. A little peat could be mixed with the soil where it happens to be heavy and retentive.

DISEASES OF POTATOS.

PROFESSOR BOEHM, lecturing recently on the Potato disease, formulated the results of his experiments of many years in the following sentences:—(1) Actual damp-rot is caused by the closing up of the lenticels, thus hindering respiration. The rottenness then caused by bacteria is a secondary phenomenon. A complete stoppage of the access of air is followed by butyric acid fermentation. (2) In Potato disease of a milder form the tissue is killed by Phytophthora infestans. The further changes which the Potato undergoes depend upon the intensity of the infection, the size of the Potato, the temperature and moisture of the surrounding atmosphere. (3) Under conditions favourable to the development of aërobic bacteria the Potatos putrify: they die away slowly, and the addition of oxygen closes up the cells. This is dry rot; the closing of the cells takes place from the outside, inwards. (4) Infection never follows through the unbruised skin, but is brought about by insects and snails. When stored the sound tubers are never infected by unsound ones. (5) An unsound Potato either develops no plant at all or a sound one. The assertion that the Phytophthora winters in the tubers and is carried into the field, is incorrect; the form and manner in which the fungus goes through the winter is totally unknown. (6) The fungus not only ceases to develop at zero, but it dies away; the Potato then rots or dries up.—*Mark Lane Express.*

SOCIETIES.

Manchester Botanical and Horticultural.—The annual great Whitsuntide Horticultural Exhibition opened at Old Trafford, on Friday of last week, had been looked forward to by old exhibitors with more than usual interest, inasmuch as in consequence of a falling off in the quality of the shows of the previous year or two, the Council and their able secretary and curator, Mr. Bruce Findlay, had determined on a new departure, and in issuing a schedule primarily intended to make Orchids the great and special feature of this year's annual display, had set "old horticultural hands," wondering as to what the result would be. Well, we are glad to be able to congratulate Mr. Findlay and the Council on the complete success of their efforts from a plantsman's point of view, for a show of Orchids, or a more beautiful exhibition all round has certainly never before been seen at Old Trafford, and not often anywhere else. We hope also that financially the results may be all that the Society could desire, bnt unfortunately on Friday and Saturday heavy showers of rain fell, keeping many visitors away, and the attendance was consequently not what it would have been under brighter meteorological conditions.

The truly splendid exhibition of Orchids was confined mainly to the large exhibition house, and partook somewhat of an international character, inasmuch as the Messrs. Linden of Brussels brought over a beautiful collection, for which they were awarded the Society's Gold Medal. Our home trade growers were represented by Messrs. B. S. Williams & Son, Messrs. Hugh Low & Co., and Messrs. W. J. Lewis & Co., of London, Messrs. F. Sanders & Co., of St. Albans, Messrs. Charlesworth, Shuttleworth & Co., of Bradford, and Mr. Cypher, and Messrs. Heath, of Cheltenham, and their united contributions would have made a most creditable exhibition alone. The amateurs' contributions came almost exclusively from local growers, but they were of a magnificent order of merit, indeed than many of Mr. George Hardy's specimens, their equals are not to be seen anywhere.

The competition in the amateurs' class for a collection of Orchids in bloom was confined to Mr. George Hardy, Pickering Lodge, Timperley, and his son, Mr. F. Hardy, Tynesfield, Ashton-on-Mersey. Mr. G. Hardy's collection, which was awarded the first prize, filled the east end of the exhibition house. There was a rich background of foliage plants, and in front was arranged with great skill and marked success a garden of Orchids. All round, forming the background, was a raised bank of Vandas, Cattleyas, Dendrobiums, Odontoglossums, Oncidiums, and many others, in great profusion and beauty; and then, as forming the foreground, two mimic dells, divided by a bank, having carpets of brilliant flowers to all appearance growing out of natural mossy banks with an undergrowth of Fern. On the north side Mr. F. Hardy had arranged his collection; Orchids of tall growth, similar in character to those in the previous one, were seen mingled with Palms, Ferns, Coleus, etc., forming an attractive mass. Needless to say the awards followed in the order named. The winners in a similar class confined to nurserymen were Mr. J. Cypher, of Cheltenham, and Messrs. Heath & Son, of the same town. Mr. Cypher's group had a background of Palms, with the rich leaves of Caladiums standing in a carpet of Ferns, and from these rose up a fine collection of Orchids, the fine Lælia purpurata largely preponderating, one named Hardyana being remarkable for the breadth of its broad white petals and its rich wine crimson and violet lip. There were Cattleyas also, the fine white Dendrobium Jamesianum, Dendrobium thyrsiflorum, with its pendent spikes of white and golden flowers; and crimson and purple hue supplied by the curious Masdevallias, Orchids which do well in a cool house; Odontoglossum nebulosum, with its large circular shell-like flowers, spotted with pinkish-lilac, and many others of great beauty. Messrs. Heath & Son made a conspicuous feature by having a plant of a lady's slipper carrying more than 100 flowers. This group was prettily arranged, but it lacked the power of Mr. Cypher's. In the class for thirty Orchids, the first prize was a Silver Cup, value twenty guineas, offered by the late president of the society, the Earl of Derby, there was but one competitor, Mr. Thomas Statter, Stand Hall, Whitefield, who had finely bloomed plants of Odontoglossum hastilabium, O. Pescatorei, O. Alexandræ, O. superbiens, and O. triumphans; Lælias purpurata and majalis; Cattleyas, Schroderii, Mossiæ, and Mendeli, and some fine Cypripediums, etc.—a very beautiful group. The next class was for a collection of Cypripediums, the first prize, a Silver Cup, given by Mr. O. O. Wrigley, Bury. This was also won by Mr. G. Hardy with a really unique collection, illustrating not only the large variety among the ladies' slippers, but the superb quality in which they can be bloomed. The finest in Mr. Hardy's collection are Dominii Sedeni, candidulum, caudatum, Wallisi, Albo-purpureum, lævigatum, niveum, ciliolare, bellatulum, with its large shell-like flowers, grande atratus, etc., in all twenty-one plants. Mr. J. Cypher came in second with a smaller but decidedly interesting collection. The succeeding class in the schedule was for ten specimen Orchids, the first prize, a Silver Cup, value £10 10s., given by Mr. Joseph Broome, J.P., the chairman of the Council. This was also won by Mr. G. Hardy, who staged very fine specimens of Dendrobiums Wardianum, nobile giganteum, fimbriatum occulatum, and thyrsiflorum; Cattleya mossiæ, Lælia purpurata, two fine varieties, one with a very rich crimson-purple lip; Odontoglossum vexillarium; Cymbidium Lowianum, etc. Mrs. Hodgkinson, Haigh Hall. Bowdon, who had the bold and striking Sobralia macrantha, Vanda suavis, V. suavis Veitchii, Dendrobium Devonianum, D. splendidissimum Leeanum, etc., secured the second award.

Mr. George Hardy also won the silver cup given by Mr. William Tattershall, J.P., Vice-President of the Society, with a collection of Cattleyas in bloom, among which were remarkably attractive plants of Mendeli, Mossiæ, Schroederi, Arnoldiana, Warneri, Wagneri, Schilleriana, about thirty plants in all. Mr. H. Shaw, Ashton-on-Mersey, took the second prize with some very fine varieties of much the same type. A silver cup, given by Mr. G. Hardy, for the best collection of Odontoglossums, was won by Mr. W. Thompson, Walton Grange, Stone, with a fine collection, which included such good things as O. Harryana, O. Ruckerianum, O. sceptrum, O. Alexandræ, O. Cervantesii, O. pardinum, O. vexillarium, O. Andersonianum, O. triumphans, O. coronarium, &c. Mr. F. Hardy took the second prize with a more showy lot, but not so completely meeting the terms of the schedule. Mr. Statter's silver cup for a collection of Dendrobiums was also taken by Mr G. Hardy, who had examples of Wardianum, splendidissimum, moschatum calceolaria, nobile, and two or three varieties of it; thyrsiflorum, Bensoniæ, Dearei, Dominii, very fine; crassinode, &c. Second, Mr. J. Cypher, who staged several of the foregoing in smaller plants.

The best new Orchid in flower sent out by Messrs. F. Sander & Co. since 1887 was Odontoglossum mulus (var. Statterianum), sulphur ground, blotched, and spotted with deep reddish-chocolate, the sulphur lip also blotched. The prize, a Silver Cup, value fifteen guineas, given by Messrs. F. Sander & Co., was won by Mr. T. Statter. The Veitch Memorial Medal and £5, offered for the best new hybrid Orch'd in bloom, already in commerce, was also awarded to Mr. Statter for Cypripedium Aylingi, a distinct hybrid raised from a cross between C. niveum and ciliolare, and a most interesting form. In the class for the best hybrid Orchid in bloom, not in commerce, no award was made. Mr. G. Hardy staged Cypripedium Wattianum, Hardy's variety, but the judges held it to be the same as Cypripedium macrochilum. The best *bona-fide* specimen Orchid in the show (the prize being the B. S. Williams' Memorial Medal and £5) was an example of Cattleya Reineckiana, with large broad petals and sepals, and handsomely coloured labellum, exhibited by Mr. George Hardy. The Orchid exhibition was considerably enhanced by large groups from Messrs. F. Sander & Co., St. Albans; by Messrs. B. S. Williams & Son, Holloway; by Messrs. Linden, of Brussels; by Messrs. Charlesworth, Shuttleworth & Co., of Bradford; Messrs. Lewis & Co, of Southgate, to all of whom extra prizes were awarded.

The best group of miscellaneous plants in or out of bloom was shown by Messrs. R. P. Kerr & Co., Liverpool, and which was one of the most beautiful ever set up even by those masters of the decorative art. Mr. Elkins, gardener to Mr. Agnew, Fairhope, Eccles, also secured a premier award for a 300 ft. group, which was deservedly admired. Mr. A. J. Bruce, Chorlton-cum-Hardy, took the second prize. In the amateurs' class the first prize is taken by Mrs. Hodgkinson, Bowdon. Mr. R. P. Gill, Ashton-on-Mersey, is second. All these groups are very fine and effective, and show what can be done with small plants in securing pictorial effects. The best collection of Ferns arranged for effect, and a singularly pleasing arrangement too, was contributed by the Messrs. Birkenhead, of Sale.

Fruit was but sparingly represented by collections of six bunches of grapes, the first prize for which was by Mr. Edmonds, gardener to the Duke of St. Albans, Bestwood. These were the ripest and best coloured, and consisted of four bunches of Black Hamburg, and one each of Buckland Sweet Water, and Foster's Seedling. Mr. Bannerman, gardener to Lord Bagot, Blithfield, was second, with Madresfield Court, Black Hamburg, and Foster's Seedling.

Extra prizes were awarded to Mr. J. Cypher, Cheltenham, for a collection of specimen stove and greenhouse plants; to Messrs. John Waterer & Sons, Bagshot, for Rhododendrons; to Messrs R. Smith & Co., Worcester, for Clematis and other plants; to Mr. Mason, Manchester, for a very fine circular group of plants; to Messrs. Dicksons (Limited), Chester, for a collection of hardy flowers; to Messrs. Harkness & Sons, Bedale, for hardy flowers, and to Miss Lord, Timperley, for a collection of Calceolarias.

Royal Botanic, *May 17th.*—The summer show of this society was held in the large marquee where the plants were stood upon the sloping grass terraces as usual. There was a fairly large concourse of visitors, notwithstanding the occasional heavy showers of rain. Mr. J. F. Mould, Pewsey, Wilts, was the only exhibitor of twelve stove and greenhouse plants in the nurserymen's class, and had fine specimens of Erica Cavendishii, Statice profusa, Erica ventricosa magnifica, and Darwinia macrostachya. He was also first in the class for six plants, having good pieces of Erica tricolor Wilsoni, E. depressa, and Ixora Dixiana. Mr. H. James, Castle Nursery, West Norwood, was second in this case. Mr. A. Offer, gardener to John Warren, Esq., Handcross Park, Crawley, was the only exhibitor of six stove and greenhouse plants in the amateurs' class, showing fine pieces of Aphlexis humilis purpurea, Anthurium Scherzerianum, and Statice profusa. He also had the best six Cape Heaths, in moderate sized speci-

mens of Erica ventricosa coccinea minor, E. Cavendishii, etc. Mr. J. F. Mould was second here. Mr. H. James had the first prize for exotic Orchids. Messrs. Paul & Son, Cheshunt, took the first prize for nine Roses in pots, and were second for a collection of Roses. Their finer plants were Charles Lawson, Juno, Centifolia rosea, and Violette Bouyer. Mr. C. Turner, Slough, had the best collection in some of the leading H. P. sorts and the Crimson Rambler. He was the only exhibitor in the class for twelve greenhouse Azaleas. There were two classes for greenhouse Azaleas for amateurs, and the first prize in one case was taken by Mr. R. Scott, gardener to Miss Foster, The Holme, Regent's Park. Mr. H. Eason, gardener to B. Noakes, Esq., Hope Cottage, Highgate, was first in the other class. Mr. A. Offer was second in both cases. Mr. C. Turner was the only exhibitor of nine large specimens, and likewise the only exhibitor of show and fancy Pelargoniums, receiving the first award in both cases for well-flowered specimens. Messrs. J. Laing & Sons, Forest Hill, took the first place for tuberous Begonias, having fine plants in Lady Brooke, Earl of Craven, and Lady Dunsany. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, was second in this class. Mr. A. Offer had the best fine-foliaged plants in the amateurs' class, including in his group a handsome specimen of Kentia Belmoreana. Mr. H. James was first in the nurserymen's class, and Mr. J. F. Mould was second. Mr. H. Eason was the only exhibitor of Gloxinias.

Messrs. John Laing & Sons, Forest Hill, had a magnificent group of Caladiums, and were the only exhibitors. Their group was brightened up by fine pieces of Leopold Robert, Candidum, Madame Fritz-Kœchlin, and others. Mr. A. Offer was first for variegated leaved plants, and Mr. H. James was second. Messrs. J. Peed & Sons, Roupell Park Nurseries, Norwood Road, had the best Dracænas, and were followed by Mr. A. Offer, who was first for large specimen Ferns. The first prize for a collection of hardy herbaceous plants was taken by Mr. T. S. Ware with fine masses of Liliums, Lupins, Pyrethrums, Aquilegias, etc. Messrs. Paul & Son were second.

The miscellaneous exhibits were numerous, and added largely to the appearance of the show. A large and handsome group of Palms, Dracænas, Caladiums, Anthuriums, Cattleyas, Odontoglossums, &c., was shown by Messrs. J. Laing & Sons. It occupied one of the large areas in the centre of the marquee, and was therefore very conspicuous (Silver-Gilt Medal). Opposite to this, and occupying a similar area, was a splendid group of Calceolarias exhibited by Messrs. Sutton & Sons, Reading. The flowers were of all colours, veined, blotched, spotted, tiger marked, netted, selfs, terra-cotta, maize shot with pink &c. (small Silver Gilt Medal). A group of new plants, including hybrid greenhouse Rhododendrons, Gloxinias, Phyllocactus, Streptocarpus, Begonia decora, &c. was exhibited by Messrs. J. Veitch & Sons, Chelsea, receiving numerous certificates. A large and floriferous bank of show, and decorative Pelargoniums, was exhibited by Mr. H. J. Jones, Ryecroft Nursery, Lewisham (Silver Medal). A large group of well-grown and flowered plants of single and double Petunias was exhibited by Messrs. J. Carter & Co., High Holborn (Silver Medal). They also had a group of their prize strain of Mimulus with showy flowers (large Bronze Medal). A group of flowering and foliage plants was exhibited by Mr. R. Scott (small Silver Medal). A bank of Irises, Pyrethrums, Poppies, Aquilegias, Lupins, &c., was set up by Messrs. Barr & Son, Covent Garden (small Silver Medal). A pretty group of tuberous Begonias, single and double, was set up by Mr. John R. Box, Croydon (Silver Medal). A large group of Dracænas, Palms, Heaths, Crotons, Gloxinias, Caladiums, &c., was exhibited by Messrs. J. Peed & Sons (small Silver-Gilt Medal). Cut Roses were shown by Messrs. Wm. Paul & Son (Silver Medal). Mr. G. Mount, Canterbury, also showed cut Roses of excellent quality (Silver Medal). Malmaison Carnations were shown by Mr. C. Turner (large Bronze Medal), Cut flowers of hardy Azaleas were shown by Mr. Anthony Waterer, Knap Hill (large Bronze Medal). A group of Leschenaultia biloba major, was shown by Messrs. W. Balchin & Sons, Hassocks, Brighton (Bronze Medal); and a very attractive group of Cannas came from Mr. P. Perry, gardener to J. C. Tasker, Esq., Middleton Hall, Brentwood (Bronze Medal).

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

THE COOL HOUSES are now gay with Masdevallias. Only the most attractive are grown here, which include M. Veitchii grandiflora (the best of all we think), M. Harryanum, in many shades, M. ignea, in variety, and M. Lindenii. The coolest end of the Odontoglossum house is the best place for them during the summer months, where they can be afforded plenty of shade and moisture in the air as well as at the roots. We have found it necessary to dip them twice weekly in tobacco water to keep down the thrips, which are unusually troublesome this season amongst these plants. A sharp look out for thrips must also be kept amongst the Odontoglossums just now, as they soon spoil the spikes, causing no end of annoyance.

FIRE HEAT.—Should the weather continue favourable fire heat must be discontinued in the cool houses, as it should not be difficult to maintain a minimum temperature of 50° from now onwards, and during the daytime the houses must be kept as low as possible by frequently syringing the stages and paths, and where there is plenty of help great benefit to the plants will be felt if the blinds can be made thoroughly wet during the hottest part of the day.

DISAS.—These will do much better now if they are removed from the cool house to a brick pit, facing north, standing them on coal ashes or anything else that will retain moisture. They will require watering at least once a day. This is best done by using a fine rose watering pot; in doing so, the sides of the pit and all available spaces should be damped, as well as the mat or whatever shading is used. A hole or two in the side of the pit for the admission of fresh air will be the better for the plants with the lights tilted at the back night and day. Some of the best plants of this showy Orchid I ever saw were grown in this way by Mr. T. Denny, at Down House, Blandford.

CATTLEYA FLY.—I would warn all amateurs who bought imported plants of the autumn-flowering C. labiata last year, to thoroughly overhaul their plants to see that they are not affected. A friend of mine who bought a few plants, has got the fly badly. Some time ago when paying him a visit he was so pleased with the manner in which they were breaking away, little thinking that inside lurked one of the worst enemies the Orchid grower has. The only remedy is to cut the growths so affected clean away, close to the bulb, and burn the affected parts. The plants, if strong, will be sure to break again on the opposite side, and, although they may be weakened a little, they will finally pull through, and perhaps flower this season. The Cattleya under notice, like C. gigas, is rather impatient of too much moisture until the growths are well up, causing them to develop the black spot. Should it appear cut it clean away with a sharp knife. We have brought several plants round again by taking them in time.

PLENTY OF MOISTURE in all the houses with air on top and bottom will now be the order, whilst the shading must have everyattention.—*C.*

A grand display of Odontoglossum crispum.

THERE is a superb display of Odontoglossum crispum blooms just now in the collection of Stewart Clark, Esq., Kilnside, Paisley. Upon a recent visit I counted upwards of 230 grand spikes, and which, for form and size, could not be easily matched. The house in which they are grown is a span-roofed structure, with a raised centre stage in the middle and side stages. Mr. Machlachlan, the gardener in charge, informed me that the plants had improved very much since their removal to their new quarters.—*J. McNab.*

WHAT TO DO IN THE GARDEN.

Aphelandras.—Although these can be propagated by cuttings, seedlings make the best plants. For next winter's work the seedlings should now be well up, or even ready for potting off singly. As they grow very slowly large shifts will not be required.

Anthuriums.—The display of these can be prolonged by placing the plants in a somewhat cooler house after the spathes are fully developed. They should not be subjected to too much drought or the spathes will get shabby sooner than they otherwise would. Attend them in the matter of watering, for where there is plenty of ventilation there will be a great amount of evaporation.

Winter Flowering Plants.—Cuttings may still be taken of such things as Centropogon Lucyanus, Scuttellaria Lehmanni, S. mocciniana, Euphorbia fulgens, Eranthemums, Salvia patens, S. splendens, and its varieties. Very late flowering specimens of S. patens can be obtained by sowing seeds, and likewise some of the others when seeds can be obtained.

Ferns.—Old fronds may now be removed if in a shabby condition, but more particularly if they are infested with scale. Slow growing kinds should not be summarily treated in this way if they have made only a few fronds. In such a case the old ones should be removed only when in a state of decay.

Hard Wooded Plants.—The greenhouses may now be relieved of many of their occupants that are out of flower; but in placing them in the open air a cloudy or showery day should be selected if possible, and a sheltered situation. Should the sun be very hot and glaring, it will be necessary for a few days to shade them lightly till they get hardened, otherwise their tender foliage may get browned.

Richardias, etc.—Plants that have finished flowering may now be put out of doors, or what is better, planted in trenches, and kept well watered, more particularly after they commence to grow.

Dahlias.—Except in very cold localities, the Dahlias may now be planted out. Their permanent stakes should be put in before planting, and the stems tied thereto forthwith. All danger of injury to the roots is thus avoided. Previous to this, it must be understood that the plants have been well hardened off by keeping them in cold frames with the lights off, except, perhaps, at night when there is an appearance of frost.

Pansies and Violas for Autumn blooming in pots.—To have a display of these for autumn flowering, cuttings should be taken now and inserted in pots or boxes in a cold frame to root. Suckers are always the best, or shoots that spring from near the base.

Carnations and Picotees.—The ground should now be mulched with well-decayed stable manure to retain the moisture that has recently fallen, and to carry the plants through the next two months. Stake the flower stems before they get broken down.

Bedding out.—All the hardier subjects should now be planted out, leaving the more tender kinds for another week or so. Should the weather be showery there should be all the more haste to get the plants out while the ground is in a soft and otherwise suitable condition.

Herbaceous Borders.—Many of the taller growing subjects will now require staking before they get broken down by the wind, otherwise they never look so neat again. This applies to Lupins, Pyrethrums, Everlasting and Sweet Peas, and all climbing subjects.

Roses.—At present the Roses give excellent promise of growth and bloom, but if liberal supplies of water are given with liquid manure occasionally, the display will be greatly sustained and improved. Syringe with a strong solution of soft soap if green fly gives trouble, and inspect the buds and folded leaves for caterpillars.

Vineries.—The main crop of Muscats should all be thinned by this time, as it is a mistake to leave any of it over until the berries are crowded together causing unnecessary delay, and danger of injuring the berries. When it has been completed, mulch the borders and give copious supplies of water. The latest house of black Grapes should now be in flower. In some cases a number of varieties such as Black Morocco, Gros Colman, Lady Downes, Alicant, and some others will be grown together in the same house. It would be convenient to have a Black Hamburg along with them in order to fertilise the flowers of the shy setters.

Figs.—As the fruits in the early house approach maturity raise the temperature and give more ventilation. The plants must not, however, be stinted in their water supply at the roots, nor must syringing be stopped, otherwise the plants will soon get starved and the foliage overrun with red spider. As the fruits get fully matured, overhead syringing or the wetting of them may be avoided by damping down the paths, borders, and all available spaces. As soon as the the first crop is gathered, syringing may be continued and feeding must not be neglected at any time, or the second crop will be very unsatisfactory. The plants must be kept constantly growing to ensure a succession of fruit.

QUESTIONS AND ANSWERS.

How to Propagate the Bottlebrush.—*J. P.*: The species of Callistemon have the title of Bottlebrush applied to them, and if they are the plants you refer to, then they are propagated by seeds and cuttings. Old plants produce seeds fairly readily, but the plants raised in this way take several years to attain a state to flower. Ripened cuttings of the young shoots may be rooted in sandy soil in pots placed under a hand-glass in a moderately warm place. Plants raised in this way flower while yet quite small. Use a compost of loam, peat and sand, with a liberal supply of the latter for the cuttings until they become rooted.

Names of Plants.—*J. P.*: 1, Saxifraga Aizoon rosularis; 2, S. Sternbergii; 3, S. hypnoides gummifera; 4, S. Aizoon minor; 5, S. hypnoides var.; 7, S. Andrewsi; 8, S. Aizoon intacta; 9, S. cuneifolia; 10, S. Geum var; 11, S. Hostii; 12, S. umbrosa serratifolia; 13, S. cœspitosa var.; 14, S. Aizoon intacta; 15, S. Aizoon var.; 16, S. Aizoon; 17, S. cochlearis; 18, S. lingulata lantoscana; 20, Dianthus-sp.; 21, Dianthus plumarius, rose and white varieties; 23, Erodium macradenium; 24, Erodium trichomanæfolium. The three others had no numbers attached to them. The Saxifraga with transversely oval leaves was S. cuneifolia Taygetea, the other was S. Aizoon var. The Crucifer is Aubrietia antilbani.—*T. H.*: The Fern is Nephrodium decompositum, or if you like it better, Lastrea decomposita. The Schomburgkia is the darkest and brightest we have seen.—*Learner*: 1, Saxifraga cœspitosa hirta; 2, Saxifraga granulata flore pleno; 3, Polemonium cæruleum album; 4, Polemonium humile or P. Richardsoni of gardens.—*Omega*: The Oriental Poppy, Papaver orientale; the yellow flower is Creeping Crowfoot, Ranunculus repens.

Title of Book Wanted.—Can any of your readers tell me in what book the following lines are to be found?—*Flos*.

"A pothos from a treetop down,
Looked on the Thyme mid herbage strown,
And for its neighbour bent to show
Its scorn, observed, "How awful low
Is your position, and then, you
Are doomed ere to be reptant too
With a frail tremulous stem, that from
The Earth is scarcely seen to come!
While mine into the air does soar
Accompanied by the Oak, that o'er
The forest tops, and with it can
The empyrean, e'en attain.
"Oh! I your elevation find
In evidence," the Thyme rejoined;
"But my position I am fain
By my own efforts to maintain,
Whereas, if that arboreal prop,
No longer served to help you up.
Such is your flaccidness, that you,
Indeed, would rise less than I do,
And, thus, you'd an example give,
That none, in justice, should receive
A rise in life for getting praise
Whene'er themselves they did not raise."

Liquid Manure and Peaches.—*G.A.*: Your Peaches would have derived considerable advantage from the application of liquid manure soon after they were set. You are not too late, however, as the fruits will derive great benefit from liberal treatment during the period of second swelling after they have stoned. The liquid manure must be diluted according to its strength, or a good soaking may be given the borders and the liquid manure poured on directly afterward.

Bougainvillea not flowing.—*G.A.*: Encourage your plant to make as much growth as possible during the growing season by a plentiful supply of water. Towards autumn, limit this supply to induce the ripening of the wood, and in winter keep the roots almost as dry as you would a Cactus until the shoots commence to grow again. Flowers may then be produced if the plant and its stems are old enough. You cannot expect the plant to flower for some time after being cut down by frost, because the shoots produced are too young. Keep the plant in a warm greenhouse during winter to prevent any mishap in the future. The plant should be kept as near the glass as possible, or what is better, train it up under the rafters of the house, so that it may get all the sunlight possible to harden and mature the wood.

Syringing Pear Trees in Bloom.—*Constant Reader*: The syringing may not have been the direct cause of the fruit not setting; but we should consider that syringing, and more particularly water supplied by a hose, as in your case, would be more damaging to the fully opened bloom than beneficial. A frosty night following the syringing would also prove more hurtful to the bloom than if the latter had been dry. We should have confined the water to the root of the tree till the fruits had set; then syringing overhead would have been beneficial.

The Burr or Burdock.—*Flos*: The plant of which you speak is not a Bramble. It is the Arctium Lappa and belong to the composite order typified by the Daisy, Chrysanthemum, Ragworts, Dandelions, and others of that class. The true Brambles are species of Rubus, and, like the Raspberry, belong to the Rose family.

Hoya carnosa.—*Constant Reader*: We are not sure that it is usual for this species to produce a second crop of bloom from the same flower stalks, and are inclined to think that it is very frequently prevented by the cutting off of the umbels of bloom for the cut flower basket. Hoya imperialis flowers two or three times from the same flower stalks, and doubtless many other species of Hoya as well as of allied genera behave in the same way. You may also remember that Masdevallia tovarensis flowers two or three times from the old flower stems. It took Orchid growers some time to discover this till some one, more careless than the rest, left the flower stems on the plant and was rewarded the following season with a better crop of bloom than the first. There is still something to learn in this respect concerning other plants.

Communications Received.—A. O.—J. McN.—N. N. S.—P. B.—W. A.—O. T—W. P.—E. J. B.—A. V. M.

TRADE CATALOGUES RECEIVED.

Thomas S. Ware, Hale Farm Nurseries, Tottenham.—Dahlia and Begonia Catalogue.

Kelway & Son, Langport.—Wholesale Lists of Seeds, Plants, Trees, etc.

Pitcher & Manda, Short Hills, New Jersey, U.S.A.—Floral Treasures of the United States Nurseries.

John Laing & Sons, Forest Hill, London, S.E.—Tuberous Begonias.

L'Horticulture Internationale, Brussels.—Lists of Orchids and new plants.

COVENT GARDEN MARKET.

May 17th, 1893.

Fruit.—Average Wholesale Prices.

	s. d	s. d.		s. d.	s. d
Tasmanian Apples per case	5 0	10 0	Melons ... . each	2 0	3 6
Grapes, per lb.	2 0	3 6	Strawberries, per lb.	1 0	3 6
Peaches ... per dozen	6 0	18 0	Pine apples. —St. Michael's, each	2 6	6 0

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
Asparagus per bundle	1 6	5 0	Horse Radish, bundle	2 0	4 0
Artichokes Globe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, French, per lb.	1 6	2 0	Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	5 0	Seakale .....per bkt	1 6	2 0
Celery.....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers .....each	0 4	0 8	Spinach ... per strike	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	1 6	2 6
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

Cut Flowers.—Average Wholesale Prices.

	s. d.	s d		s. d.	s. d
Azalea, doz sprays.....	0 4	0 9	Narcisse, various, doz. bnchs	2 0	4 0
Arum Lilies, 12 blms.	2 0	4 0	Pelargoniums, 12 sps.	0 6	0 9
Bouvardias, per bun.	0 6	1 0	— scarlet.....12 bcbs.	4 0	6 0
Carnations, 12 blooms	1 0	3 0	Pinks, doz. bunches...	1 0	3 0
Cornflowers, dz. bun.	2 0	4 0	Pyrethrum doz. bun.	1 6	4 0
Eucharis ...per doz.	3 0	6 0	Primula, double, bun.	0 6	1 0
Gardenias 12 blooms	1 0	2 6	Orchid Bloom in var. per bloom, from	0 3	1 0
Gladiolus, White, dz bn	4 0	9 0	Roses, yellow, dozen	2 0	4 0
Heliotropes, 12 sprays	0 6	0 9	— French, per bnch	0 6	1 6
Iris, var., doz. bunches	6 0	12 0	— Red..... doz. blms.	1 6	3 0
Lilac, White, French, per bunch...	4 0	5 0	— Saffrano...per doz.	1 6	2 0
Lilium Harrisii, doz. blooms	2 0	3 0	— Tea ..... per dozen	0 6	2 0
Lily of Valley, dz. bls.	3 0	6 0	Spiræas, doz. bunchs	3 0	6 0
Maidenhair Fern, 12 bs.	4 0	6 0	Stephanotis, dz. sprays	1 6	2 6
Marguerites, 12 bun.	2 0	4 0	Tuberoses, per doz	0 6	1 0
Mignonette... 12 bun.	2 0	4 0			

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s d.
Azaleas... per doz	24 0	42 0	Lobelia .....per doz.	3 0	6 0
Cyperus .....per doz.	4 0	12 0	Marguerites, per doz.	6 0	12 0
Cineraria ...per doz.	6 0	9 0	Nasturtiums, per doz.	3 0	4 0
Dracæna term., doz.	18 0	36 0	Mignonette, per doz.	4 0	8 0
Dracæna viridis, doz.	9 0	18 0	Palms in variety, each	2 6	10 0
Erica, various, doz.	12 0	24 0	Palms, Specimen ...	15 0	63 0
Evergreens, in var. doz	6 0	24 0	Primula Sinensis per doz.	4 0	6 0
Ferns, in var., per doz.	4 0	18 0	Pelargoniums ... doz.	9 0	15 0
Ferns, small, per 100	6 0	10 0	— scarlet.....per doz.	4 0	9 0
Foliage Plants, doz.	12 0	60 0	Spirea, per doz.	6 0	12 0
Genista .....per doz.	9 0	12 0			
Ivy Geraniums...doz.	4 0	6 0			

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FLOWER SHOWS, 1893.

Revised to date.

JUNE.

3.—Leicester and County Pansy Show.
6,20.—R.H.S., Drill Hall.
14,15,16.—York Floral Fete.
20.—National Rose Show at the Drill Hall.
21.—Royal Botanic Society.
22.—Ryde Rose Show.
28.—Rose Show at Earl's Court.
28.—Richmond (Surrey) Flower Show.
29.—Eltham Rose Show.
29.—Newport Rose Show.
29.—Windsor Rose Show.

JULY.

1.—National Rose Show at the Crystal Palace.
1.—Chingford Flower Show.
4.—Bagshot Rose Show.
4.—Canterbury Rose Show.
4.—Diss Rose Show.
4.—Gloucester Rose Show.
5.—Ealing Flower Show.
5.—Royal Botanic Society Evening Fête.
5.—Croydon Rose Show.
5.—Dursley Rose Show.
5.—Hereford Rose Show.
5, 6.—Ipswich and East of England Horticultural Society.
5, 6.—Lee, Blackheath, and Lewisham Horticultural Society.
6.—Bath Rose and Begonia Show.
6.—Royal Horticultural Society of Ireland.
6.—Farningham Rose Show.
6.—Norwich Rose Show.
6.—Sutton Rose Show.
7.—Hitchin Rose Show.
8.—Reigate Rose Show.
11.—R.H.S., Chiswick.
11.—Wolverhampton Rose Show.
12,13.—Royal Caledonian Horticultural Society.
12.—Tunbridge Wells Show.
13.—National Rose Show at Worksop.
13.—Woodbridge Flower Show.
13.—Boston Flower Show.
14.—Helensburgh Rose Show.
15.—New Brighton Rose Show.
18.—Eye Flower Show.
20.—Ludlow Flower Show.
20, 21, 22.—Newcastle-upon-Tyne Summer Show.
20.—Trentham Flower Show.
21.—Ulverston Rose Show.
22.—Rose Show at Old Trafford.
25. R.H.S., Drill Hall.
25.—Tibshelf Rose Show.
26, 27.—Carnation Show at Earl's Court.
27.—Sleaford Flower Show.
27.—Southwell Rose Show.
27.—Halifax Rose Show.
29.—Bedale Rose Show.

AUGUST.

1.—Oxford Union Carnation and Picotee Show.
2.—Great Saughall Flower Show.
5.—Midland Counties Carnation Show at Birmingham.
5, 7.—Southampton Floral Fête.
7.—Battersea Summer Show.
7.—Beddington, Carshalton, and Wallington Flower Show.
7.—Duffield Flower Show.
7.—St. Neots Amateur and Cottage Horticultural Society.
7.—Mansfield Flower Show.
8.—R.H.S., Drill Hall.
9, 10.—Flower Show at Earl's Court.
10.—Margam Cottagers' Show.
10.—Maidenhead Flower Show.
10.—Taunton Flower Show.
12.—Ovenden Flower Show.
15,16.—Cardiff Flower Show.
16.—Bishop's Stortford Flower Show.
16—Eling (Hants) Flower Show.
16.—Reading Flower Show.
16.—Kingswood St. George Flower Show.
16, 17.—Bilston Flower Show.
18.—Devon and Exeter Horticultural Society.
18, 19.—National Co-operative Flower Show at the Crystal Palace.
22.—West Malvern and Mathon Flower Show,
23, 24.—Shrewsbury Summer Show.
23, 24.—Gladioli Show at Earl's Court.
25.—Royal Horticultural Society of Ireland.
29,30,31.—R.H.S., Agricultural Hall.
30, 31.—Bath Autumn Show.

SEPTEMBER.

1,2.—National Dahlia Society's Show at the Crystal Palace.
5, 6.—Brighton Autumn Show.
6,7,8.—National Chrysanthemum Society at the Aquarium.
8.—Bute Rose Show at Rothesay.
12,26.—R.H.S., Drill Hall.
13,14.—Royal Caledonian Horticultural.
13, 14.—Dahlia Show at Earl's Court.
27.—N.C.S. Floral Committee.
27, 28, 29.—Hardy Fruit Show at Earl's Court.
27, 28.—County of Gloucester & Cheltenham R.H.S.

OCTOBER.

10,24.—R.H.S., Drill Hall.
11,12,13.—National Chrysanthemum Society at the Aquarium.
25.—N.C.S. Floral Committee.
28,29.—Havant Chrysanthemum Show.

NOVEMBER.

1,2.—Kent County Chrysanthemum Show.
1,2.—Battersea Chrysanthemum Show.
1, 2.—Steyning Chrysanthemum Show.

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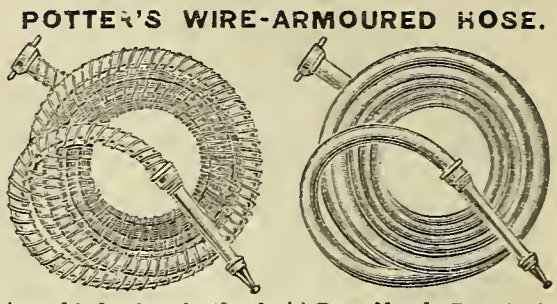

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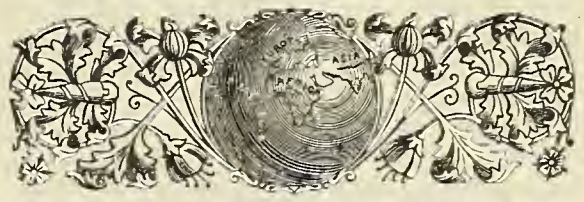


"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, June 6th.—Royal Horticultural Society: Committee Meetings at the Drill Hall.

WEDNESDAY, June 7th.—Clearance Sale of Orchids at 213, Park Road, Clapham, S.W., by Protheroe & Morris.

FRIDAY, June 9th.—Sale of imported Orchids at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, JUNE 3rd, 1893.

THE TEMPLE SHOW.—We give elsewhere a detailed report of the great exhibition which the Royal Horticultural Society held in the Temple Gardens last week. Curiously enough, it is at once the finest show of the season held in the metropolis and yet the most uninteresting, not for lack of material or variety, but because it is, perforce, literally the most formal of shows, and is devoid of that element of competition which invariably tends so much to interest all who are actively concerned, or the general public. It was hardly other than painful to note at a time when the visitors were of the best social standing and almost densely crowded, with what apparent unconcern, with what bored aspect they passed through the long avenues of flowers, besides banks brilliant and beautiful beyond description, and yet showed little or no interest.

Admittedly this sort of satiety would not be seen at a country show, especially where competition is such an important element, and we think it would be less evident were there active competitions at the Temple. What is again painfully evident at this show is the absence, appreciably, of all the private garden and market garden element. It is indeed almost entirely a great trade show, just such as, did the trade establish in London a great permanent Floral Arcade, could be maintained nearly all the year round.

Then there was to be seen little or none of that artistic skill in arrangement found at so many less pretentious shows. The formation of the tents practically compels long straight lengths of staging and banks. These soon become very monotonous. Probably the best was made that could be made of the conditions, but it was obvious

that the magnificent exhibits suffered severely from the monotony of grouping. This same fault handicapped exhibitors who could in few cases do other than make formal groups or banks; and yet with a free hand and an artistic touch the material would have produced one of the most beautifully arranged shows ever seen.

THE ORCHIDS.—Even if there were not so many orchids exhibited as last year—and it is a matter of little moment—the entire collection was one of the most varied in character, and to all real lovers of orchids it was a literal feast; but the groups suffered from two defects. First, they were much too crowded, an almost inevitable fault in the system of setting up in banks in straight lines; and second, that whilst so charmingly lending themselves to decorative effects they could not in this case be so applied. Those who have seen the very beautiful decorative groups in which orchids play so striking a part, designed by those masters of the art, Mr. Cypher and Mr. Holmes, will understand the distinction which exists between a mass or crowded bank of orchids in which the beauty, form, originality and charm of the individual varieties are lost in the density of the whole, and a group in which each plant or each distinctive section is so grouped and displayed that each feature is at once recognised and regarded with the most profound admiration. If the singularly superb groups from The Dell, or Burford Lodge, or Mr. Sander's splendid collections could have been thus displayed, at least each side of the large tent would have been needed for these only. But then what banks of beauty, not merely in colouring, but also in design, in arrangement, in effect would have been produced! Were the traditional New Zealander to have dropped in at the Temple last week he would have said that whilst the British people were the most capable plant growers in the world, and of orchids especially, that we were the poorest floral decorators. And yet everyone knows the charge would be untrue, for with orchids and other plants given ample room and material, our decorators can hold their own with competitors anywhere.

HARDY FLOWERS.—No one section of plants was, perhaps, more productive of surprise at the Temple Show than were the enormous quantities of hardy flowers displayed. After hearing so much of the mischief wrought by the drought, we hardly thought such a wealth of out-door flowers possible. Still these things were in bewildering numbers. We have here to find serious fault with all trade exhibitors of these products that they set them up in bewildering mixture, without any apparent effort to help the multitude of visitors in selecting those which are the most effective or striking. Because one grower sets up his bunches in inextricable confusion, literally a jumble of variety and nomenclature, it does not follow that another might not bring all his kinds into bold effectiveness, and thus, by presenting striking groups of colour rather than the spotted, bizarre banks now seen, arrest attention and command admiration.

The general absence of plants, and the almost exclusive presentation of hardy flowers in a cut form naturally tends to sameness, but it does not at all follow that good effects should not be aimed at. It is not always that plants are presented in the best condition, but we cast back to the earlier days of the showing of hardy plants longing recollections when Robert Parker, T. S. Ware and others did show how finely and how very attractively they could be presented in pots or clumps.

In one time some effort of an undoubtedly pleasing kind was made to present Alpine plants in natural condition of growth. These certainly reaped a reward in commanding popular attention in a remarkable degree. They were at least beautiful without being bewildering. Naturally our Scotch friends set up their favourite Pansies and Violas in great numbers, and those in pots were more interesting than were the plucked flowers; whilst Messrs. Barr & Son's exhibition of florists' Tulips may have served to revive in some minds recollections of days for them never more to return. Much as we admire the florists' Tulips, it must be admitted that they just now find in the South few growers.

FRUIT AND VEGETABLES.—It is an undoubted fact that let the floral portions of an exhibition be ever so great and beautiful, the public always fasten with marked avidity and interest upon any fruit and vegetables that may be presented. Yet at the Temple the show of these products was relatively very poor. To see these products in all their glory it was but needful, it is true, to walk over to Covent Garden, but then there is the somewhat saddening fact that so much of what is there presented is from abroad. What of these different articles were found at the Temple were of home productions, but still so poor a representation.

Perhaps it is not the best season of the year to see these products, but when gardeners hesitate not to say that they would have sent plenty had it been worth their while, we can but conclude that not having before their eyes the trade glory and publicity which exhibiting at the Temple gives to the trader, they needed some more potent stimulus in the form of prizes, and that stimulus was wanting. Such an apology has been made elsewhere, and we have no doubt but that it is quite true. A marked feature, so far as fruit is concerned, was the absence of the fine collections of Apples we have seen at some previous May exhibitions, evidence no doubt of the exhausting effects of the dry atmosphere on the fruits.

Mr. Rivers' splendid new early Nectarine, as shown, attracted great attention, as also did Mr. Mortimer's fine show of Melons, Tomatos and Cucumbers, but these formed the chief exhibits, all others being insignificant, and far below what may often be seen at the Drill Hall. Really, for such a grand show some special effort should be made to secure representations of our best edible garden products, for with so many from other nations visiting the show it is rather humiliating to present to them so poor a display. We could have done a hundred times better if we tried, but the stimulus to that end should begin by the offering of adequate prizes by the society, and were that the case, it is certain the response would be worthy the gardeners of the Kingdom.

Rose Show at Earl's Court.—Arrangements have been made by the authorities of the Gardening and Forestry Exhibition at Earl's Court for an exhibition of Roses (supplementary to those already provided for) to be held on June 14th and 15th. The schedule comprises seventeen classes; nine for cut blooms, open; seven for amateurs; and one, open, for thirty-six plants in 7-in. pots.

Death of Mrs. Steel.—We regret to learn of the sudden death, recently, of the wife of Mr. George Steel, of Heatherslaw, Cornhill-on-Tweed, so well known for his seedling Violas, and in the raising of which Mrs. Steel took an active interest. Much sympathy is felt for Mr. Steel by his floricultural friends.

First Fruits at Falkland Park.—Mr. A. Wright, gardener to John McMeekin, Esq., Falkland Park, South Norwood Hill, tells us that he has had no rain of any consequence for the last twelve weeks, consequently everything is very much burnt up. The elevated position of the garden and the nature of the soil must be held accountable for this to a great extent. The fruit crops are, however, more satisfactory. Mr. Wright commenced gathering Strawberries from Laxton's King of the Earlies on the 14th ult., and Cherries from the wall on the 24th. His first dish of Peas was gathered from Blue Express on the latter date. The seeds were sown in the open and received no protection. The Pea named First Crop was eight days later under the same conditions and sown at the same time.

Jersey Potatos.—A writer in a daily paper of the 25th ult. remarks that the cessation of the Hull strike came just in the nick of time for the "Jersey trade" of the port, a trade which is wholly in the hands of the Wilsons. The "Jersey trade" is the Potato trade, and Hull is its port of distribution for northern England. For some days before the end of the strike large quantities of early Potatos were ready for exportation to Hull, and had the struggle continued, the Wilsons would have experienced much difficulty in dealing with the imports. The Wilson steamers run the distance between Hull and the Channel Islands in about forty hours. The unloading of a Potato steamer at Hull, and the transference of her cargo to the railway trucks at the quay sides, is a wonderful spectacle in its way—wonderful for the rapidity of the process. The Jersey trade has been a mine of gold for the Wilsons.

Bristol and West of England Carnation and Picotee Society.—We are glad to hear that this young society, which has been formed for the purpose of increasing the cultivation of these beautiful flowers in the West of England, is making satisfactory progress. At the present time there is no show of Carnations held nearer than London, and it is thought that if annual shows can be arranged for in the West, such as the Oxford and Midland Societies' Shows, they would be appreciated by numerous small growers who do not care to go to the expense and inconvenience of sending their would-be exhibits to more distant shows, but who would be glad to exhibit, if they could do so, within a reasonable distance. Arrangements have been made with the Clifton Zoological Society to hold the show this year in their gardens, and owing to the earliness of the season the date has been fixed for the 9th of July. The High Sheriff of Bristol, Alfred Deedes, Esq., is president, and Mr. F. W. Baker, Olton Villa, Avon Mill Lane, Keynsham, near Bristol, is the hon. sec.

Death of Mr. J. B. Webster.—In the person of Mr. J. B. Webster there has just passed away, at the age of 74 years, one of the oldest and most respected of British foresters. Gaining his knowledge on several of the best known Scottish estates, he was at a comparatively young age appointed forester to H.R.H the Prince Consort at Balmoral, and superintended the planting of many of the hill-sides on the royal property, as also the supplying of native wood for the building of the Castle. For many years he acted as estate manager and forester to Sir William Verner, in County Armagh, Ireland, and there got together one of the finest selections of coniferous and other trees. The Highland and Agricultural Society of Scotland awarded to him many medals for essays on matters pertaining to forestry and farming, including their Gold Medal for "Formation and Management of Young Plantations," "Planting on Peat Bog," "The Growth of the Roots of Coniferous Trees after being Felled," "Stem and Branch Preserving of Conifers," "The Diseases of Forest Trees," "Growth and Management of Scotch Fir Forests," "Pasture Lands," etc. He contributed regularly to several of the leading farming and horticultural papers of the day, and gave advice regarding the formation of woods and plantations in almost every part of the British Isles.

The Nature and Properties of Atmospheric Air.—About a year and a half ago Mr. T. G. Hodgkins, of New York, made a donation to the Smithsonian Institution, the income from a part of which was to be devoted "to the increase and diffusion of more exact knowledge in regard to the nature and properties of atmospheric air in connection with the welfare of man." In pursuance of the donor's wishes, the

Smithsonian Institution offers the following prizes to be awarded on or after July 1894:—1. A prize of $10,000 for a treatise embodying some new and important discovery in regard to the nature or properties of atmospheric air. 2. A prize of $2,000 for an essay upon (a) The known properties of atmospheric air considered in their relationships to research in every department of natural science, and the importance of a study of the atmosphere considered in view of these relationships. (b) The proper direction of future research in connection with the imperfections of our knowledge of atmospheric air, and of the connections of that knowledge with other sciences. 3. A prize of $1,000 for a popular treatise upon atmospheric air, its properties and relationships (including those to hygiene, physical, and mental).

The Forests of Macedonia.—The French Consul at Salonica, in a recent report, says that the forests of Macedonia are of great importance, by reason of their extent, and the variety of the woods, and although the felling of the trees increases from day to day to such an extent that the districts of the littoral will soon be completely denuded, the area under forests in Macedonia is still very considerable. It is estimated at about 200,000 hectares (hectare = 2·47 acres) in the sandjak of Salonica, 140,000 hectares in Monastir, and 200,000 hectares in Kossovo, and this immense extent of forest-land, which might prove a source of great wealth to the country, is allowed to remain practically unworked. The State owns three-quarters of the forest area, the remainder belonging to the various communes and to private persons. It is only those districts which are situated near the sea and the railway from Salonica to Mitrovitza, that are at all utilised, and these furnish planks, timber for building purposes, railway sleepers, and particularly charcoal.—*Society of Arts Journal.*

Leaves and their Functions.—At the Royal Botanic Society's Gardens, on the 27th ult., Professor S. H. Vines, of Oxford University, gave the first of a course of three lectures on "Leaves and their Functions." Taking the ordinary green foliage leaf as a type, he gave a brief review of its work, and the means by which it was accomplished; showing how, under the influence of sunlight, the leaf was able to change and combine the carbon it took from the air, and with the water drawn up from the soil to make a third substance from which it built up its tissues, carrying on a series of complex chemical changes, which no chemist in his laboratory could imitate, by means of the chlorophyll or green colouring matter contained in its cells. This substance, though so abundant in nature, had hitherto defied all the efforts made to isolate it; all that was known for certain about it was that, desolved in a solution of alcohol, it had the power to absorb certain light rays of the spectrum, and it was by virtue of that property, possessed by the living chlorophyll in the leaves, that plants were enabled to develope the energy necessary for their work.

THE NEW ROSE.

The new Rose, Turner's Crimson Rambler, which has been shown so grandly this season, and which proves to be one of the very finest garden plants that has been introduced for some years, was last week awarded a Gold Medal at the Paris Exhibition of the Royal Botanical and Horticultural Society of France. It is a wonderfully free grower, branches most freely, and bears a marvellous profusion of dense red, semi-double blossoms, which remind one much of the old monthly Rose, but it is quite distinct, and belongs to the Polyantha section.

It was brought home a few years ago from Japan by the engineer of a trading vessel, and passed into the hands of a gentleman at Edinburgh, Mr. Jenner, who subsequently parted with to Mr. John T. Gilbert, Anemone Nurseries, Dyke, Bourne, who named it The Engineer, and received an Award of Merit for it at the Drill Hall, on July 8th, 1890. It was then regarded with much favour by all who saw it, but not until this season have we learnt what a grand plant it is, Mr. Turner having acquired the stock, and proved it to some purpose in the fine Rose soil at Slough. We do not often get a Rose that every grower will want, but this is one of them, and our friends at Slough will be busy with it next autumn, when it is to be sent out.

REGULATIONS AT THE TEMPLE SHOW.

I should like to trespass on your space briefly to comment on the unfortunate arrangements made with respect to exhibitors' assistants at the recent Temple Show. Of course all is over now, and it is no use crying over spilt milk, but it is of use to endeavour to prevent any similar annoyance being repeated. The council should realise—and with some exhibitors on that body it is all the more a surprise it was not fully realised—that to place obstacles in the way of the comfort and convenience of the assistants is to wound the exhibitor in his tenderest part. Here were pass tickets issued with a condition printed upon them in small type (so that few noticed it until too late) that they were not available between 1 o'clock and 6 o'clock each day. Not possible was it for these people to go outside for needful refreshments, for a wash, for any purpose in fact, unless they could return before 1 o'clock, and then they discovered the conditions too late, and were shut out in large numbers, so that they could not attend to their duties. This was a cruel disappointment, and created the deepest dissatisfaction.

I am sure the Editor of the Gardening World will not refuse room for this complaint, because it was so needlessly provoked. It is explained that the privilege of the passes thus granted has been abused. That should be first proved, and if it be found so, then it could easily have been met by having a pass-card from which one portion on the first day could have been torn, and on the second it could have been given up. But have exhibitors' assistants been one-half so criminal in their uses of passes as fellows have been of their cards? To clip their wings was right enough. The exhibitors and assistants, on the other hand, merit the fullest consideration. Exhibitors make the show for the benefit of the Royal Horticultural Society at a heavy cost, and as no other reward is made them but passes, these should be given with no niggard hand, and if so granted, would greatly help to make all things pleasant.—*Hortulanus.*

The new firebrand rule of the R.H.S. with regard to the admission tickets caused great inconvenience at last week's Temple Show and was the source of much comment, and even bad feeling, among the exhibitors and their assistants towards its framers. Those having exhibitors' tickets would have been about as well off without them as they debarred the holder from entering the grounds each day from 1 to 6 p.m. After this I was not quite astonished to learn that a good many assistants had only one breakfast ticket supplied between two of them. This, also, is a very magnanimous arrangement and will, no doubt, command the entire approbation of all the hungry youths (our future gardeners, remember) who worked hard from very early in the morning of the first day till 11 o'clock or 11.30, clearing out time. I went out on the second day to have some dinner and dispatch a telegram, and on returning about 2.30 had to pay a shilling as my exhibitor's ticket was of no use. I thought my shilling valour cheaper than run the gauntlet of an unseemly squabble with gatekeepers and policemen doing their duty. What did you say? Why didn't I send out the telegram and dine at "The Stores" in the grounds? Yes, my dear Sir, I dined —save the name—in the tent on the opening day, and paid 5s. 4d. for two of the most elegantly refined cuts of cold lamb I ever saw, but doubtless this delicacy would have been more highly appreciated by those who prefer to feed from very near the bone. The above charge included two slices of bread and a cup of coffee—no toothpick. No, Sir, store prices and no toothpick I could not stand twice.—*An Exhibitor's Assistant.*

May I be allowed a few lines in your columns for a growl about the mean, shabby way in which the exhibitors' assistants were treated by the Council of the Royal Horticultural Society last week at the Temple Show. It was so bad that it ought to be made public in order to prevent a repetition. My master, who sent a group, has a bone to pick with them, too, for the scurvy manner in which admission tickets were doled out to him, and vows he will not be served so shabbily again, but will give the society's shows a wide berth in future. But he is able to take care of himself, and his troubles are not mine. But I do think the society should not have treated us assistants so badly. It would not hav mattered if we had had any notice of what was coming, as then we should have been prepared. I was up nearly all the night before the show and very hard at work until late in the morning. I then got an admission ticket which I did not read at the time, and a breakfast ticket. Now for the breakfast, we had to go to a public house in a back street near the show and sign the ticket. Then came breakfast, and what a breakfast it was to offer a tired and hungry man, and some I heard could not get any at all! The society ought to be downright ashamed of it. Well, after a wash and a rest for a time, I went back and found out only at the gate that being after one o'clock I could not enter the grounds again until six o'clock unless I paid five shillings. Why, sir, that is a third of my week's wages! The consequence was that I had to walk the streets and kill time as best I could. Others besides me had to do the same, and if the reverend gentleman, who is the secretary of the society, could only have heard some of the language that was used, he would offer up a special prayer next Sunday for the good of all our souls. We could not understand, with such old showmen as Mr. Douglas, Mr. George Paul, and Mr. Bunyard on the council, how they could have the cheek to treat the exhibitors' assistants so badly, and I do hope you will show them up. Anyhow, it was my first visit to any of the society's shows, and I hope I may get out of the nursery before another one comes along.—*A Journeyman Gardener.*

[We, too, have a grievance over the manner in which the representatives of the horticultural Press were treated by the council, but it will keep for the present.—Ed.]

DEATH OF MR. BARLOW.

From John o' Groats to the Land's End, wherever florists' flowers are loved and grown, the announcement that Mr. Samuel Barlow, that prince of florists and good fellows, passed away on Sunday morning at his residence, Stakehill, Castleton, will be received with feelings of the deepest sorrow; and the warmest sympathy of all, we are sure, will be felt for Mrs. Barlow in her sad bereavement. Our dear old friend had the misfortune to fall down a flight of stairs at his warehouse in Manchester a few weeks ago, and from the serious injuries then sustained he has not been permitted to recover. More's the pity! For floriculture can ill afford the loss of such an enthusiast, and the human race could better have spared a greater man.

Samuel Barlow was the keenest lover of plants, especially of hardy plants and such as are generally included under the denomination of florists' flowers, that we have ever had the pleasure of knowing. He may be said to have been reared in the cradle of the Lancashire botanists and florists, for his father was a botanist of great local reputation, who was associated with such well-known Lancashire men as Dewhurst, Hobson, Horsefield (of Daffodil renown), Crowther, Buxton, and Percival, the latter of whom still follows his botanical pursuits as keen as ever at Smithy Bridge, near Rochdale. Mr. Barlow's father was manager of the bleaching and manufacturing department for Messrs. Otho Hulme & Sons, at Medlock Vale, and had a large garden well stocked with plants; his mother was an adept at window gardening, and his grandfather and uncle Richard had also gardens at Pike Fold, near Blackley, so that it is no wonder the son, with such an environment, became a devoted gardener too. Thus, the pleasures of youth led up irresistibly to the joy and solace of mature age, and Mr. Barlow to the end found pleasure and relief from the cares and worries of business in the flowers so carefully tended for him by Mr. Pomeroy, one of the late Mr. Turner's old protégés at Slough.

Mr. Barlow was for many years, and up to the time of his decease, Managing Director of Samuel Barlow & Co., Limited, dyers and bleachers, at Stakehill, near Castleton, a little hamlet on the outskirts of Middleton, of which borough he was last November unanimously elected Mayor. Within a radius of some six or seven miles of Middleton some of the most famous of the florists of this century resided, and in his garden or under his hospitable roof these genial souls ever found the warmest of welcomes, and happy was the visitor who found himself at any of the numerous social gatherings which took place round Mr. Barlow's mahogany.

Mr. Barlow's business training, and his love of everything beautiful in Art and Nature, gave him a wonderful eye for colour, and a singularly retentive memory when new or striking shades came under his notice; indeed, so strongly did he possess this faculty that even were it weeks after he had seen a new tint, he would reproduce it in his works if it were worth doing from a commercial point of view. His knowledge of colour production also made him an unerring judge of pictures, and his fine collections of paintings and china at Stakehill and at his charming Welsh residence near Llandudno were at all times a real delight to inspect.

Possessing a rare fund of humour, Mr. Barlow was inimitable as a *raconteur* of good stories, and many of them peculiar to the people, the locality, and the dialect, he told as only a genuine Lancastrian can tell them. A most loveable companion at all times, one of the most delightful of hosts, a kind, sympathetic employer, considerate to all about him, taking a keen interest in all his duties of a public character, and ever tempering justice with mercy on the Bench, no wonder was it that Samuel Barlow was beloved and respected by all who knew him. Sorry, indeed, we are that we shall never look upon his like again.

PLANTS RECENTLY CERTIFICATED.

THE plants and flowers described below were exhibited at the Temple Show on the 25th and 26th ult., and received Certificates according to merit.

PRIMULA REIDI.—When well grown this Himalayan Primrose is not unworthy of attention, and is certainly both distinct from every other species in cultivation and very interesting. The flower scapes rise about 4 in. or 5 in. high, and bear a small but dense head of horizontal or slightly drooping, bell-shaped, white flowers, with a short tube. The leaves are oblong-spathulate, toothed, and very hairy on both surfaces. A First-class Certificate was awarded it when exhibited by G. F. Wilson, Esq., F.R.S., Heatherbank, Weybridge.

ASPLENIUM MARGINATUM.—The fronds of this Fern are about a foot or more in length, and thinly arranged forming a tuft or crown. They are pinnate, with broad, oblong-pinnæ, and heavily veined; the veins are incurved at the tips, uniting with one another a little way within the margin, so that the latter stands out prominently from the rest of the surface, suggesting the specific name. The spore cases or sori are arranged in long slender lines on the lower surface. A First-class Certificate was accorded the species when shown by Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton.

ALOCASIA SANDERIANA NOBILIS.—The leaves of this variety are oblong-cordate, scolloped at the margin, and deep olive-green, with a broad silvery band along the midrib and the principal lateral nerves; this band is itself margined with pale red. The whole has a glossy lustre, while the under-surface is of a deep metallic purple. First-class Certificate.

CINERARIA MARITIMA AUREA VARIEGATA.—The oblong, pinnatifid leaves of this variety are hoary on both surfaces with the upper half of each segment of a bright yellow. Sometimes the greater part of the leaves on a shoot would be wholly yellow. Award of Merit. Both this and the Alocasia were exhibited by Messrs. F. Sander & Co., St. Albans. The Cineraria was also shown by Mr. H. B. May.

ANTHURIUM CRYSTALLINUM FOLIIS VARIEGATIS.—The original plant of this variety had some of its leaves irregularly and heavily splashed with creamy yellow. Young plants since obtained from it have developed a pure white variegation. Sometimes half of the leaf would be white and the rest velvety green; other leaves are marbled and blotched, or splashed with white and occasionally gray and white. First-class Certificate. Several plants were exhibited by Messrs. Pitcher & Manda, Hextable, Swanley.

BEGONIA MRS. REGNART.—The leaves of this tuberous variety are of large size and dark green. The flowers are double with the outer sepals of a clear yellow, and the globular centre golden yellow. The sepals forming this mass are wedge-shaped and variously toothed at the apex. Award of Merit.

BEGONIA LORD BROOKE.—This is also a tuberous kind, of compact habit and well furnished with dark green leaves. The flowers are of large size, double, deep crimson-scarlet, and having the wavy sepals arranged around several centres.

BEGONIA LADY BROOKE.—Here again the flowers are large, double, and of a beautiful deep salmon rose, fading to a softer tint as they get old. There is usually only one centre and the sepals are more or less wavy, while the plant is dwarf and compact. Award of Merit.

BEGONIA BARON SCHRODER.—The flowers of this double sort are large and of a deep bright scarlet, with the wavy sepals arranged round a single centre, the outer segments are somewhat longer than the rest. Award of Merit.

CALADIUM IBIS ROUGE.—The leaves of this variety are deeply cordate sagittate, silvery grey at first, becoming pink when older. The principal veins are carmine, and the interspaces closely reticulated with finer red veins. On the whole it may be described as pretty. Award of Merit.

CALADIUM MRS. HARRY VEITCH AND CROTON THOMSONI.—For description of these two see p. 598. Both were accorded Awards of Merit. The four Begonias, two Caladiums, and the Croton were exhibited by Messrs. J. Laing & Sons, Forest Hill.

ANTHURIUM PARISIENSE.—In this we have a variety of A. Scherzerianum, with the leaves of that species. The spathe is oval or oblong, cuspidate, of a soft salmon pink. The twisted spadix is deep yellow. Award of Merit. It was exhibited by Sir Trevor Lawrence, Bart. (gardener, Mr. Bain), Burford Lodge, Dorking.

VALLOTA PURPUREA DELICATA.—The flowers of this variety are soft salmon pink, or almost flesh-coloured with golden anthers, differing in no other respect from the type. Award of Merit. It was exhibited by Messrs. R. Veitch & Son, Exeter.

HEMEROCALLIS FLAVA APRICOT.—In this case the flowers are of a rich yellow or apricot colour, while those of the type are of a clear, soft yellow. Award of Merit. It was exhibited by G. Yeld, Esq., Clifton Cottage, York.

RHODODENDRON ARIEL.—The flowers of this hybrid greenhouse variety are large, widely expanded with revolute segments, a moderately long tube, and uniform clear yellow. The leaves are relatively large. and oblong elliptic.

BEGONIA LORD LLANGATTOCK.—The flowers of this variety vary in size, some of them being of great size, and dark brilliant scarlet, with the segments around a single centre. They are broad and mostly flat, or slightly crumpled. Award of Merit. It was shown by Messrs. H. Cannell & Sons, Swanley, Kent.

BEGONIA BEXLEY GEM.—The leaves of this variety are narrow, half cordate, with pale veins, like the old B. boliviensis type. The flowers are very large, double and rich rose, shaded with salmon, and the wavy segments are arranged round a single centre. Award of Merit.

BEGONIA ELEGANS.—The leaves are small, like those of the last named type. The double flowers are moderate in size, soft salmon scarlet, with very wavy or crisped segments, ranged round a large white centre. There are also a few small white centres. The variety is certainly elegant and pretty, and an Award of Merit was accorded it when exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, who also showed the previously named sort.

GLOXINIA NETTED QUEEN.—The flowers of this beautiful variety are very distinctly netted in varying patterns, and show a marked improvement over the strain first exhibited. They are funnel-shaped, with the lamina of a deep rose and shaded or blotched with crimson at the base, netted with pure white; the tube is white externally and internally. The oval leaves are blunt and very large. An Award of Merit was accorded it when shown by Messrs. Sutton & Sons, Reading.

ATHYRIUM FILIX-FŒMINA SETIGERUM GRANDICEPS.—The fronds of this variety are short, judging from the specimens exhibited and which were only 8 in. to 10 in. long. They are lanceolate, bipinnate, with the pinnules more or less dilated at the apex, and slightly crested or obovate with long, acute teeth. Award of Merit.

DAVALLIA FIJENSIS ELEGANS.—The fronds of this Davallia vary from 18 in. to 2 ft. in length, and curve gracefully outwards; they are four or five times divided with linear segments, the larger of which are bifid or merely notched at the tip. Award of Merit.

NOTHOCHLÆNA MOLLIS.—This new Fern is very dwarf if it never gets larger than the plants shown. At present they are lanceolate, bipinnate, and 2 in. to 4 in. long, hoary on both surfaces with soft hairs, and the midrib and principal lateral veins are tomentose. They are bipinnate, but the pinnæ consist of only three pinnules. Award of Merit. All the three Ferns were shown by Messrs. W. & J. Birkenhead, Sale, Manchester.

SWEET BRIAR AMY ROBSART.—This is one of the recently produced hybrids between the Sweet Briar (Rosa rubiginosa) and other species. The flowers of the variety under notice consist of about ten to twelve obcordate, deep rose petals with an open centre. Award of Merit. It was exhibited by Messrs. Keynes, Williams & Co., Salisbury.

AMARYLLIS LORD ROBERTS.—This is evidently a variety of Hippeastrum reticulatum. The scape is about 18 in. long, bearing five flowers. The latter are funnel-shaped, and white or pinkish, heavily lined and netted with bright rose, and the three upper are banded with red on each side of the white midrib. The lowest one and the lower longitudinal half of the two lateral are not banded.

DRACÆNA LORD WOLSELEY.—The leaves of this sort are moderate in width, deep bronzy-green, with red margins and red petioles.

POLYANTHUS QUEEN VICTORIA.—This may be described as a semi-double, crimson, gold-laced Polyanthus, and is new. The flowers are relatively large, and some of them, instead of being decidedly semi-double, have a tuft of small segments in the centre. In more favourable seasons, all of the flowers may be more decided, and therefore handsome. An Award of Merit was accorded it when shown by Messrs. J. Cocker & Sons, Aberdeen.

CARNATION MRS. SEYMOUR BOUVERIE.—The flowers of this variety are large, salmon-yellow, and flaked with purple-red. They are scentless, and the incurved petals are entire or smooth at the edges. The variety may be classed with the yellow ground Carnations. Award of Merit.

CARNATION THE CHURCHWARDEN.—This is a variety of the Malmaison type, with very large, fully double flowers, of a deep scarlet or crimson-scarlet, and rose on the reverse. The flowers are decidedly fragrant. Award of Merit. Both of the Carnations were exhibited by Mr. C. Blick, gardener to Martin R. Smith, Esq., Hayes Common, Beckenham.

THE WEATHER AND THE CROPS.

FROM the reports I have read in your valuable paper, it is cheering to know that the fruit crops promise to be abundant and that no unfavourable conditions hinder their development. One or more of your correspondents have referred to the great abundance of flowers this season, following a very wet autumn, and one of them makes the remark that "one is almost led to believe that wood-ripening has not got such a great deal to do with fruit crops as is generally supposed." Here, Mr. Editor, is where all the difference lies between a good set of flower buds and none at all, and this is the rock upon which a good many early-forcing men come to grief. Holding by some antiquated notion that wood can only be got ripened by keeping the borders dry, and acting accordingly, they wonder when spring comes and a good crop of blossoms is expected, why it is that they are only rewarded with a bloom here and there, and why what they do get look so starved in their semi-solitude?

I would strongly advise all such growers, as well as those who are troubled with bud dropping, to take a leaf out of Nature's book and give their borders a thorough soaking several times during the autumn and winter, instead of allowing them to stand in some cases, dust dry. That has been my practice during the last eighteen years, and the crops of Peaches I have had in May, both in England and Scotland, have borne ample testimony to its soundness. The greatest crops of flower, if not of fruit, according to my observations, have invariably followed a wet and sunless autumn. The autumn of 1892 was certainly both very wet and cold, and in the middle of October in Edinburgh we had 15° of frost. The remark was made to me by some one, "There goes next year's crop of fruit, the rain and frost will give us no ripened wood." But the contrary is the case.—*J. W. Bayne, Edinburgh.*

The Carnation: its History, Properties, and Management with a descriptive list of the best varieties in cultivation. By E. S. Dodwell. Third edition with supplementary chapter on the Yellow Ground. London: GARDENING WORLD Office, 1, Clement's Inn Strand, W.C. 1s. 6d.; post free, 1s. 7d.—AD.]

FLORICULTURE.

Pansy Exhibition at Tamworth.

When this exhibition was fixed for so early a date as May 24th, grave doubts were expressed as to there being many exhibits, but the season being so very early it proved to be just right, and the largest disp'ay of blooms ever seen at a Pansy exhibition was brought together. The schedule was very elaborate in classes and weighty in prizes. Eight classes were devoted to amateurs who reside in the Midland counties, and some excellent exhibits were staged. In the classes for twenty-four and eighteen fancies, Mr. J. Egginton, Wolverhampton, was first with fine blooms; Mr. A. Christie, Shifnal, a good second in each; and Mr. T. M. Eglington, Birmingham, third in each class. For twelve and six blooms respectively, Mr. George East, Leicester, was first; and Mr. W. B. Fowler, Fazeley, Tamworth, second; and Mr. J. Haime, Longton, Staffordshire, third; with Mr. John Draycott, Burton-on-Trent, fourth for twelve, as well as six blooms. For six seedling fancies, Mr. J. Haime was first; Mr. Christie, second; and Mr. Thos. Woodward, Coventry, third. For twelve varieties of Violas, six blooms of each, Mr. A. J. Rowberry, South Woodford, Essex, was first with a fine lot.

Classes 9 to 12 were for amateurs residing in the home Midland counties, who have never won a prize, and there was a most satisfactory competition in these classes. For twelve fancies, first, Mr. H. Yeomans, Leicester; second, Mr. A. Penson, Newport, Salop; third, Mr. H Jordan, Leicester. For six fancies, first, Mr. A. Penson; second, Mr. Yeoman's; third, Mr. H. Jordan. Six classes were open to the trade growers in the Midland counties, and for forty-eight, twenty-four, twelve, and six fancies, Mr. Wm. Sydenham, Tamworth, was first in each with excellent blooms, Messrs. Pope & Sons, Birmingham, scoring second honours in each class, as well as taking the first prize for six seedlings.

The Blue Riband prizes of the exhibition centred in Class 19, for forty-eight fancy Pansies, dissimilar, for which there were five entries, open to the distant trade growers, and there was a close competition here and some grand blooms staged. Mr. A. Bailey, Sunderland, was first; Mr. John Smellie, Glasgow, second; and Mr. A. Lister, Rothesay, third. For twenty-four fancy Pansies, first, Mr. A. Bailey; second, Mr. Lister; third, Mr. Smellie. For twelve fancy Pansies, first, Mr, Smellie; second, Mr. A. Campbell, Blantyre; third, Mr. Bailey. For twenty-four show Pansies, first, Mr. Smellie; second, Mr. Lister. For twelve show Pansies, first, Mr. Lister; second, Mr. Campbell; third, Mr. Smellie. For six blooms of one variety, first, Mr. A. Irvine, Tighnabruaich, N.B.; second, Mr. Smellie; third, Mr. Bailey. For twelve seedlings, own raising, first, Mr. Smellie; second, Mr. Lister; third, Mr. J. D. Stuart, Belfast. For twenty-four bunches of Violas, first, Mr. J. Smellie.

Several valuable prizes in jewellery were offered to lady competitors for a wreath of Pansies and Violas. First, Miss E. A. Perkins, Leamington; second, Miss Louisa Johnstone, Hunts Hall Gardens; third, Miss Clara Bowles, Leicester. In the classes for a cross or other design in Pansies and Violas, Mrs. Thewles, Birmingham, was first with a very handsome shower bouquet of these flowers, as well as for a spray and a basket.

An important class (34), open to all growers of the United Kingdom, was for twenty-four seedling Pansies, dissimilar, and in this class Mr. Smellie was first and Mr. Irvine second; and for twelve seedling show varieties Mr. Irvine was first and Mr. Smellie second. For twelve seedling fancies Mr. Smellie was first and Mr. Irvine second.

Prizes were offered for new fancy Pansies, either seedlings or varieties sent out in the autumn of 1852 or spring of 1853, for the best bloom in each class selected from the exhibition, and the awards were as follow:—

Fancies.

Dark Self: John Black, exhibited by Mr. A. Irvine.

White Self: Mrs. Wm. McIntosh, exhibited by Mr. A. Irvine.

Yellow Self: Mrs. Wm. Watson, exhibited by Mr. J. Smellie.

Laced Yellow: Andrew Frater, exhibited by Mr. J. Smellie.

Laced Whites: John Hossin, exhibited by Mr. Campbell.

Best Fancy: Wm. Watson, exhibited by Mr. J. Smellie.

Show Pansies.

Dark Self: Wm. Cook, exhibited by Mr. Irvine.

White Self: Mrs. King, exhibited by Mr. Irvine.

Yellow Self: Jeannie Deans, exhibited by Mr. Campbell.

Primrose Self: Winnie Irvine, exhibited by Mr. Irvine.

Yellow Ground: John Watt, exhibited by Mr. Campbell.

White Ground: Miss Adams, exhibited by Mr. Campbell.

Best Show Variety: Winnie Irvine, exhibited by Mr. Irvine.

Some very fine seedlings received First-class Certificates as follows:—Fancies: Princess, a very beautiful and quite distinct flower from Mr. Campbell; Mr. Spence, from Mr. Irvine; Romeo, from Mr. Lister; Marmion and Mrs. W. Walton, from Mr. Smellie; Beauty, from Mr. Bailey, and Queens' Park Gem, from Mr. Lister. Show varieties, John Watt, yellow ground, from Mr. Campbell; W. J. Bassett, dark self, from Mr. Lister, and W. H. Clark, yellow ground, from Mr. J. D. Stuart, Belfast.

Mr. Stuart also exhibited a bloom each of some first-class seedling Violas. Had there been three of each, some Certificates would have been awarded. He is a most successful raiser of Violas and Pansies, and of the former, Mary Stuart is especially fine and rich in colour, as is also Con O'Neil. Mrs. Joseph Chamberlain is fine and distinct. Diver is a grand creamy-white, and rayless. Lovelight, Ulster, May Morn, Commodore, and Miss Ruck, are all fine. Mr. George McLeod, Chingford, took a Gold Medal with six sprays of rayless Violas, a very pretty contribution.

Messrs. Dobbie & Co., Rothesay, contributed an admirably staged, extensive display of Violas, which were greatly admired, and to which a First-class Certificate was awarded; also to a bright, handsome violet-striped variety named Lillie Langtry.

THE VEGETABLE GARDEN.

Early Peas.

It would be very instructive if gardeners in various localities would give their experience with new Peas, especially in regard to their earliness, as compared with the old varieties. I have this year sown American Wonder on a border, and William the First and Sutton's May Queen near to them in an open quarter of the garden, and they were put in on the same day. We gathered from American Wonder on May 24th, and from William the First four days latter, May Queen being ready four days later still. The latter is, however, I think from its appearance a better quality Pea, but of this I will say more when I have tasted it. The later Peas are making fine growths, having had good waterings and liberal top-dressings.—*G. H. S.*

Winter Greens.

The main crops of Brussels Sprouts may be planted now as soon as they are large enough, and the ground is ready. Give them plently of room so that the plants can get plenty of light and air when fully grown. The autumn and winter Broccolis should also be planted during the next fortnight. Early York Cabbage, and London Colewort should be planted in quantity where greens are required during the winter, and another sowing of these should yet be made for later planting. Chou de Burghley sown now will come in very useful. Savoys should also be planted when ready.—*G.H.S.*

General Work.

If more rain is not soon forthcoming watering will demand constant attention. Cauliflowers are, I am sorry to see, going off wholesale with maggots. I have tried limewater, but it does not seem to do much good. Limewater with a little salt is, I hear, stopping them better. It is very annoying after the trouble which Cauliflowers have given us this spring to lose them now that they are hearting. Onions must be looked to, as they are terribly affected with maggot in some places. Sow Salads regularly in cool places, or a supply cannot be kept up.—*G. H. S.*

Gleanings from the World of Science.

A new Non-Poisonous Antiseptic and Disinfectant.—The time has come for carbolic acid to look to its proud position, seemingly. A new agent which has been named "Izal," has been discovered and we are told performs more effectually all that carbolic acid can do, with the additional and very valuable merit of being non-poisonous. The discovery was, by way of a change, the fruit of systematic investigation. We say "by way of a change" as science has made her most valuable discoveries when she was looking for something else. Izal was seen lurking in strange garb, and being at once suspected was relentlessly pursued, caught, and subjected to vigorous examination, which resulted in its identification. To Mr. J. H. Worral, F.C.S. F.I.C., Chemist to the Thorncliffe Collieries Company, near Sheffield, belongs the credit of the new discovery.

While investigating the nature of the by-products derived from the Thorncliffe patent coke ovens, he found that one of the products was a previously unknown oil, intermediate in its general properties between the benzene series and its derivatives on the one hand, and the paraffin series on the other. From this oil he extracted a body which was found to possess much greater antiseptic power than pure crystalised carbolic acid. Its mean boiling point is considerably higher than that of pure carbolic acid and the body itself is of greater density than water, in which it is insoluble. This insolubility in water is one of its special advantages, inasmuch as it prevents the disinfecting principle being washed away from the part which requires to be disinfected, as usually happens with other antiseptic agents. Though insoluble in water, the particles of the new body when finely divided remain permanently suspended, forming a milk-white emulsion.

Knowing that this high boiling point indicated what we may call great "staying power," in more appropriate language great persistency of action, Mr. Worral put it to the test by subjecting to its action the common sheep parasite known as *Acarus ovis*. The results were perfectly satisfactory to everybody except the parasite, which was thus added to the long list of martyrs to science.

There can be no possible doubt that the new antiseptic is a potent agent for good in medical science. Before making its public appearance it has been subjected to the most exhaustive tests, and one of the highest scientific authorities of the day gives the following account of his experiments with it:—

"Izal diluted in the strength of only 1 in 200 completely destroyed in five minutes the vitality of the germs of cholera, diphtheria, typhoid fever, pneumonia, anthrax, and glanders. In the same degree of dilution it also destroyed in five minutes the microbes which cause putrefaction, and the formation of abscesses. Similar experiments with carbolic acid showed that under the same conditions that agent had no disinfecting power whatever. In a still weaker dilution (1 in 300) izal killed the germs of scarlet fever and erysipelas. Its disinfecting properties were also tested with satisfactory results on morbid materials derived from various infectious disorders—diphtheritic membrane, the discharge from the bowels of patients suffering from typhoid fever, matter from festering sores, the discharge of glanders, etc.—with entire success. Careful experiments were also made to determine whether izal had any hurtful effect on the economy at large, with the result that it is entirely free from detrimental effects of any kind whatsoever."

Its non-poisonous nature gives izal incalculable value as an internal remedy. We believe that purification of the intestinal canal is the only treatment of the least use either in cholera or in typhoid fever; for this izal would perfectly answer the purpose.

As a local application it will commend itself for surgical operations, as in addition to being innocuous it does not irritate nor inflame wounds. In case of burns, always the most difficult form of injury to treat, izal should be of special utility. As a preventive of disease communicable by animals, and also as a disinfectant for veterinary and agricultural purposes, it is very highly spoken of.—*Land and Water.*

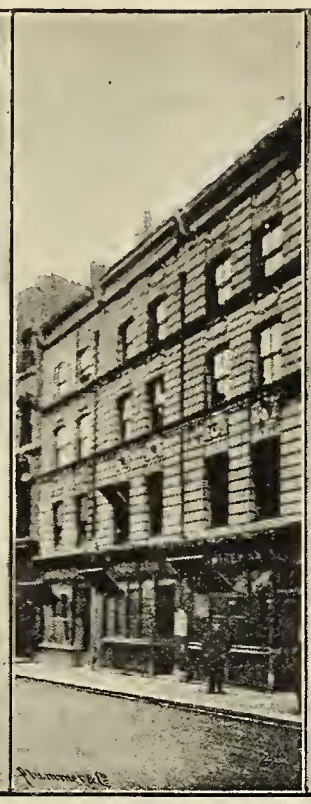
JUBILEE CELEBRATION
OF HURST & SON.

On Saturday last, in glorious weather, as befitted such a pleasant social function, a party numbering about 120 of the employés, friends, and supporters of the world-renowned firm of wholesale seed merchants, Messrs. Hurst & Son, 152, Hounsditch, with Mr. N. N. Sherwood at their head, left Paddington at mid-day, their destination being Slough, and their object the due celebration of the Jubilee of the firm, which was founded in 1843 by Mr. William Hurst and Mr. W. G. McMullen, who had previously represented for many years the well-known seed firm of Messrs. Warner & Co., of Cornhill, now extinct.

On arrival at Slough, luncheon was served at the Royal Hotel, after which two parties were made up, and ample break accommodation being provided, both sections drove to Windsor, and after visiting the Castle one party drove up the Long Walk and through the forest to Virginia Water, a most delightful drive at all times, but especially so at this season on account of the glorious wealth of the blooms on the Rhododendrons; while the other paid an equally enjoyable visit to the Home and Shaw Farms, where they were received and shown round by Mr. Tate, and to the Royal Gardens where Mr. Owen Thomas did the honours of the Royal Establishment. At 6 p.m. all had again returned to Slough, when the company sat down to an admirable dinner under the presidency of Mr. Sherwood.

After the cloth had been cleared, the usual loyal toasts were honoured in the heartiest manner, and then came the toast of the evening, "Success to the firm, coupled with the name of Mr. N. N. Sherwood," and in proposing it Mr. Hugh Aiton said they had met that day to celebrate an event which all who

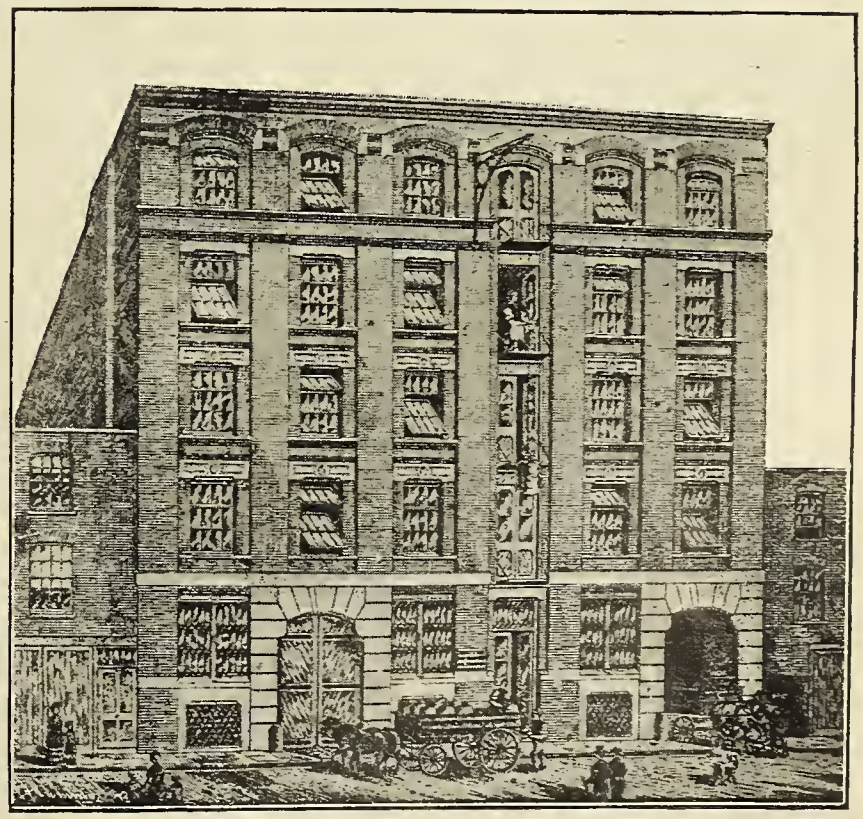
SWEDE & TURNIP WAREHOUSE
GUN SQUARE, HOUNDSDITCH.



FLOWER & VEGETABLE SEED DEPOT,
HOUNDSDITCH.

GENERAL GARDEN SEED WAREHOUSE
GUN SQUARE HOUNDSDITCH.

GENERAL SEED WAREHOUSE, BOSTON, LINCOLNSHIRE.



AGRICULTURAL SEED WAREHOUSE, BUTLER STREET, LONDON.

were connected with the firm of Hurst & Son felt justly proud of, and he was sure the visitors would not envy them a little exultation, nay, would enter into the spirit of their joy and rejoice with them. He asked his hearers to think for a moment what an important part a large business like theirs played in promoting the welfare of the country. Anyone walking through their various departments in the busy winter season would see a great amount of work going on on all sides, and that work, continuing as it did through the winter and spring months, led to results of the most beneficial character, results which gave dignity to the work, and lifted it out of the sordid rut of mere drudgery. Who, for instance, could estimate the amount of joy and gladness that would be obtained from the thousands of packets of flower seeds which they made up and distributed; think again of the thousands of appetites that would be tickled, and the gallons of English blood that would be purified when the vegetable seeds brought forth their increase, and of the flocks and herds that would be fed by the produce of the agricultural seeds which they cleaned and sampled with so much care. Such reflections made them feel a little prouder of themselves. Their labours went for peace and plenty, and their trade was a truly peaceful one. As to the position of their house, he thought it was a good healthy sign for a business to exist for fifty years; but for it to grow and wax strong in its later years was something to rejoice over. It showed that such a business was auspiciously born, and kindly nursed through its early manhood, and the patient care taken of it in its early days had resulted in a healthy and vigorous prime. It was a splendid thing to have a good beginning, but that was not everything in a business like theirs, which, constantly increasing in volume, rendered the successful guidance of it far more difficult every day. There had been critical times in the history of the firm, when new administrators had come to its head, but fortune had smiled on them, and the stern testimony of results declared that a more fortuitous succession could not have taken place. The outside world knew the head of their firm, Mr. Sherwood by reason of his kindly and genial personality, and his many acts of philanthropy, and they in their inner world gratefully acknowledged and thanked him most sincerely for the kindness and consideration which he showed to every member of the staff, and as a token of their esteem and goodwill towards him he asked Mr. Sherwood's acceptance of two very handsome and valuable gold-mounted claret jugs, and a very handsome album containing the following address, beautifully emblazoned on vellum and signed by ninety-four employés:—

To Nathaniel N. Sherwood, Esq.

Sir,—We, the present staff of the firm of Hurst & Son, offer you our hearty congratulations on the completion of its Jubilee, and on the great and increasing success which has attended the business since its commencement, and particularly under your direction. We have unanimously resolved that this is a fitting opportunity to show our appreciation of your guidance of the fortunes of the house since you have been its head. Some of us have been associated with the firm from its earlier days, and we all feel proud of our connection with a house of such world-wide and honourable repute. As a token of goodwill to yourself personally, and as a souvenir of this memorable occasion, we ask your acceptance of the accompanying claret jugs. We wish you and your family health and happiness, and we sincerely trust that the kindly relations existing among us may be maintained, and the prosperity of Hurst & Son be long continued.

The toast was most enthusiastically responded to and accorded musical honours.

Mr. Sherwood, in responding to the toast, acknowledged in feeling terms the handsome compliment which his friends in "the house" had paid him, and assured them that that day would be remembered by him as one of the happiest in his life. He rejoiced to see so many of the old employés of the firm around him that evening, and was especially gratified by the presence of their former manager, Mr. Johnson, who had so well served the firm for nearly forty years. He was sure they were all as pleased as he was to see that their old friend had recovered his health, the failure of which necessitated his retirement in 1890. For himself he could only say that he had tasted the sweets of success, and suffered grievous domestic afflictions, but hoped that he might be spared to be among them for many years, and always to enjoy their confidence and kindly regard. At any rate he would ever strive to deserve it.

Other toasts followed, including "The Heads of Departments," responded to by Mr. Titt and Mr. T. N. Cox; "The Home and Continental Representatives," acknowledged by Mr. W. W. Polden and Mr. T. Howie; "The Visitors," responded to by Mr. Johnson; "The Nursery and Seed Trade," for which Mr. Harry Turner replied; "The health of Mr. William Sherwood," and others; and the party returned to London by the 10.15 train.

We have much pleasure in including in our pages this week portraits of the founders of the firm and the present sole proprietor of the business, Mr. Sherwood, together with the staff taken in a group, and illustrations of the premises of the firm, which will serve to give our readers some idea of the magnitude of its operations, and its proud position among the great seed distributors of the world.

PELARGONIUMS AT LEWISHAM.

It is pleasing to note activity and progress in any branch of gardening, however old. The other week we paid a visit to the Ryecroft Nursery, Hither Green, Lewisham, originated and carried on with spirit by Mr. H. J. Jones. Pelargoniums in various sections are the prevailing feature at present, particularly the show, decorative, and regal varieties. There is also a rich and varied lot of zonal kinds. The show varieties, some three years old, are grown with the view of showing what can be done without the complicated training and tying practised by exhibitors of those kinds.

Show and Decorative Sorts.

The upper petals of Sir Trevor Lawrence are purple-red shaded with maroon, the rest are shaded with chocolate, and the throat is white. It is considered the best variety of its colour. Very different is Purple Emperor, a vigorous habited sort with large purple flowers, with two maroon blotches on the upper petals. Magpie is in the way of Kingston Beauty, but there is a crimson blotch on each of the white petals. The flowers of Dark Chinese are moderate in size, and salmon-rose, with nearly black blotches edged with scarlet. Jubilee is a decorative variety, with crimped petals of a China pink, with two crimson blotches. The large blooms of Dorothy are salmon, shaded with rose, and edged with white, and having two feathered crimson blotches. Somewhat similar is Princess Maud, but the flowers are larger, and the eye of a purer white. Charming is the colour of Countess, being cerise-salmon, with two very large feathered blotches. The leaves of the decorative La Volonte National alba are literally hidden by the wealth and profusion of white flowers. Two small blotches on the flower sometimes entirely disappear. Mrs. H. M. Stanley stands out prominently from all the rest by the great size and distinct appearance of its flowers, which measure from 2½ in. to 2¾ in. across, without being spread out. They are soft lake or mauve, with two maroon blotches. Empress of India has salmon-orange flowers, with two crimson blotches, which sometimes disappear leaving the flower self-coloured and handsome. A decorative variety in the style of the old Dr. Masters is Mrs. Hollingsworth, with deep rose flowers and two crimson blotches. It is a useful market sort, being a compact and continuous bloomer, keeping on for quite two months together. The flowers of Chas. E. Pearson are rich scarlet feathered maroon, and the brightest of the scarlet kinds. They are late coming into bloom. Those of Princess May are dark fleshy-pink, feathered with maroon, likewise large and showy. J. T. Hayes is crimson with the two dorsal petals of a blackish-maroon, and on the whole a very dark and smooth flower. A variety that finds great favour with the general public is Mrs. Stone, with deep mauve flowers, a white eye, and the greater portion of the upper petals feathered with long crimson lines, not blotches. The plants above mentioned are about three years old, or slightly over, and simply staked with the branches in their natural position. They are merely a selection from a batch of many kinds occupying a large house.

The five varieties mentioned hereunder are being put into commerce for the first time. The large flowers of Agnes Cook are pale lilac with two maroon blotches on the upper petals, which are feathered nearly all over. It continues in bloom for three months at a time, and is of compact, sturdy habit. Mrs. H. J. Jones is one of the largest flowered kinds, with blush white petals and the upper two blotched with crimson, shading into scarlet red. The flowers of Scarlet Gem are of a warm, bright scarlet, with two small maroon blotches. On a plant of Mr. H. J. Jones, grown in a 32-size pot and about sixteen months old, there were about 200 flowers open, and as many more had fallen. This would give an idea of its floriferous character. The flowers are scarlet, shaded with rose, and having two maroon blotches. The variety is suitable for exhibition purposes. Very rich is May Queen, with cerise flowers and the upper petals almost wholly maroon or black.

Regal Varieties.

The sorts that may be classed under this heading resemble the decorative kinds, in having crimped or wavy petals, but the latter are more numerous, giving the flowers a semi-double appearance. Those of Duke of Fife are lake with white edges and eye. A most floriferous kind is Lady Duff, with lake coloured flowers shaded with scarlet. Those of President Harrison are light rose with a white eye and edges. Princess Beatrice is pure white. On the other hand, the Duke of Clarence has purple maroon flowers netted all over with darker veins. Prince of Wales is brilliant scarlet, slightly blotched with maroon on the top petals. The huge flowers of Prince Henry are cerise shaded with scarlet on all the petals which are white at the edges. All of them are of great decorative value and most effective for conservatory work.

Zonals.

Amongst a large number of kinds grown by Mr. Jones, the following is a selection of new or relatively new kinds. The crimson scarlet flowers of Dr. S. Gray are something in the way of Henry Jacoby, but they are larger and choicer for pot work. It may here be stated that the whole of the collection is grown entirely for pot culture, so that the best and most select only are kept in stock. The flowers of W. Wright are clear salmon with a white eye. The leaves of Mr. A. F. Grace have a dark zone which serves to augment the beauty of the Apple blossom-like flowers. Those of Mr. G. Colville are brilliant scarlet with a white eye. Since Souvenir de Mirande first made its appearance several varieties of that type have been raised, including Madame Bondville, the flowers of which may be described as like crushed strawberry or white with a covering of scarlet gauze thrown over it. Another choice acquisition is Mrs. Wright, with large trusses and flowers of a bright magenta with a scarlet blotch on the two top petals. It is the nearest to a blue variety that has been raised and supersedes R. Dean.

The numerous double varieties that were raised some years ago, with small and densely packed, hard flowers that could scarcely be got to expand, have all disappeared, and their place has been taken by another race, with loosely open or semi-double flowers that are more effective in every way, and as easy to manage as the single kinds. Their colours are also getting very varied. Raspael Improved is considered the best scarlet of this type, and is certainly a useful and free-flowering kind. Mr. J. S. Phillips has a very large and open, orange-salmon flowers. Mr. W. S. Sach has brilliant scarlet flowers, and a dark zoned leaf, so that on the whole it bears a close resemblance to a double form of the old Vesuvius. Very interesting is the variety Mrs. J. Sermon, the flowers of which are blush-coloured when they expand, soon changing to pink, and then to rose. All the stages may be seen in the same truss, and constitute a substance of delicate, beautiful, and variable colouring. Orange-coloured flowers are rare and choice amongst Pelargoniums. The best of the double kinds is Golden rain, of a bright orange. It is a better grower than Sunray, which is identical in colour, but single. There is no difficulty, however, in growing either of them, and they are decided features in a collection, and may, in the future give rise to a true yellow.

French Beans in Frames.—As the plants grown here come into bearing give them good supplies of water, for the drain of moisture by evaporation at present is considerable.

Winter Greens.—Now that we have been favoured with rain, and the ground is in suitable condition, rapid progress should be made in the planting of Asparagus Kale, Cottagers' Kale, Savoys, Broccoli, late crops of Brussels Sprouts, Leeks, and Curled Kales.

SPRING GARDENING AT BELVOIR CASTLE.*

In introducing the subject of spring gardening I may venture to speak of the extremely satisfactory results that attend the system when fairly carried out. Flowers seem so welcome in early spring, and there are associations and sentiments in some of them that appeal to all natures, whether lovers of flowers or not. The Primrose, Forget-me-Not, and Daffodil are replete with memories of early days. I have repeatedly enlisted the attention of people confessedly indifferent to floriculture by a walk through the spring gardens; the very simplicity of the materials employed seemed a special merit and excited surprise and admiration. The uncertainty of our variable climate will not allow us to rely with assurance on securing a great display of flowers so early in the year as February, but there are happily plants ready to respond to the first warm gleams of sunshine, and it is seldom that April passes without awakening from their winter's rest the Violet, Aconite, Snowdrop, and Hellebore.

The period of spring might be floriculturally divided into three parts, according to the time of blossoming of the vernal flowers—February and part of March, mid-March, and early April, the rest of that month, and May. The second period is rich in interesting plants, chiefly bulbous, that supremely beautiful plant Chionodoxa Luciliæ being conspicuous. With it appears Anemone blanda and cœrulea, Scilla sibirica, var. bifolia, Iris reticulata, and Corydalis cava. The five first named grown in masses caused a lady to exclaim, "Oh, Mr. I., you have brought the sky down to the earth!" The third period is rich in many handsome plants and the more showy bulbs; but to these I shall advert in due course. The preparation of the various plants that belong to this system of gardening is a matter of very considerable importance. It is seldom that the commoner plants specially adapted to the purpose can be obtained from nurseries; in every way it is better to prepare them as near the home garden as possible, and there are several reasons why this course should be pursued.

We are all the more or less aware of the influence exercised by soil in promoting health and vigour in plant life, and the opportunity of employing the various kinds known to be most suitable is one to be especially valued. It happens that soil of the most opposite character is called for. Erica carnea is one of the most charming plants for early spring, and peat or a light silicious soil is required for its successful culture. Another plant, the Wallflower, which I grow largely, prefers a soil which would be death to Heaths; it revels in a light calcareous soil. I find it advisable to prepare beds by dressing with lime scraps or old mortar: and when the seedling plants are pricked out and established, we check a too vigorous growth by lifting each plant with a fork, so as to break the deeply penetrating roots, thus causing a compact mass of fibres to be produced. Wallflowers will grow in any soil, but plants so treated are less liable to injury from frost. Many hundreds were treated in this way last year, and I do not think I lost half a dozen from the weather.

I may relate an instance of the success attending an experiment in preparing a suitable compost for the Primrose, a plant singularly impatient of drought, and large numbers perished annually, even on our heavy, unprepared land. From this cause I was induced to provide beds of materials composed of grass-sweepings from lawns, leaves, and a small quantity of decayed manure, which I carted on to some rough outlying land to a depth of between two or three feet, enough, indeed, to smother all weeds beneath. When turned over several times, rolled, and settled down, on this I placed a layer of soil. I had then a bed retentive of moisture, rich in decomposed vegetable matter, which annually improved, carrying successive crops of Primroses and other spring plants.

One of the most useful and reliable plants for spring decoration is the Aubrietia. It is a plant that readily adapts itself to very varying circumstances. It thrives in the rich soil of the kitchen garden, it does equally well in the herbaceous border, and spreads and blooms abundantly on rockwork, deriving support from the poorest soil. I raise thousands of seedlings annually from the typical garden kind, Aubrietia græca, which affords many shades of lilac, some approaching purple. I once obtained from seed a light pink variety, but it remained for that indefatigable and successful horticulturist, Herr Max Leichtlin, to secure a magnificent variety, justly named after him. Its rich crimson flowers in masses give an effect unsurpassed by any plant I possess. Rosy Blush is another contribution from Baden. I have also a white kind from Mount Athos, but it is not floriculturally valuable.

I grow an allied plant, Arabis albida, largely. It is useful in combination with other plants; its pure white flowers forming a pleasing contrast to Scilla sibirica, and later in the year it forms a good base for scarlet Tulips. Another plant extensively employed at Belvoir is Saxifraga ligulata. It has the merit of blooming early. It is sometimes cut down by frost, but this may be averted by Fir boughs. Even when the bloom is over its broad leaves cover the ground and provide foliage or a substitute for Hyacinth freely planted amongst it. Saxifraga Stracheyi is one of the handsomest of the tribe, but is so often injured by frost that a cautionary recommendation must accompany mention of it.

I needly hardly say that I grow large numbers of Violets. Having sunny and sheltered banks, this universal favourite may be, and is, gathered throughout the winter. One advantage I possess is ample supplies of leaf soil, which is useful when properly prepared for many plants besides Violets. It is essential that Violets be divided and replanted every year. I obtain some fine effects from the use of two kinds of Doronicum, excelsum and austriacum. This season they have been exceptionally fine. A bold, free blooming, and hardy white Cardamine, known as rotundifolia, deserves more general cultivation. It has been objected to as having a coarse, common appearance, but it is my doctrine that all hardy early blooming plants must be received with thankfulness. It blooms throughout April. One of the most effective and generally useful plants is the yellow Polyanthus; it blooms freely, and produces a compact mass of the purest yellow. I raise many thousands from seed every year. In favourable seasons they can be utilised the first year, but I depend generally on two-year-old plants. A pale yellow variety is effective, associated with Aubrietias. There are few plants more admired and cherished than Primroses, both double and single. The former, alas! resent removal in the spring, and I cannot boast of a good stock. The single crimson and white form some of our best beds.

I will try to classify the plants I chiefly employ according to their time of blooming. I have one large detached bed on a sunny slope on which I have planted masses of the flowers that may appear in February, and are pretty sure to do so before the middle of March. The first of these to flower is Crocus Imperati; Aconites and Snowdrops soon follow; then Anemone blanda and Chionodoxa Lucilliæ, followed by Scilla sibirica and bifolia. The beautiful Iris reticulata succeeds, then Puschkinia scilloides presents its bluish-white blossoms. The common kinds of Crocus form a fringe to this large bed, and the earliest blooming Primrose serves as a bordering. In warm seasons I can rely on Narcissus præcox superbum and N. Stella, and also the dwarf Narcissus minor. Come frost or snow, wind or wet, I can always depend on the hardy and handsome Saxifraga oppositifolia. I can speak strongly of the interest and beauty of a bed thus occupied and arranged.

The next division of the early season is mid-March and early April. Erica carnea, Saxifraga ligulata, the early Narcissi, Arabis albida, Aubrietia græca, Polyanthus, Primroses, Hyacinths, Tulips, Cardamine rotundifolia, the later Hellebores, and Myosotis dissitiflora.

The third division will include the foregoing, with the very important addition of Aubrietia Leichtlini, many Narcissi, Hyacinths and Tulips, Alpine Auriculas, Daisies, Wallflowers, both double, dark, and yellow, and Doronicum excelsum and austriacum, Myosotis dissitiflora, and M. alpestris Victoriæ.

Beds which we make up with various plants, although not giving a great effect of colour, are nevertheless interesting from the variety of plants they contain. They are useful in receiving plants when the stock is insufficient for masses, or when their duration of bloom is short. In these we have Hepaticas, Anemone nemorosa plena and A. Robinsoniana, Tiarella cordifolia, Saxifraga oppositifolia, Pulmonarias, Cardamine, Narcissi, Epimedium macranthum, double Primroses, Saxifraga muscoides atro-purpurea, Corydalis nobilis, C. cava, Ranunculus montanus, this year a veritable gem; Adonis vernalis, Dog's-tooth Violet, and the Alpine Daisy.

A description of some of the bedding arrangements may be of interest. I will just slightly mention some that have been much admired. In one part of the castle garden there are six beds, five yards across, holding about one hundred plants.

1. Aubrietia Leichtlini, edged with Alpine Daisy, and dotted with about fifty yellow Tulips. This is a very striking and effective bed, and most enduring.
2. Arabis and Scilla sibirica, edged with dark crimson Daisy, and dotted with scarlet Tulip.
3. Yellow Polyanthus, edged with dark red Daisy, pricked out with dark red Tulip.
4. Aubrietia græca, edged with pink Daisy, colour poucean Tulip.
5. Heath, edged with Heuchera Richardsoni, and dotted with yellow Tulip.
6. Crimson Primrose, white Tulip, pink Daisy.

There is another set of beds which I call, from their make up, bouquet beds. These have a centre of Erica carnea, edged with variegated Arabis and succeeded in bands by yellow Polyanthus and Aubrietia and yellow Primrose. Red, white, and blue Hyacinths brighten the central part of the bed.

In this garden there are raised beds, some filled with the two Doronicums, and others with dark Wallflower and yellow Daffodils. A very large bed in the centre is filled with yellow Wallflowers, banded by Myosotis, and followed by Aubrietia Leichtlini and Daises.

I have not space to continue the description of beds, having left out our best garden, called after the Duchess.

* A paper read recently at the Horticultural Club, by Mr. William Ingram, Belvoir Castle Gardens, Grantham.

GARDENING MISCELLANY.

TULIPA LINIFOLIA.

Amongst the smaller species of Tulip, few have the beauty and interesting character of this one, which was introduced in 1886. The leaves are lanceolate, crenate, and revolute at the edges, channelled, keeled, glaucous, and lie along the ground. The flower scape rises to a height of 6 in., and bears a single flower of considerable length while in bud and just expanding, but which, when expanded, spreads out to a width of 2½ in. The outer segments are obcordate, and the inner ones wedge-shaped, and all of a brilliant vermillion scarlet, with a black blotch at the base of each. Compared with other species it is late in coming into bloom, and keeps company more with the late Dutch Tulips used in bedding as well as with the flamed and feathered Tulips of the florist. When it becomes better known it ought to become popular with a large class of hardy plant cultivators. We noted it in the nursery of Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

ÆTHIONNEMA GRANDIFLORUM.

The species of Æthionnema are graceful plants with rose, purple or red flowers belonging to the Crucifer family. That under notice is a perennial, and may be considered the finest genus in cultivation. The slender stems attain a height of 15 in. or 18 in., and are both slender and numerous, so that when they open their terminal racemes of flowers they are handsome and attractive, even from a distance. The flowers, individually, are small, as are those of all the species, but when seen in a mass are effective. They are of a bright warm rose, shading off to pink as they get old. The plant is a native of Mount Lebanon, from whence it was introduced in 1879, but has not yet become very widely distributed in British gardens. It may be grown in the herbaceous border, but as its roots should be kept on the dry side in winter, the rockery is the best position for it, as may be seen at Kew, where it is now flowering grandly.

LYCHNIS FLOS-CUCULI RUBRA PLENA.

The flowers of this variety of Ragged Robin are of a soft rose, more intense in the centre when young, and fading with age at the circumference. They are perfectly double and relatively large. It seems a plant that would more readily take the public fancy than the double white sort that occasionally comes

under our notice. Both are equally suitable for the herbaceous border or rockery if a suitable position is selected for them, that is, a moderately moist one.

SAXIFRAGA BITERNATA.

On casual observation this seems to have some affinity with S. grandifolia, but it is even of slower growth, and the leaves have a marked peculiarity, as the specific name would suggest. They are deeply divided into three leading, stalked divisions, and those again are divided into two or three segments. The flowers are large, pure white, except the five green veins, and they are produced in cymes at the end of the stems which are 4 in. to 5 in. high. The buds at the base are inclined to be bulbous. The leaves are glandular and smell rather strongly. The plant is flowering in the hardy plant house at Kew, where it was sent by Mr. L. Maw in 1886. He collected it in Spain.

MAIDEN'S BLUSH TULIP.

For cutting, this is one of the handsomest Tulips grown. In the bud it is something like a Niphetos Rose, and when fully open has an exceedingly graceful, urceolate shape, the petals being generally flushed at the edges with a pale pink, and occasionally diffused with a rosy pink nearly half-way down. But it greatest merit is its long enduring quality. I have had some standing in a flower-glass for over a fortnight, and they don't look at all bad now. To any who require late Tulips for cutting, I would most strongly recommend this variety, for it is one of the very best of them all. It is most appropriately named, for it has a blushing, maidenly beauty that, amongst its gayer brethren and sisters of the Tulip world, is almost unique.—*A. H.*

CHEIRANTHUSES.

If I revert to this subject again it is specially to allude to the original species Cheiranthus Cheirii, which, so far as my observation has gone, is never met with in gardens. Yet but the other day as I stood high above the old stone walls of an ancient town and looked down upon the vegetation growing on them seawards, I noted Cheiranthus Cheirii in abundance. No doubt it is a plant that thrives best under such conditions, but all the same it should do well on chalky soils, on rockwork, or where the subsoil is gravelly. That the Wallflower so called, the variety of our gardens, does so well under ordinary culture shows that even the wild species will not refuse to grow in gardens. At the base of this old wall may be seen plenty of small seedling plants, the product of seed that has fallen, but these seedlings, because a high road runs at the base of the wall, soon come to grief.

Turning to the discussion respecting the proper nomenclature of the perennial forms of Cheiranthus or Erysimum, I think it must be conceded that in flower and foliage the forms known as Alpinus, Marshalli, Dilleni, and Mutabilis, all come nearer to the first-named species or family than to that of the latter. The forms of Erysimum growing at Kew differ in habit and in height of flower stems very appreciably from those of the perennial Cheiranthus. Erysimum ochroleucum and helveticum bloom profusely on stems that reach to the height of from 12 in. to 15 in. Cheiranthus Marshalli and alpinus have stems from 8 in. to 9 in. in height, and both produce dense clumps of leafage. Mutabilis is rather taller. I still occasionally meet with good clumps of alpinus in gardens, but Marshalli is very scarce, more's the pity, for it is one of our best spring blooming border flowers. No doubt it suffers more from excessive rain and snow than from any other cause, and should be annually propagated by cuttings to keep up a stock.—*A. D.*

The Home Park, Hampton Court, was on Whit Monday formally opened to the public. Exactly as the Palace clock was striking nine Mr. Graham, the superintendent of the Palace Gardens, unlocked the gate leading into the Church Avenue, which runs in the direction of Kingston, and commands a fine view of the tower of Kingston Church. In the Home Park there is an old Oak, with a girth of 37 ft., said to be one of the largest in the British Isles, which is matched by an equally noted Elm, growing in two huge stems, which have gained for the tree the name of the Two Sisters, or King Charles' Swing. It is estimated that in the afternoon at least 70,000 people visited the Park and the Palace.

THE TEMPLE SHOW.

The fifth of the series of annual shows held by the Royal Horticultural Society, in the Inner Temple Gardens, was held on the 25th and 26th ult, and the exhibits were arranged as usual in four large tents upon the grass. The first day was bright and warm, bringing out a large number of people, and the second day was dull, although dry. No prizes were offered, but awards were made in Silver Cups, and medals of various values, according to the merits of the exhibits. All the tents were connected together except the fourth, so that visitors could pass from one to another under cover except the last.

Near the main entrance was a long tent to a large extent occupied with cut flowers of hardy subjects, Ferns and others. Near the entrance was a large collection of hardy and exotic Ferns, including filmy Ferns, not protected by bell-glasses or hand-lights of any kind. This exhibit was staged by Messrs. W. and J. Birkenhead, Sale, Manchester (Silver Cup). On the left was a showy and extensive collection of hardy plants, including Irises, Saxifragas, Poppies, Lupins, Lilies, Violas, and a host of other useful subjects, too numerous to mention, exhibited by Messrs. J. Laing & Sons, Forest Hill, (Silver Gilt Flora Medal). Messrs. Barr & Son, Covent Garden, exhibited a similar but more extensive collection, with Ixias, and Florists' Tulips in the different classes and stages (Silver Cup). Messrs. E. D. Shuttleworth & Co., Peckham Rye, had a rich and varied collection of herbaceous plants, and some fine foliaged trees and shrubs (Silver Flora Medal). Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, had an extensive collection of the hardy herbaceous plants in flower with several fine Lilies, Spiræas, Pyrethrums, &c. (Silver-gilt Flora Medal). Iris Susiana and others were shown by M. C. G. van Tubergen, Haarlem Holland (Silver Flora Medal). A collection of Florists' Tulips was staged by J. W. Bentley, Esq., Stake Hill House, Manchester (Silver Banksian Medal). A collection of Irises was shown by Messrs. Collins Bros., Waterloo Road (Silver Banksian Medal). A collection of Delphiniums, Poppies, Irises, Violas, and other subjects was staged by Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley (Silver Banksian Medal), Herbaceous and Alpine plants in some variety were shown by Mr. M. Pritchard, Christ Church (Silver-gilt Flora Medal). Messrs. Wm. Cutbush & Son, Highgate, exhibited a dense bank of Irises, Pyrethrums, Gladiolus, and other herbaceous subjects (Silver Flora Medal). Pæonies, Irises, Delphiniums, and Amaryllis in quantity were shown by Messrs. Kelway & Son, Langport (Silver-gilt Flora Medal). Messrs. Harkness & Sons, Bedale, had also a fine collection of hardy subjects (Silver-gilt Flora Medal). Leschenaultias were shown by Messrs. W. Balchin & Son, Hassocks, Brighton. Messrs. Reid & Bornemann, Trewsbury Road, Sydenham, had an undulated group of stove and greenhouse plants, and a yellow leaved Lobelia (Silver Banksian Medal). Messrs. J. Veitch & Sons, Chelsea, had a fine group of Gloxinias and hybrid Streptocarpus in this tent. Begonias were shown by G. A. Farini, Esq., Forest Hill, and he had many fine paintings of Begonias (Silver Flora Medal).

In the second tent an undulating bank of tuberous Begonias in the leading varieties was exhibited by Messrs. J. Laing & Sons. The single and double kinds were mixed, and some of the finer kinds arranged in little groups in prominent positions. (Silver Cup). Messrs. H. Cannell & Sons, Swanley, had a similarly extensive collection, but the single and double kinds were arranged separately. (Silver Cup). They also had a group of Gloxinias grown in small pans and very floriferous. Mr. T. S. Ware also had a collection of tuberous Begonias arranged in a sloping bank, receding slightly at either end. (Silver-gilt Banksian Medal) A fine collection of Gloxinias, magnificently grown, was exhibited by Messrs. Sutton & Sons, Reading. For size of leaves and flowers there was nothing to match them in the exhibition. Amongst fine types we noted were—Her Majesty, Princess May, Duke of York, and the beautiful Netted Queen, the markings of the latter being now finely developed. They also showed a batch of plants in flower of the new annual Nemesia strumosa Suttoni. (Silver-gilt Flora Medal). Messrs. Hugh Low & Co., Clapton, exhibited Alphelexis Brucei, Heaths, and other New Holland plants. (Silver-gilt Flora Medal). Messrs. J. Carter & Co., High Holborn, had separate groups arranged in contiguity of Mimulus, Gloxinias, Streptocarpus, Petunias, and Calceolarias, the two latter being fine. (Silver-gilt Flora Medal). Messrs. J. Peed & Sons, Roupell Park Nurseries, Norwood Road, exhibited a group of Gloxinias on a groundwork of Adiantum. An extensive group of Ferns, with the more prominent of them placed in conspicuous positions, was exhibited by Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton. (Silver Cup). Some Cannas and Roses were shown by J. C. Tasker, Esq., Brentwood, Essex. (Silver Banksian Medal).

The central staging in the second tent was partly occupied with Orchids. Messrs. Charlesworth, Shuttleworth & Co., Heaton, Bradford, and Clapham, showed a fine lot of Oncidium macranthum Lælias, and others. (Silver-gilt Flora Medal). The Duke of Northumberland (gardener, Mr. Wythes), Syon House, Brentford, also showed a group of Orchids. (Silver Flora Medal). Messrs. Pitcher & Manda, Hextable, Swanley, staged Cattleyas, Lælias, and others, mixed with Sarracenias. (Silver Cup). Cattleyas, Lælias, and Cypripediums in bold masses were shown by F. Wigan, Esq. (grower, Mr. W. H. Young), Clare Lawn, East Sheen. (Silver-gilt Knightian Medal). A new Brassia named B. Lewisii and many others were staged by Messrs. Lewis & Co, Southgate. (Silver Flora Medal). Finely flowered pieces of Cattleya Mossiæ were exhibited by Hamar. Bass, Esq (gardener, Mr. J. Hamilton), Burton-on-Trent. (Silver Knightian Medal).

The best display of Orchids was made in the third and largest tent. The Cattleyas, Odontoglossums, and Epidendrum vitellinum and others shown by Messrs. F. Sander & Co., were very effective (Silver Cup). Sir Trevor Lawrence, Bart., had also a most floriferous bank of Orchids, of the seasonable kinds (Silver Cup). The same may be said of the splendid group shown by Baron Schroder, The Dell, Egham, who received a Silver Cup and a Silver Flora Medal for a piece of Cœlogyne Dayana with twenty-two long racemes of bloom. A Silver Cup was also awarded to Mr. J. Cypher, Cheltenham, for Orchids. C. J. Lucas, Esq. (gardener, Mr. Ducan), Warnham Court, Horsham, staged a floriferous group (Silver Cup). Cattleyas and Cypripediums, &c., were shown in quantity by Messrs. H. Low & Co. (Silver-gilt Flora Medal). Cattleya Lawrenciana and many fine Dendrobiums were staged by Messrs. B. S. Williams & Son, Upper Holloway, who had likewise a group of stove and greenhouse plants (Silver-gilt Flora Medal. Mr. C. Turner, Slough, showed Malmaison Carnations (Silver-gilt Flora Medal). Messrs. J. Laing & Sons had a magnificent group of Caladiums and another of stove and greenhouse plants (Silver-gilt Flora Medal). Mr. H. J. Jones, Hither Green, Lewisham, had a bold and showy group of show Pelargoniums (Silver Flora Medal). Messrs. J. Veitch & Sons, had an effective group of hardy flowering and fine foliage shrubs in great variety (Silver Cup). P. Crowley, Esq., Wadden House, Croydon, had a group of large, fine foliage plants (Silver Cup). Messrs. Cutbush & Son had stove and greenhouse plants (Silver-gilt Flora Medal. Messrs. Peed & Sons had a large group of stove, greenhouse and hardy plants (Silver-gilt Flora Medal). Roses were shown by Mr. Rumsey, Waltham Cross, (Silver-gilt Flora Medal). J. Warren, Esq. (gardener, Mr. A. Offer), Crawley, exhibited large Palms, Crotons, &c. (Silver Cup). Messrs. E. D. Shuttleworth & Co., had two fine groups of flowering and fine foliage stove plants (Silver-gilt Flora Medal).

In the fourth tent a collection of hardy herbaceous plants, including Violas and Pansies, was staged by Messrs. J. Cocker & Sons, Aberdeen (Silver Banksian Medal). A similar award was made to Mr. J. Walker, Thame, Oxon, for Pelargoniums; to Mr. J. Chard, Stoke Newington, for floral decorations; and to Messrs. Keynes, Williams & Co., Salisbury, for single Roses. A Silver Cup was awarded to Messrs. T. S. Rivers & Son, Sawbridgeworth, for Peaches in pots; and another to Messrs. J. Backhouse & Son, York, for Alpine plants on rockwork. Silver-gilt Flora Medals were awarded to Messrs. Dobbie & Co., Rothesay, N.B., for an extensive collection of Violas in pots and cut flowers; to the Guildford Hardy Plant Nursery for herbaceous and other plants; to Messrs. Perkins & Sons, Coventry, for floral decorations; and to Lord Penzance, Godalming, for Sweet Briars. Silver Flora Medals were awarded to Messrs. G. Cooling & Sons, Bath, for old

garden Roses; to Mr. G. Mount, Canterbury, and Mr. F. Cant, Colchester, for Roses. A Silver-gilt Banksian Medal was awarded to Mrs. Thewles for bouquets; and a Silver Banksian Medal to Lord Foley (gardener, Mr. Miller), Esher, for fruit; to Mr. G. Wythes for fruit; and to Mr. E. Dresden for fruit. Silver-gilt Knightian Medals were awarded to Mr. G. Featherby, Gillingham, Kent; and to Mr. S. Mortimer, Rowledge, Farnham, for fruit. Mr. J. McIndoe, Hutton Hall, Guisborough, exhibited a collection of fruit. Messrs. J. Veitch & Sons showed Apples, also a large and very interesting collection of Japanese products, sent home by Mr. James H. Veitch.

ORCHID NOTES AND GLEANINGS.

ORCHIDS CERTIFICATED AT THE TEMPLE SHOW.

THE Orchids described in the following paragraphs were exhibited at the Temple Show of the Royal Horticultural Society, on the 25th and 26th ult., and were all certificated by the Orchid Committee.

Cœlogyne Dayana.

A MAGNIFICENT piece of this beautiful Bornean species, bearing twenty-two long, pendent racemes of bloom, was exhibited by Baron Schroder, The Dell, Egham. The leaves are about 2 ft. long, and arching, with long petioles. The flowers are moderate in size and smell rather too strongly to be agreeable. The sepals and petals are linear and pale yellow. The lip is white, but heavily stained with brown on the outer face of the lateral lobes and heavily striped on the inner face with the same colour; the middle lobe has a white disc and six white ridges, the rest being pale brown. The plant was isolated and elevated on a long-stemmed stand, showing off the graceful racemes of flowers to the best advantage. It was accorded a First-class Certificate as well as a Silver Flora Medal, and was certainly unique in its way.

Cattleya hybrida William Murray.

THE seed parent of this hybrid was Cattleya Mendelii crossed with C. Lawrenciana. The pseudo-bulbs are ellipsoid 1 in. to 1½ in. long, and terminate at present in a single, oblong leaf. The sepals and the oblong wavy petals are of a warm rosy-purple. The lip has the curved tube, forming a sharp ridge, of Cattleya Lawrenciana; the lamina is wavy, bifid, and, together with the side lobes, is of a rich dark purple, there are two yellow blotches in the throat, and the tube is lined with purple. It was exhibited by Messrs. F. Sander & Co., for Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne, and was accorded a First-class Certificate.

Lælia purpurata nobilis.

THE sepals of this variety are shaded with rosy-pink on a white ground with deeper veins. The petals are several shades darker and longitudinally folded backwards along the middle. The lip is the decided feature of the variety, and is of great size, maroon-crimson, with a purple blotch at the apex, and the tube internally is beautifully striated with dark purple on a pale yellow ground. It was exhibited by Messrs. F. Sander & Co., and received an Award of Merit.

Miltonia vexillaria Princess May.

THE flowers of this variety are large and very chaste being pure white, with exception of a pale purple blotch at the base of the petals and a yellow blotch at the base of the lip, with three purple rays from it. This is also one of Messrs. Sander & Co.'s novelties, and received an Award of Merit.

Odontoglossum Wattianum Hardy's var.

ON casual observation this plant seems to belong to the O. luteo-purpureum type; but has a concave lip, reminding one of O. polyxanthum, and the colours are quite different. The sepals are lanceolate-elliptic and yellow with two large, irregularly lobed chocolate blotches covering more than half their area. The petals are narrower, with numerous smaller blotches. The lip is concave, suddenly pointed, and pale yellow, with a large lobed blotch in front of the crest and disc which are spotted. Award of Merit. There were fifteen flowers on a spike of a plant exhibited by Messrs. F. Sander & Co.

Lælia purpurata Niobe.

THE sepals of this variety are pale rosy-purple, and the petals deep rosy purple, with white shadings. The lip is intense purple deepening to crimson at the base and in the throat, with a purple blotch at the apex; the veins are darker even where the colour is most intense. Award of Merit. Exhibited by Mr. J. Cypher, Cheltenham.

Lælia purpurata atropurpurea.

THE sepals and elliptic petals in this case are pure white, contrary to what one would expect from the name, and contrasting beautifully with the large lamina of the lip, which is intense purple with a paler blotch at the apex; the tube is white, but striped internally with white. The side lobes are intense purple. Award of Merit. Exhibited by Mr. J. Cypher, Cheltenham.

Cattleya Warneri formosa.

THE sepals and broadly ovate crisped petals of this variety are of a soft uniform rose. The large and handsome lip is wavy and crisped at the margin with a very rich purple lamina and side lobes, the latter being equally coloured on both sides and white at the margin. There are two yellow and white blotches in the throat, and the very base of the tube is striped with purple. An Award of Merit was accorded it when shown by Messrs. Charlesworth, Shuttleworth & Co., Heaton, Bradford, and Park Road, Clapham.

Cypripedium Volonteanum giganteum.

THE deep olive-green leaves of this variety are beautifully tessellated with grey. The upper sepal is ovate, incurved at the edges, and green. The flowers are large as a whole, but this is best seen in the petals, which are obovate, purple in the upper half, and green over the rest, spotted with crimson in the middle. The lip is also of great size, and heavily shaded with brown. The variety was shown by Messrs. Hugh Low & Co., Clapton, receiving an Award of Merit.

Epidendum Clæsianum.

THE habit of this plant is similar to that of E. evectrum, but is dwarfer with short, two-ranked leaves. The sepals are lanceolate, the petals a little broader, and all are of a soft salmon red. The lip is paler and three-lobed, with the side lobes deeply lacerated or fringed, and the middle lobe two or three toothed. There is a central yellow disc, and a three-ridged crest. Botanical Certificate. It was exhibited by C. J. Lucas, Esq. (gardener, Mr. Ducan), Warnham Court, Horsham.

WHAT TO DO IN THE GARDEN.

Allamandas and Dipladenias.—Plants grown in pots, and which have been pinched in order to get them in bloom by a certain date, will now be advancing towards the flowering stage. When the trusses of flowers are distinctly discernible, the plants may be fed with weak liquid manure. If this is done previous to the appearance of the flowers it gives rise to a deal of growth without a corresponding amount of bloom.

Pancratium fragrans.—When the flower spikes of this and allied plants get too forward and in danger of flowering before they are wanted, they may be retarded by removal to a greenhouse some time before the buds have attained their full size, and before there is any danger of their expansion. They last but a short time after the flowers open.

Heliotropes.—While preparations are being made to have the Heliotropes planted out, a quantity of the best of the plants may be reserved and potted up for conservatory work later on in the season. After the roots have taken to the fresh soil, pinch all the stronger shoots at least to make the plants bushy. The process may be repeated later on unless the plants are required to be in bloom early. Shift them once or twice if large plants are required, but really large shifts should not be given at any time.

Chrysanthemums.—The stock of Chrysanthemums for flowering in October and November should now be placed in the pots in which they are to flower. Hitherto they have been kept moderately dwarf by the dryness of the atmosphere, but their roots are now in a crowded state and a shift would be greatly to their advantage. Where green or black-fly has made its appearance at the tips of the shoots give them a dusting with tobacco powder or dip them in tobacco water.

Azaleas.—The early varieties of greenhouse Azaleas which have completed their growth should be put in the open air to ripen the same, in a sheltered position on a bed of ashes. Examine them for thrips before putting them out, and fumigate if necessary.

Roses.—Mildew has already made its appearance upon Roses grown under glass, and cultivators would do well to check it before it spreads extensively. This may be done by dewing the plants over with the syringe and then dusting them with flour of sulphur, or a quantity of the latter may be thoroughly mixed with water and the plants syringed with it.

Amaryllis.—As the late flowering bulbs of Amaryllis in the greenhouse go out of flower, they may then be put into heat and well attended to in the matter of watering and feeding till the leaves begin to turn yellow, when water may gradually be withheld in late autumn.

Vineries.—Much the same treatment must be given the earliest house as for the past fortnight or so when the berries are fully ripe. Give plenty of ventilation on bright days, and just sufficient water to the borders to prevent the berries from shrivelling. Where the berries are just colouring the same treatment as to ventilation will have to be observed, but a little fire heat will still have to be given to keep up the required temperature to ensure thorough maturation and finish. Muscats will require a night temperature of 70° with a rise of 10° by day. No front air will be required till the berries begin to colour. Late Grapes for winter use should now be ready for thinning.

Celery.—Make plantations of this useful vegetable as soon as the plants become fit. Immediately after planting give a good soaking of water to settle the soil about the roots. Prick off the seedlings of the main batches if not already done.

Vegetable Seed Sowing.—Make a sowing of late Peas, and should the ground be light and sandy it would be a good plan to take out a trench and dig some manure into the bottom of it. The Peas may be sown at a level so that when covered they will be a little below the surface of the ground. Make a sowing of Coleworts to be planted out next month. A late sowing of French Beans may also be made for autumn use. Amongst salad plants sow Lettuce, Endive and Radishes.

QUESTIONS AND ANSWERS.

DICTIONARY OF GARDENING.—*A. B.*: Nicholson's "Dictionary of Gardening" was published in 1885, and a supplement was added to it when the work was completed; but there has been no edition published since, nor do we know if one is in preparation.

TITLE OF BOOK.—Your correspondent "Floss" will find the verses quoted in W. H. C. Nation's "Prickly Pear Blossoms" (recently published by Eden Remington & Co., 15, King Street, Covent Garden), under the heading "A High Grown Creeper."—*Reader.*

BOOKS.—*W. L.*—We understand that Mr. W. Taylor's little work on "The Vine" is out of print, and we cannot inform you where you can get a second-hand copy. Barron's "Vines and Vine Culture" can be had from this office, as per advertisement in another column.

STRAWBERRIES TURNING BROWN.—*P. Palmer*: Some animal has been picking out the so-called seeds of your fruits, at the same time injuring the remaining portion. After a time they cease to grow and then commence to decay, when the common fungus termed mould commences to grow upon them and hastens their destruction. From the way in which the injury is done we suspect the sparrows or some other birds, but probably the former. To save the remainder, net them at once.

JOURNAL OF KEW GUILD.—*An Outsider*: We will make enquiries.

NAMES OF PLANTS.—*D. Rhymer*: 1, Odontoglossum crispum guttatum; 2, Masdevallia ignea; 3 and 4 Masdevallia Harryana and M. H. Bull's Blood, the latter being the largest and darkest coloured; 5, the purple one is Masdevallia Lindeni; 6, Aerides crispum; 7, Aerides odoratum. We are somewhat doubtful about the numbers of the Masdevallias as the list we originally made out was unfortunately lost in transit to the printing office. But if you cannot make out the Masdevallias please send them again.

COMMUNICATIONS RECEIVED.—H. E.—A. J.—R. S.—H. T.—R. D.—F. C. B.—W. E.—F. W. B.—Disgusted.

LONDON SEED TRADE.

May 30th, 1893.

MESSRS HURST & SON, 152, Houndsditch, and 59, Seed Market, Mark Lane, E.C., report a steady demand for Agricultural Seeds. Red Clover realises full prices. Supplies of Trefoil being almost exhausted, this article has advanced some shillings per cwt. Konigsburg Tares scarce and much dearer. Rye-grasses unchanged.

COVENT GARDEN MARKET.

May 31st, 1893.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Tasmanian Apples per case	5 0	10 0	Melons ... . each	1 6	2 6
Grapes, per lb.	1 0	2 6	Strawberries, per lb.	0 6	2 0
Peaches ... per dozen	3 0	12 0	Pine apples. —St. Michael's, each	2 6	6 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Asparagus per buudle	1 6	5 0	Horse Radish, hundle	2 0	4 0
Artichokes Globe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, French, per lb.	1 6	2 0	Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per hunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	5 0	Seakale .....per bkt	0 0	0 0
Celery.....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers .....each	0 4	0 8	Spinach ... per strike	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 9	1 3
Herbs .....per hunch	0 2	0 6	Turnips ..... per hun.	0 6	

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s d		s. d.	s. d
Azalea, doz sprays.....	0 4	0 9	Narcisse, various, doz. hnchs	2 0	4 0
Arum Lilies, 12 blms.	2 0	4 0	Pelargoniums, 12 sps.	0 6	0 9
Bouvardias, per bun.	0 6	1 0	— scarlet.....12 hchs.	4 0	6 0
Carnations, 12 blooms	1 0	3 0	Pinks, doz. bunches...	1 0	3 0
Cornflowers, dz. bun.	2 0	4 0	Pyrethrum doz. bun.	1 6	4 0
Eucharis ...per doz.	3 0	6 0	Primula, double, hun.	0 6	1 0
Gardenias 12 blooms	1 0	2 6	Orchid Bloom in var. per bloom, from	0 3	1 0
Gladiolus, White, dzhn	4 0	9 0	Roses, yellow, dozen	2 0	4 0
Heliotropes, 12 sprays	0 6	0 9	— French, per bnch	0 6	1 6
Iris, var., doz. bunches	6 0	12 0	— Red..... doz. blms.	1 6	3 0
Lilac, White, French, per bunch...	4 0	5 0	— Saffrano...per doz.	1 6	2 0
Lilium Harrisii, doz. blooms	2 0	3 0	— Tea ..... per dozen	0 6	2 0
Lily of Valley, dz. bhs.	3 0	6 0	Spiræas, doz. bunchs.	3 0	6 0
Maidenhair Fern, 12bs.	4 0	6 0	Stephanotis, dz. sprays	1 6	2 6
Marguerites, 12 bun.	2 0	4 0	Tuberoses, per doz	0 6	1 0
Mignonette... 12 bun.	2 0	4 0			

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s d.
Azaleas... per doz	24 0	42 0	Lobelia .....per doz.	3 0	6 0
Cyperus .....per doz.	4 0	12 0	Marguerites, per doz.	6 0	12 0
Cineraria ...per doz.	6 0	9 0	Nasturtiums, per doz.	3 0	4 0
Dracæna term., doz.	18 0	36 0	Mignonette, per doz.	4 0	8 0
Dracæna viridis, doz.	9 0	18 0	Palms in variety, each	2 6	10 0
Erica, various, doz.	12 0	24 0	Palms, Specimen ...	15 0	63 0
Evergreens, invar. doz	6 0	24 0	Primula Sinensis per doz.	4 0	6 0
Ferns, invar., per doz.	4 0	18 0	Pelargoniums ... doz.	9 0	15 0
Ferns, small, per 100	6 0	10 0	— scarlet.....per doz.	4 0	9 0
Foliage Plants, doz.	12 0	60 0	Spirea, per doz.	6 0	12 0
Genista .....per doz.	9 0	12 0			
Ivy Geraniums...doz.	4 0	6 0			

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The Gardening World.

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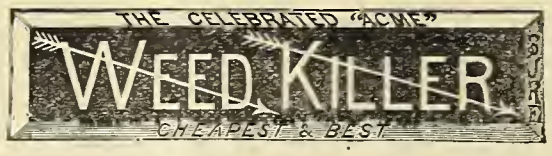

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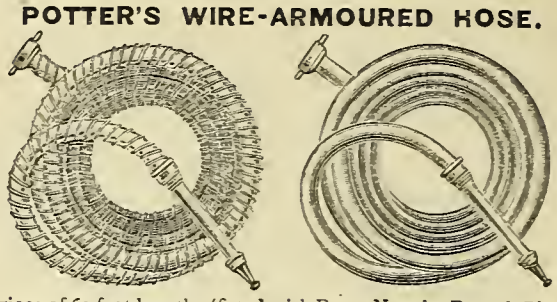

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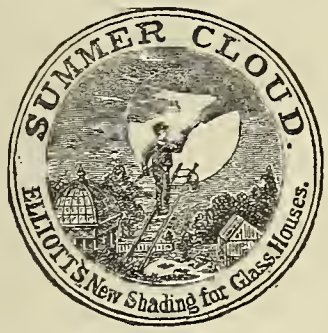

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For Index to Contents see page 649.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, June 13th.—Sale of Orchids at Protheroe & Morris' Rooms.
WEDNESDAY, June 14th.—Grand Floral Fete at York (3 days). Rose Show at Earl's Court (2 days).
THURSDAY, June 15th.—Newport Rose Show.
FRIDAY, June 16th.—Sale of Orchids at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, JUNE 10th, 1893.

UNHONOURED HORTICULTURE. — Looking over the long list of honours bestowed, as is customary, on Her Majesty's birthday, we seek in vain for any granted to representatives of horticulture. But then we have yet to learn that horticulture ever has been so considered. Of course we have our own opinions as to the real nature of the "honour" done to any body or profession, when titles, prefix or affix, are granted by the Government; but those are not now under discussion. We are rather thinking of not only what is very widely thought in horticulture, but also of what is thought in relation to these honours in other callings.

Somehow, although horticulture is the oldest and most honourable of professions, yet we cannot recall one single instance in which anyone has received honours of the kind we are considering as a gardener. Some eminent men have been honoured as botanists, and as such Mr. D. Morris, of Kew, obtains a K.C.M.G. Sir Joseph Paxton was a very distinguished gardener, but he was knighted because he was also an eminent architect. Sir James Mackay, of Dublin, was also knighted, but not because he was an eminent seedsman. There could be no difficulty whatever in finding a score of men, all of whom as horticulturists are as worthy of honours as are the highest representatives of science, medicine, law, agriculture, or any other profession.

Perhaps no one has represented the claims of horticulture in the proper quarter; perhaps no one has cared, and yet we cannot doubt but that the same appreciation for these public honours characterises horticulturists as much as they do any other class. Not for one moment do we, or

THE CARNATION:

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perhaps does anyone else, assume that horticulture needs, or would be any the more prosperous because of the giving of such honours, as we refer to. That is not the point. We think when such honours are bestowed, that horticulture is so eminently noble, important, and national an occupation, that it merits fully the same consideration as any other profession or science receives.

THE TEMPLE SHOW.—We refer to this great exhibition again chiefly, however, to remark upon the singular unanimity with which the new restrictions that were imposed upon exhibitors and their assistants have been condemned, both by the Press and public opinion. Such arbitrary action is calculated to do the society immense harm, and those who are responsible so far from being its friends are rather its enemies. A policy that is made up of meannesss and distrust can never be popular. That the remarkable error of judgment shown evoked a growl from our usually very complaisant contemporary, the *Gardeners' Chronicle*, shows that the fault was a very serious as well as an obnoxious one.

It is evident that if attempted at any future show there will be a serious rebellion, that would only lead to a disastrous fiasco. The strong consensus of opinion shown also in regard to the arrangements of the show is a remarkable feature. We do not blame the society so much for this, still less exhibitors; the fault rather lies in the restrictions imposed on the show by the Temple authorities. But no matter where shows be held or under what conditions, when as at the Temple, they consist of long, straight, formal tabling, lines and banks of flowers or other exhibits; and if still further there be a large attendance of the public, it is certain that not only is effect lost, but interest is entirely wanting also.

We trust that the grave defects so evident at the Temple will not be repeated at the Agricultural Hall, where the society should have a free hand. Too much stuff is a nuisance, and exhibitors of every class should have their spaces rigidly limited, whilst every encouragement should be given to effective arrangement. A great flower show should not be a bazaar; it should be a beautiful, graceful, effective spectacle.

CAN PLANTS SEE.—We are undoubtedly getting on when it is admitted that animals are reasoning creatures, and now it is suggested that plants can see. As to the reasoning faculties in animals, these seem to be determined pretty much in the same way that they are in man, by the size and culture of the brain; and it would not be difficult to find some trained brains in animals that have in them more intelligence than have untrained brains of man. But when we are asked to believe that plants can see, we have to admit that it needs a large measure of credibility, if not of credulity. Plants not so long since were practically proved to have digestive organs and to be capable of decomposing flesh or insects as food. Hence came into notoriety the section, a very limited one, called carnivorous plants.

It would, however, be somewhat of a strain on the imagination to assume that because these plants can thus digest insects or flesh they have reasoning powers, for if they have, as is now averred, organs of sight, they must have organs of reasoning also to enable them to use these eyes. But after all, on what ground does this new-found assumption rest? So far as we can gather, simply on this: that it is found—a fact all gardeners have long been familiar with, that climbing plants have a supposed capacity to discern supports, and that they will make their growth in the direction of these supports until reached.

But it is somewhat absurd to put forth the theory of sight in plants on such a trifling basis. There can hardly be doubt but that climbing plants have a faculty to seek for support, but that seeking capacity is based on the irregular growth of the stems producing what is termed revolving nutation, and when they come in contact with an object their sensitiveness or irritability enables them to twine round it, just as plants stood in a room or shaded place will turn to the light, not as is supposed in search of light, but because the light exercises over the leaves a force that is irresistible. Plants have lungs, doubtless, but we shall want a lot of proof that they have eyes to see, ears to hear, or brains to understand.

TASMANIAN FRUIT.—Whilst we are all agreed that hardy fruit growers at home have nothing to fear from the consignments of Apples and Pears which come to us from Tasmania at this season of the year, yet does it seem as if the enterprising growers of that far distant country, so far as relates to Europe as a market for their produce, were somewhat between the devil and the deep sea. We have read in the daily papers a report of a consignment specially sent to the Imperial Institute from the Antipodes, though why sent to that sort of colonial Bastille it would be hard to say, as it is so evident that the proper place for fruit of that description is in one of the London markets.

Now the experts, who, on the invitation of the importers, attended to examine these fruits, found that whilst those gathered when ripe were past their best, and comparatively poor in quality, those gathered before ripened were, if looking nice, yet wanting flavour. Having regard to the time which must elapse before the fruits can be placed on the European markets, and the close and certainly objectionable conditions under which they are carried, it does seem as if the difficulties to any very generally successful trade were insuperable.

We have that much to regret, as the loss is partly ours and partly that of the Tasmanian growers. Our own Apple and Pear crops this season are naturally to us matters of the deepest concern, and we hope later reports will show that they are good. In any case fruits should be exceptionally good this year, because they will have an unusually long season in which to mature.

National Carnation Society.—(Southern Section). At the committee meeting held at the Hotel Windsor on June 3rd it was unanimously agreed that owing to the exceptionally early season the date of the exhibition, which was to have been held in the Drill Hall, James Street, Westminster on July 25th, should be altered to July 11th; and that the exhibition be held in the gardens of the Royal Horticultural Society, at Chiswick on that date.

Mr. A. D. Webster, son of the late Mr. J. B. Webster, and who has for several years had charge of the woods on the late Earl of Derby's estate at Holwood, Kent, has been engaged by the Duke of Bedford, as wood manager on his Woburn and other estates.

London Parks and Open Spaces.—The appointment of District Superintendents of Metropolitan open spaces recently engaged the attention of the London County Council. The Parks and Open Spaces Committee recommended that two district superintendents of open spaces be appointed, one for the north and the other for the south of the Thames; that Mr. Wilkie, who is at present employed as forester, be appointed district superintendent of open spaces south of the Thames at the same rate of pay as he is now receiving, £234 per year; and that Mr. J. Knight be appointed north of the Thames at a commencing salary of £150, rising, by annual increments of £5, to £200. After a brief discussion the report of the committee was adopted.

National Chrysanthemum Society.—The annual outing of the members of this society will take place on Monday, July 17th. Lord Carrington has kindly given permission for a visit to be made to the grounds of Wycombe Abbey, High Wycombe, and among the arrangements for the day will be a cricket match between eleven members of the N.C.S. and a similar number of members of the Aylesbury Floral and Horticultural Society, who will be accompanied by a number of friends from that town. Arrangements will also be made for visiting Hughenden Manor, and for inspecting one of the large chair-making establishments in the town of Wycombe, and other places of local interest.

Leicester and County Pansy Show.—The second exhibition of this society was held in Leicester on Saturday last and showed a marked improvement all round on the previous one. In addition to the special flower for which the society was established to encourage, the show was greatly enhanced by loans of plants from the Abbey Park, Mr. T Fielding Johnson, Mr. James Wright, Mr. Biddle, of Loughborough, Mr. Sydenham, of Tamworth, and others. The prize list was a fairly liberal one, including "specials" given by Mr. Burns, Mr. John Smellie, Messrs. Biddle & Co., and others, and in all the classes there was a good competition. Tamworth Yellow was the premier bloom in the exhibition.

The Dee Strawberry Fields.—About two hundred acres of land around Farndon and Holt, Chester, on the Dee, are devoted to the growth of Strawberries The earlier sorts were ripening quickly ten days ago, which is quite a month sooner than last year. The protracted drought has been greatly against growers, and if it continues it will curtail the picking season. There are plenty of berries, but there has been an absence of moisture to develop the fruit, although the district generally has not suffered so much as we have in the south.

Orchid Men at Cricket.—The fourth annual cricket match between the representatives of the firms of Messrs. Protheroe & Morris and Messrs. F. Sander & Co. was played at St. Albans on Wednesday, the 31st ult. Previous to the game being commenced the company, numbering about forty, sat down to an excellent dinner provided by Mr. Sander, and after justice had been done to it the health of the host was proposed and most cordially responded to. Play commenced at two o'clock. Messrs. P. & M. having won the toss, took the first innings and ran up a score of eighty-seven. The "Anguloas" then defended the wickets, and their venture resulted in a total of thirty-nine, leaving the visitors victorious on the first innings by forty-eight. Messrs. P. & M., then had a second innings, and knocked up eighty-three, but time did not permit for the second innings of the "Anguloas" to be finished. After play had ceased the two elevens and their friends again adjourned to Mr. Sander's residence, where tea was provided. In the absence of Mr. Sander at the Chicago Exhibition, Mr. Godseff and Mr. Sander, jun., superintended the arrangements. Messrs. P. & M.'s representatives then returned by the 8.32 train after having enjoyed a capital game and a particularly hearty reception.

Gardening and the Fragrant Weed.—A gentleman residing in a midland county, who is interested in the teaching of horticultural practice by means of the County Council lectures, thus briefly relates a bit of his recent experience:—"Four lectures were given on gardening, and I provided Tobacco, with the result that the number of men attending the lectures rose from 30 to 130. I then announced another series of interesting lectures, at which smoking was allowed, but the Tobacco was not found by me, and the numbers fell to from 25 to 30.

The Self-regarding Orchid.—Without man's interference these extraordinary plants (Orchids) have developed to an extent hardly exceeded by the most variable of florists' flowers—those which have enjoyed the fostering care of gardeners for two or three centuries. . . . In their native homes they are rarely crowded. Every one seems to stand alone and regardless of the others. . . . They never fight, either among themselves or with other plants. They mind their own business, and leave others to do the same. Perhaps one of the reasons

why they have been successful in life is their retiring, unaggressive natures. . . . While not aggressive, the Orchid is intensely selfish. Every plant is an individual working for its own benefit and that of its descendants. Like good business men, they take care of "number one," but, unlike many of these, they never injure others. We may fancy one of them in some past age looking round on the struggle for life and saying, "What shall I do? I cannot fight because I am too fragile, but I can endure drought and starvation better than most others." So he took up a position where none of his rivals could live, and devoted his powers and energies to self-improvement and protection against every danger. That there were enormous difficulties to be overcome is shown by the wonderful contrivances that so many have acquired—contrivances which differ considerably, notwithstanding they may be for the same end.—*James Rodway, in Longman's Magasine.*

Polyantha Rose Crimson Rambler.—We understand that the plant sent to the Great Exhibition of the National Horticultural Society of France on May 24th, as mentioned in our last, was in full bloom when sent out and packed in an ordinary matted basket. It was addressed to the care of M. Margottin fils, of Pierrefitte, who wrote to say that the plant arrived without a flower having dropped, thus showing its persistence and its capabilities to stand a long journey. It is said the flowers will keep in water for a fortnight.

Wakefield Paxton Society.—At the meeting of this society, on the 3rd inst, Mr. J. Haigh, of Sheffield, read a paper which had "Plants in Pots" for its title, and which proved to be a useful practical essay, which the members much appreciated. A discussion followed, in which Mr. Thomas, gardener to the Bishop of Wakefield, Mr. A. V. Maher, foreman Woolley Park Gardens, and others took part. The exhibition table was quite gay with greenhouse Rhododendrons from Woolley Park, and Pansies from Mr. G. Hudson, which made a pretty display. An exhibition of Roses, managed by a committee of the society, will be held on the occasion of the Wakefield Agricultural Society's Show, on July 8th, and on July 29th, the Society will hold its twelfth annual Cottagers' Window Garden Exhibition, and Children's Botanical Competition.

Gardening and Forestry Exhibition.—The Duke of Connaught, attended by Col. E. Egerton, visited the exhibition on the 30th inst. H R H., escorted by Mr. H. Percy Dodson, inspected the exhibits in the forestry section, including the case which has been sent from Balmoral by the Queen, and then passed through the Rhododendron garden, Messrs. Laing and W. Paul's exhibits exciting warmly expressed admiration. H.R.H. on passing into the grounds were at once impressed by Messrs. Cheal's miniature fruit garden, and after spending some time in examining the details expressed his intention to send his gardener from Bagshot to see it. The Duke then went through the western grounds and the Welcome Club enclosure, and expressed the opinion that the rearrangement was a great improvement on last year.

The Birmingham Amateur Gardeners' Association.—Between 80 and 90 members of this Society and their friends recently visited Kenilworth and Stoneleigh Abbey in order to see two first-class gardens, one, that belonging to Mr. Henry Whateley, Kenilworth, where there is an extensive lot of glass devoted to Tomatos, Cucumbers, and Grapes, and where Mushrooms are largely cultivated on outdoor beds. The party then proceeded to Stoneleigh Abbey, the residence of Lord Leigh, and saw through the mansion and the extensive kitchen gardens which are in admirable condition; and then about the pleasure grounds.

Popularity of the London Parks.—It was reported by the Parks Committee, on Tuesday, that for the purpose of ascertaining accurately the extent to which the Council's parks were used by the public they had the number of persons entering the parks on Whit Monday counted. The result was as follows.—Battersea Park, 109,783; Brockwell Park, 57,598; Clissold Park, 68,223; Dulwich Park, 33,607; Finsbury Park, 89,881; Kennington Park, 40,001; Myatt's Fields, 8,546; North Woolwich Gardens, 28,485; Ravenscourt Park, 20,597; Southwark Park, 91,074; Victoria Park, 303,516; and Waterlow Park, 49,255. The total number for the twelve parks was 900,566.

THE LATE MR. BARLOW.

Being one of your many readers who have frequently enjoyed a good hearty laugh over the Lancashire stories told by the late Mr. Samuel Barlow, which have appeared at various times in The Gardening World, I send you a cutting from the *Manchester Courier*, of June 2nd, which may interest some other of your readers. The verses are by Ben Brierley, the Lancashire Poet, another proficient in the dialect of the County.—*Wm. H. Smith, Sedgley Park Gardens, Prestwich, June 3rd.*

IN MEMORIAM.

Samuel Barlow, Born 1825, Died 1893.

Twin goddesses of fruits and flowers, who sought
To enrich the earth with summer wealth, inspired
In mortal man a love that with it brought
A yearning to create what man admired.
Then Flora smiled, Pomona danced with joy,
And filled the earth with sweets that could not cloy.

And one they decked with coronals of bays,
Entwined with golden fruit and flowers, meet
For mortal so devoted in his days,
To serve their ends, making the sweet more sweet,
The earth more lovely, by his bounteous hand,
As by the touch of a magician's wand.

But Flora and Pomona now may mourn
The sudden snatch from life of him who gave
Life to where it was not, and strove to turn
All things to beauty, even round the grave.
Now blossoms he where blossoms never fade.
A coverlet of flowers be with him laid.

BEN BRIERLEY.

Moston, Harpurhey, Manchester.

Mr. Barlow maintained a close acquaintance with the successors to his father's old friends and associates, and was a frequent and welcome visitor at the annual gatherings and the "fayberry" and Onion shows of the working-men botanists and gardeners of the county. Speaking at the Arts Club on one occasion, he said; "I have mixed a good deal among gardeners. The old hand-loom weavers were good gardeners and sterling fellows. To them I owe a good deal of my success in floral and horticultural pursuits." As a raiser, Mr. Barlow produced some fine varieties of Tulips and gold-laced Polyanthus. He had, at one time, some 500 seedling Auriculas, saved from carefully fertilised flowers. Three of them took high honours at one of the Auricula shows at South Kensington. In 1890 his collection of splendid English-grown Apples at Old Trafford excited immense interest. They had been grown on his estate at Llandudno, on the slopes of the Little Orme; and it was unanimously conceded by all the visitors to the Fruit Show, that they rivalled the choicest productions of the county of Kent, which is admitted to be the garden of England. Mr. Barlow was an active, if not the chief, promoter, of the Fruit Conference in Manchester, and he received in 1891 the freedom of the London Fruiterers' Company, in recognition of services rendered in promoting the culture of hardy fruit in this country. Only once in the past 160 years had a similar honour been conferred.

In "The Winter's Tale," referring to the operations of the gardener, Polixenes says:—

"This is an art
Which doth mend Nature—change it rather—
But the art itself is Nature."

Mr. Barlow, not content with the beauties of the natural world, was an enthusiast for the creations of the artist as ordinarily understood, and he was also an excellent judge in this difficult department. He was a generous patron of painters. The Manchester School, so called, found in him an ardent supporter, and such artists as Mr. Anderson Hague, Mr. Houghton Hague, Mr. R. Gay Somerset, and Mr. Fred W. Jackson owed much to his early encouragement of their efforts. He was also a great admirer of the work of G. F. Watts, R.A., and owned many of his finest pictures, including "The Red Cross Knight" and "The Angel of Death." The latter masterpiece he lent to the Jubilee Exhibition at Old Trafford. His collection was freely placed at the service of various exhibitions, the Manchester Arts Club especially benefiting by his generous aid. Of the Arts Glub he was one of the founders and its first president; and after the election of Lord Crawford of Balcarres, to the office he was elected a vice-president. Although he rarely ventured into the field of literature, he was an able writer, as was shown not only by his biographical sketch of the late William Rathjens, the painter, and other similar contributions on art, but by his occasional essays on horticultural subjects.

But, after all, perhaps the most attractive attribute of this many-sided man was to be seen in his private life. He was rare company. All his life, and particularly in his earlier years, he had been a close, keen, and delighted observer of the humorous side of the Lancashire people; and having a retentive memory, he accumulated a vast store of quaint anecdotes and amusing stories, with the narration of which in his own inimitable way, like a second Yorick, was wont "to set the table on a roar." The late Edwin Waugh found in him an inexhaustible mine of wealth, which he used in scores of his works, doubtless embellishing them by the resources of his peculiar genius, but obtaining the germ from the graphic veracity of the original narrator. It is to be regretted that much of unrecorded worth will be lost by Mr. Barlow's death; but the memory of his fascinating art as a *raconteur* of genuine Laucashire stories, aided by a wonderful proficiency in the dialect, will long linger in the memory of those who were privileged to know him.

The funeral took place on Thursday, in Middleton Churchyard, and was of a public character. The town was in mourning, the shops partially closed, the flags half-mast, and an immense concourse of people gathered near the church and in the graveyard. A procession, headed by the borough police and the fire brigade, preceded the coffin, and included the members of the Town Council, the Corporation officials, members of the Middleton Liberal Club, representatives of the borough justices, a deputation from the Manchester Botanical Society (Messrs. Bruce Findlay, F. Robinson, W. Grimshaw, and B. Armitage), and about 100 of the workpeople of Stakehill. The Manchester Arts Club was represented by Messrs. John H. Nodal, Ben Brierley, J. Houghton Hague, William Baldwin, C. W. Needham, J. W. Bentley, and J. Hampden Beckett; the Oldham Microscopical and other scientific societies by Mr. James Neild; and the Manchester Botanists' Association by Mr. Thomas Rogers. The service, which was choral, was conducted by the Rev. T. E. Cleworth (rector), the Rev. F. Ramsbottom, and the Rev. W. H. Fothergill.—*Manchester City News.*

FRUIT PROSPECTS AT CHISWICK.

Notwithstanding the cold and wet nature of last autumn there was a gorgeous display of bloom generally last spring in the gardens of the Royal Horticultural Society. The weather at the time was all that could be desired for the setting of the bloom, notwithstanding the frequent frosts which prevailed at night. Since then the long-continued drought has been the real crux of the question, and the crop of many kinds of trees will depend largely upon the amount of rain we get to prevent the dropping of the young fruit.

The stone fruits, but particularly Peaches, Nectarines, and Apricots, are probably mostly out of danger; but the heavy waterings which the trees have received by means of the hose for some time past will dispel any doubt upon the point that may exist with regard to the crop now in evidence. There is a good sprinkling of fruit on most of the Peach trees, and some of the latter bear even a heavy crop; but on the whole the average is not so good as that of last year, and could hardly be expected, for it was quite exceptional in most gardens where Peaches were grown on open walls. The same may be said of Nectarines so that the crop is certainly well worth looking after. Some few years ago a set of young Apricot trees was planted on a west aspect wall, and they have now attained some size, mostly covering the walls. Of course the trees are planted tolerably closely together so that every alternate one may be removed and planted elsewhere if considered desirable, leaving space for the rest to be extended along the wall. They have now come into bearing, and although some of them are rather thinly furnished with fruit, others are bearing a good crop. Amongst those that might specially be mentioned are Moorpark, Breda, Shipley's, and Kaisha. The first-mentioned bears the best crop, and the tree appears different from the rest by its small, richly-coloured leaves. The fruits are

now of some size and evidently past the most critical period.

Apples on the whole are very variable, both in the case of young and old trees. Most of the young bush trees are rather thinly furnished, but if the remaining portion of the season proves favourable we may expect heavy fruits in autumn. The young trees in many cases have had a struggle to get into leaf, as is still evidenced by the crumpled state of the leaves at the base of the shoots. Good crops of fruit may, however, be noted on Mank's Codlin, Lord Suffield, Duchess of Oldenburg, Ingestrie Yellow, and Baumann's Red Winter Reinette. Younger trees of Stirling Castle, on the Doucin stock, and Lord Suffield and Cellini on the Paradise stock, have a wonderful crop of fruit, notwithstanding the fact that the trees were transplanted to a fresh piece of ground in winter. Considering the size of the trees the latter may even be said to bear an unusually heavy crop. The fruits are also swelling wonderfully and promise to do well. If so, the fact would tell greatly in favour of the two dwarfing stocks named. Old bush or dwarf standard trees vary considerably, some being thin and others heavily set. In most cases, however, the fruits are dropping badly, the result, no doubt, of the drought and the impossibility of attending to the trees in the matter of watering. The ground underneath those trees must also be poorer from not being deeply worked and for want of manuring.

Pears generally are in no better condition, although several varieties may be singled out as having set an abundant crop, but many of them are dropping for want of rain. Some of them are producing late trusses of bloom, but whether they will be of any service in the production of useful sized and perfectly matured fruit remains to be seen. Beurré Grise is exceptionally well set, and Charles Van Mons, Emile d'Heyst, and Williams' Bon Chrêtien are a little less favoured in that respect, but satisfactory. This refers to the old pyramidal trees. Some of them which were transplanted last winter are only just getting into leaf and show little sign of making good growth this year. Plums generally are very thin or entirely fruitless. Sharp's Emperor and a few others have a light crop. Cherries are ripening on a west aspect wall, including Kentish; but with exception perhaps of Madelaine on a north aspect wall, the crop may be regarded as unsatisfactory. This was not owing to the want of bloom, for the remains of numerous flower stalks on the trees show that the bloom must have been particularly heavy.

Gooseberries bear heavily, particularly the old bushes, but it is more than probable that the drought will have some effect upon the size of the berries. Red Currants are plentiful and now commencing to ripen, but the berries are small and the bunches short. The same may be said of Black Currants, which require a considerable amount of moisture to bring them to perfection. Raspberries have flowered and set well, and the rains we recently received will help them considerably, but more is still wanted to ensure success. Notwithstanding the mulching and occasional heavy waterings that have been given the Strawberries, the fruits will be small in most cases, a fact to be regretted, considering the otherwise favourable nature of the season and the heavy crop.

SINGLE PÆONIES.

These are now mostly out of bloom, but in spite of the dry weather, they made a fine display during last month, and might have been seen at their best as early as the first week in May, in the nursery of Messrs. Barr & Son, Long Ditton, Surrey. Like everything else, they flowered much earlier this year than usual, but they were not affected by the drought to the same extent as many other classes of flowers, and were merely somewhat dwarfer than they would be in seasons with an average rainfall.

The flowers of Pæonia Sabinii are brilliant red, and consist of about eight petals. A floriferous and strong growing Pæony is P. decora, with rosy-pink or purple, fragrant flowers. The leaves have long, linear-oblong segments, that are decidedly glaucous, particularly beneath. The flowers of P. anemenæflora are rich crimson, with very numerous yellow anthers that are very prominent in the centre. The flowers of P. corallina are of a rich dark purple, and showy, but the ornamental character of the flowers is greatly augmented by the bright coral red colour of the stems, petioles and ribs of the leaves; the segments of the latter are broad, ovate or cordate and very distinct.

There are several very distinct varieties of P. arietina, differing chiefly in the size and colour of the flowers. Those of P. a. Rosy Gem are of large size, deep rosy-purple, and consist of eight or nine petals. P. a. Purple Emperor has rich dark purple flowers; and in the case of P. a. Diogenes, they are of a rich rose red. The finest and boldest, not only of the varieties of P. arietina, but also of all the single kinds is P. a. Northern Glory, which stands out boldly and prominently from all the rest of the collection, on account of the size of its flowers, and the freedom with which they are produced. The petals are of a soft pink, and rose at the base. The plant is about 2 ft. high, and in average seasons would exceed that considerably. The segments of the leaves are very broad, oblong and glaucous beneath, and for boldness, are in keeping with the rest of the plant.

The leaves of P. decora elatior are also very large and glaucous, while the flowers are of a soft rich rose. Those of P. d. Gertrude Jekyll are soft purple, but more intensified towards the base. P. anomala is a better-known plant in gardens, and approaches P. tenuifolia in general appearance, but the linear segments are much broader. The crimson-red flowers resemble those of that species likewise, and also P. officinalis. An early flowering and floriferous sort is P. peregrina, Ruby Queen, with soft rosy flowers. The old P. officinalis is also represented by several varieties, but a very choice one is P. o. lobata, with rich cerise salmon, sub-globose, and handsome flowers. The double varieties of this species are early, and some of them may be noted here. P. o. rosea plena has flowers of a rich dark rose, and very numerous narrow segments inside of the broad, outer and true petals. P. o. fimbriata has double, dark rosy-purple flowers, with broader, but deeply lacerated petals in the centre. All of the above are well adapted for cultivation in the ordinary herbaceous border, and produce a display considerably in advance of the double varieties of P. albiflora now getting plentiful in gardens.

EARLY STRAWBERRIES AT CHISWICK.

There are something like 101 varieties of Strawberry grown on a west aspect border in the gardens of the Royal Horticultural Society, Chiswick. The collection may be termed a trial, but owing to the small number of many of the kinds, and the exceptional character of the season, it will be necessary to continue the trial for some years longer, to give all of them a fair chance. Many of the late kinds are only yet in bloom, and some having well-set fruits, are still throwing up stray trusses of flowers. The old Black Prince, with its small and dark coloured fruits used to be considered one of the earliest; but many large fruiting kinds have now out-distanced it considerably. When these notes were taken on the 27th ult., only one ripe fruit could be seen in the whole row, not another fruit having commenced to colour.

The first ripe fruits were obtained from King of the Earlies on the 20th ult., and at that time, Noble looked as if it would require another week to be fit for gathering. Both were raised by Mr. T. Laxton, Bedford, who was also the raiser of the next ten, which we noted all of different degrees of earliness, Many of the seedlings of the same raiser we pass over at present, because they had not begun to colour when we saw them. Next in order may be placed Field Marshal, with conical or often flattened fruits, deeply pitted, and dark-crimson red. A dwarf variety is General, with broadly conical, deeply pitted, and dark-crimson red fruits of fairly good flavour. Major has transversely broader or roundly conical fruits of rich, slightly acid flavour. They are shallowly pitted, and deep crimson-red. The variety seems fairly fruitful, but the berries are not very large, owing probably to the dryness of the season. The fruits of Sargeant are broadly conical, but often elongated, rather deeply pitted, and deep crimson-scarlet. The plants are dwarf and very fruitful. Much the same may be said of Corporal, which has broadly conical fruits, or the small ones rounded. The crop is not quite so heavy, perhaps.

A few days later in ripening than the above are Doctor, Quartermaster, Mrs. Laxton, and Lieutenant. The fruits of Doctor are broadly conical or flattened, transverse, and bright scarlet. The surface is shallowly pitted. The leaves are dwarf, and the plants fruitful. The fruits of Quartermaster are short and round, or slightly transverse. The plant is dwarf, but only middling in fruitfulness. The leaves of Mrs. Laxton are dwarf and numerous, and the fruit stalks rather short, and seemingly the variety is not a heavy cropper, but it must take a season or two to determine this with satisfaction. The broadly conical fruit is crimson-scarlet, and shallowly pitted. The fruit of Lieutenant is conical, often compressed, or even three-angled, shallowly pitted, and deep crimson. It is evidently a fruitful kind with very dwarf leaves. Teutonia is somewhat later than the above by a few days, and has broadly and bluntly conical, moderately deeply pitted, crimson-scarlet fruits, produced in what would be termed a good crop.

The succeeding varieties are by other raisers, and the same differences in their period of ripening may be noted. John Ruskin ripens about the same time as Noble, and compared with King of the Earlies may be considered a second early at Chiswick, although the difference is not really very great. The fruit of John Ruskin is broadly conical, shallowly pitted, and crimson-red, but rather watery and tasteless in flavour. The fruit stalks are moderately long and bear well, the fruits being very equal in size. The leaves are relatively few to a plant, so that the fruits are well exposed to the sun. Almost as early is Mons. Dupanloup, with conical, elongated fruits, or the larger ones transversely broader, rather deeply pitted, and crimson-red. The fruit stalks are short, and fairly fruitful, while the leaves are short and light green. Wilson's Improved would ripen about the same period as Doctor, Quartermaster, and others of that group. The leaves are only 4 in. to 6 in. high, and the short, but broadly conical fruits are of a bright crimson-red. The fruits of Pauline are large, greatly elongated, often angled, and sometimes flattened. It is moderately fruitful with relatively dwarf leaves. That and Early Prolific would ripen about the same time as Wilson's Improved, and therefore take a third place as to earliness. The fruits of Early Prolific are conical, and very moderate in size, the leaves few, and only 6 in. high. Sharpless No. 1 would take a fourth place as to earliness, and has conical, elongated, or lobed fruits just commencing to colour. The leaves are few and the plant fairly fruitful.

Taking all things together, this is an exceptional season, and not a very good criterion to abide by in judging of the capabilities of new Strawberries, except to test their earliness in fine seasons. No idea can be conceived of the size the fruits are capable of attaining, because of the dryness of the atmosphere which prevented the normal growth of everything, notwithstanding whatever water may have been given artificially. Many of the varieties at Chiswick are represented by a couple of plants, and of them we can say nothing as yet. Others are small and weak, so that another season at least is necessary to judge of their merits.

THE MARKET GARDENERS' COMPENSATION ACT.

The following Bill has been prepared and brought into Parliament by Sir Edmund Lechmere, Mr. Jesse Collings, Sir Frederick Dixon-Hartland, Sir Algernon Borthwick, and Sir Richard Temple to extend the provisions of the Agricultural Holdings (England) Act, 1883, so far as they relate to market gardens:—

A Bill to extend the provisions of the Agricultural Holdings (England) Act, 1883, so far as they relate to market gardens.

Be it enacted by the Queen's Most Excellent Majesty, by and with the advice and consent of the Lords spiritual and temporal, and Commons in this present Parliament assembled, and by the authority of the same as follows.

1. This Act may be cited as The Market Gardeners' Compensation Act, 1893, and shall be read and construed as part of the Agricultural Holdings (England) Act, 1893, hereinafter called the principal Act.

2. This Act shall come into operation on the *first day of January one thousand eight hundred and ninety-four*, which date is hereinafter referred to as the commencement of this Act.

3. From and after the commencement of this Act

the provisions contained in section thirty-four of the principal Act shall extend and be applicable to every conservatory, forcing-house, forcing-pit, or any other erection or building put up or constructed or affixed either before or after the commencement of this Act by a tenant for the purposes of his trade or business of a market gardener upon or in or to a holding which, either in whole or in part, is cultivated as a market garden.

4. From and after the commencement of this Act the first schedule to the principal Act shall, as far as regards holdings, cultivated either in whole or in part as market gardens, be amended in the following particulars (that is to say) :—

The improvement numbered (11), "Planting of orchards or fruit bushes," shall cease to be comprised in Part I. of the said schedule; and the following improvements shall be comprised in Part III. of the said schedule :—

(i.) Planting of standard fruit trees.
(ii.) Planting of fruit bushes.
(iii.) Planting of Strawberry plants.
(iv.) Planting of vegetable crops.
(v.) The application to land of manure not produced on the holding other than such as is included in Part III. of the said schedule.

5. Compensation under the principal Act as amended by this Act shall be payable in respect of the aforesaid improvements, whether the same respectively shall have been executed before or shall be executed after the commencement of this Act.

6. No compensation shall be payable in respect of any of the said improvements. if the landlord shall have allowed, or shall hereafter allow, to the tenant some benefit equal in money value at the least to the sum which would otherwise be payable to the tenant as compensation in respect of such improvement, and the tenant shall have executed or shall hereafter execute such improvement in consideration of such benefit.

7. So far as relates to the improvements numbered respectively i., ii., and iii., in the fourth section of this Act, section fifty-six of the principal Act shall be read and construed as if the words "with the consent in writing of his landlord" were not included therein.

8. It shall be lawful for the tenant of a holding cultivated either in whole or in part as a market garden, to remove all fruit stocks planted by him on the holding either before or after the commencement of this Act, and not being more than 9 in. in girth immediately below the branches, and not set out in rows or as a permanent plantation; but if the tenant shall not remove such fruit stocks previously to the termination of his tenancy, such stocks shall remain the property of the landlord and the tenant shall not be entitled to any compensation in respect thereof

9. Nothing in this Act contained shall apply to any land cultivated as nursery ground.

GRAFTING CONIFERS.

From January to March is the best time to graft any of the ordinary hard wooded plants under glass. At that time of the year we can control the temperature better than at any other time. If it is too cold we can fire up, if too warm it is easy to shade or air, so that we can secure an even temperature. In summer when the range of the thermometer is from 60° to 100° it is hard to regulate either greenhouses or frames. A steady temperature of from 50° to 60° is warm enough for grafting any of the ordinary deciduous or evergreen plants.

In grafting under glass, good work and good care are necessary if success is to be expected. This is much more easily said than done. The results of a few moments' neglect may be most disastrous. A very important part of the work in the first place is the selection and potting of the stock. When it can possibly be done, the stock should be potted in April or early May, and plunged in a well sheltered border, where they can be occasionally watered if required, so that they may become well established before winter sets in. This is especially required with evergreens, and it would be well to have all stocks well rooted in pots the season before grafting, the success being much more pronounced with plants established than with those not so.

We of course know that many plants, such as Apple and Pear, can be, and are grafted by hundreds of thousands, and heeled in sand and planted out in the following spring; but this will not do with the great mass of species and varieties, although a certain percentage will grow, and the result is much more satisfactory if the plants have been properly prepared beforehand. "If a thing is worth doing, it is worth doing well."

The next question is, What will this or that variety grow on, and what not? We will begin with the Pines and Spruces. By many this class of plants is considered the hardest of all to propagate by grafting, and many a good propagator in other departments will stumble and shrink from these while he would not hesitate to graft tens of thousands of deciduous plants: I can say that I have had no difficulty whatever in grafting Pines, both sections, Larch (except pseudo-larix which does not seem to stand long on the common Larch), Abies, Picea, Tsuga, Chamæcyparis, Thuya, and others, although of course some species take more readily than others, and some seasons are more favourable than others; but this latter is as true with regard to ordinary forms as to those that are considered so difficult. In this, as in almost everything else, eternal vigilance is the price of success.

In Pines I find that all the five leaved or smooth barked Pinuses such as P. cembra, excelsa, Lambertiana, parviflora, Bungeana, and others of this section grow readily on our White Pine, P. Strobus. For the others I have found no difficulty in using the common Scotch Pine, P. sylvestris, for a general stock, except in the large needled variety, which I believe does better on P. resinosa, the so-called Norway Pine.

In Spruces I find that Picea excelsa makes a good stock for all the Piceas, but the Silver Spruce, Abies, will not do at all on this stock. For all the silver section, such as Abies concolor, Siberica, Nordmanniana, Frazerii, Cephalonica, and a host of others of this section, I find the best we have for stock is Abies balsamea, although I think it would be better to use the Silver Fir of Europe, Abies pectinata, which is a more vigorous tree although not quite so hardy when young.

The common Arborvitæ will do for most of the Chamæcyparis (Retinospora), although I think that if they could be had well rooted plants of Chamæcyparis picifera are as good as any. All the Junipers grow well on J. Virginica. The common Hemlock is good for all the various forms, as well as the Japanese varieties, while the Douglass Fir seems to be best suited for the forms of Pseudotsuga. The common Larch L. Europæus is a good stock for all forms and varieties that I have tried.—*Jackson Dawson, in the American Florist.*

THE VEGETABLE GARDEN.

Early Peas in Ayrshire.

As pertaining to the unusual earliness of the season I may inform you that our first dish of Peas was sent to table to-day, May 30th. They were gathered from rows of Carter's First Crop, sown on Nov. 25th. The usual time for the beginning of the Pea season here is about June 28th, and in an extra good season June 15th, so that 1893 has broken the record considerably. Puritan Potatos first started a little and grown at the foot of a south wall are also in good order for use. Many other garden products are correspondingly early.—*D. Mackie, Montgomerie Gardens, Tarbolton.*

Thinning Root Crops.

Great care must be taken in the thinning of such crops as Onions, Carrots, &c., during the dry weather, or harm may be done to those left. If possible, Onions should be well watered at night, and thinned early the next day, and if watering is not possible advantage must be taken of every little shower to get this work done. Where the Onions have come patchy, or have gone off with maggot, which in many places is very prevalent this season, the plants thinned out must be planted to fill up the gaps, and immediately watered to settle the soil about them. If, by any chance, the Onions have been sown very thickly, let the thinning be done two or three times, so as not to upset too much the roots of those left for the crop. Carrots have in many instances come up badly, but it is not much good to plant these; it is better to put in a few seeds to fill up the gaps as there is plenty of time yet. The thinning of Parsnips will by this time have been finished, or if not they must be done at once. Turnips must be attended to as soon as large enough. *G. H. S.*

Gleanings from the World of Science.

Sparrows and the Dry Weather.—In the spring of the year, sparrows in certain districts give horticulturists great trouble by eating and destroying the leaves of Carnations into the very centre of the crowns, and later on they attack Crocuses, Primroses, and Polyanthus, destroying the flower buds. Food of most kinds is then very scarce and the marauders are no doubt prompted by the cravings of hunger, particularly in winter when the ground is frozen hard, when they attack the Carnations. During April and May they direct their attention to various kinds of garden produce, such as seed beds, Lettuces, especially when newly planted out, Peas and Sweet Peas when germinating, and the flower buds of Pansies and Violas. The leaves of the two latter do not seem palatable to them. Even after the Peas have attained considerable size and reached the flowering stage, the sparrows continue to lacerate and destroy the young leaves, flowers, and young fruits as well. The young stems were gnawed in many cases as if the moisture of the same was the object of the marauders. All this seems to be done for their own benefit, for while the young are being reared, the old birds may be seen busily engaged collecting insects in the winged stage. In some places the garden Peas have been receiving most attention, in other cases it was the Sweet Peas that suffered most. In some gardens they appear to be culpable of picking out the so-called seeds of Strawberries, thus causing the fruits to decay.

A Plea for Wild Birds.—Mr. John Cordeaux, in reviewing a book on "Ornithology in Relation to Agriculture and Horticulture," sums up the evidence for and against the utility and serviceableness of various wild birds in an article to *Natural Science.* The wood pigeon, he states, congregates in autumn and does great damage to ripening corn, and in winter destroys the Turnip tops to a serious extent. Its redeeming points are its pleasant cooings in the woodlands, and being good eating furnishes good sport in winter. The rook also has his predilections for corn, Turnip tops, newly sown corn, and we might add, young Potatos; but at other times he is busily engaged destroying large numbers of injurious grubs of various kinds in the fields and pastures, so that he more than repays for the mischief he does. The starling gets unbounded praise as the greatest possible friend to farmer and gardener alike, as it feeds on slugs, grubs, snails, and insects all the year round, only occasionally helping itself to some fruit and berries. The sparrow is condemned for his depradations over half the world, both by farmers and gardeners, and has the disparaging epithets of "rat of the air" and "ruffian in feathers" applied to it. The evidence for the prosecution of this bird is greatly in excess of that for the defence, yet the writer goes on to say that it has by no means been clearly proved that the extermination of the sparrow would be an unmixed blessing.

Apple Scab and the Size of Fruit.—In a series of experiments carried on by the professors at the Cornell University Agricultural Experiment Station (as recorded in *Bulletin* 48) with the view of testing the effects of combinations of fungicides and insecticides for destroying Apple Scab and the Codlin Moth, it was noticed that there was a distinct difference in size between the fruits of sprayed and unsprayed trees. The latter were left to their own resources by way of check and to compare the differences of the two sets of trees after the experiments. The fruits borne by the trees that were sprayed were in all cases decidedly larger than those on the unsprayed trees. This might be taken for granted as due merely to the differences between individual trees of the same variety. But it was observed that the fruits in all cases on the unsprayed trees were uniformly small. This is due to the fact that Apple scab not only acts injuriously in disfiguring the fruit, but it prevents it from swelling freely by the injury done to the skin. This is more particularly evident when the fruits are attacked while yet in a very small state.

The Carnation: its History, Properties, and Management. with a descriptive list of the best varieties in cultivation. By E. S. Dodwell. Third edition, with supplementary chapter on the Yellow Ground. London: Gardening World Office, 1, Clement's Inn Strand, W.C. 1s. 6d.; post free, 1s. 7d.—Ad.]

FLORICULTURE.

Pansy Bella Duncan.

FLOWERS of a new fancy Pansy have been sent us by Mr. Michael Cuthbertson, Public Park Nursery, Rothesay, N.B. For garden decoration in the south at least they come second to Violas in popularity. Bella Duncan here noted has been put into commerce for the first time, and the flowers measuring close upon 3 in. in diameter have a bold and telling appearance. The large violet purple blotches cover the whole surface of the flower with exception of a creamy white edge. The blotches on the upper petals are slightly rayed at the edges, but on the lower three are but very slightly indented. The eye is golden yellow. The variety is proving of first-class merit, both for exhibition and for bedding purposes. It is robust and dwarf, and has been flowering for the past month without any special attention in the open, where it was wintered and and every plant lived.

The National Auricula Society.

I HAVE no desire to indulge in a war of words with my old friend Mr. Dodwell, in regard to this matter. He has not been present at any of the recent shows, and can have no personal knowledge of what took place. My contention is with the committee of that society. But in reference to the letter from Mr. B. Simonite, in which, in writing to Mr. Dodwell, he accused me of "making malicious insinuations that Mr. Horner and himself are destroying flower shows" (an accusation he will neither justify nor withdraw) I can only state that on my arrival at Stanley Road, Oxford, Mr. Dodwell placed the letter in my hands. In reply to my question as to whether I could make use of the statement in the letter given above, he said, as it was not marked "private," he thought I might, and I then and there made a careful copy of the phrase. This is my deliberate statement, and my recollection of the episode is very clear and distinct.—*R. Dean.*

NOTES FROM HAM HOUSE.

THE land at Ham House, Richmond, Surrey, one of the seats of Lord Dysart, consists of a fine alluvial silt as might be expected from its close vicinity to the banks of the Thames. It is very rich in plant food as a rule, but requires a considerable amount of moisture to enable the plants to avail themselves of this food. In common with other cultivators Mr. G. H. Sage, the gardener, has had a good deal to contend with on account of the drought, but with few exceptions he has little to complain of where skill has the power to remedy the evil.

The fruits under glass have been benefited rather than otherwise with the unusual amount of sunshine. The fruits in the earliest Peach house are fast approaching maturity and in general are highly coloured. Lord Napier and Rivers' Early Orange Nectarines are unusually heavily cropped, while Violette Hâtive also bears heavily. A curious freak is noticeable in a tree of the latter with the fruits coloured on one branch and small and green upon the rest. It may here be remarked that a tree of Lord Napier Nectarine on the open wall is also heavily loaded. The second early house is occupied with Humboldt and Violette Hâtive Nectarines which bear a good crop. In this house is a fine lot of Sutton's Perfection Tomato in pots. The plants are 6 ft. to 8 ft. high, bearing a good crop of fruit, and fine samples have been gathered for some time past. The third house in succession is occupied by Pitmaston Orange, Humboldt, and Pine Apple Nectarines, the trees of which are well cropped and the fruits have just about completed the stoning process.

One house is largely occupied with Figs in pots, and planted out. Judging from a large bush of Pingo de Mel in a pot, it is a heavy fruiting variety, and the first crop has nearly reached maturity. Another comparatively new variety is St. John, also bearing well; but the crop of Negro Largo is not quite so heavy. A tree of Brown Turkey, planted out and trained up against the back wall of the house behaves in rather a peculiar manner. It develops and ripens the first crop in the ordinary way, and proceeds to swell up the fruits of the second crop in the ordinary way, but at the same time develops another set of fruit on the old wood below the place where the first crop was borne. This set is entirely different in character from the rest, inasmuch as the fruits are small, top-shaped, and white at maturity. They are, moreover, of good quality.

The first house of Grapes was started in January, and the berries are now close upon maturity. The varieties in this house are Black Hamburgh, Foster's Seedling, Muscat of Alexandria, and Madersfield Court, all of which are satisfactory, and the bunches of the last named particularly fine. The second house is chiefly occupied with Muscat of Alexandria, with some vines of Madersfield Court and Alicante. The berries in the third house are of some size, and some are nearly half grown. The varieties grown here are Gros Colman, Lady Downes, Muscats, and Black Alicante, all of which are carrying good crops of fruit. Cucumbers and Melons are also grown, the former having been in use for a long time past, while the Melons are mostly later. The leaves of the Gunton Orange variety are of enormous size, and should enable the plants to produce fruits of large size.

Considerable quantities of Strawberries are grown in frames and are still in full bearing notwithstanding the fact that good dishes of fruit have been gathered from Noble since the 20th of May and other sorts have since come into bearing. For pot work, President and Sir Charles Napier are best liked, and British Queen has also a claim on the grower's consideration. John Ruskin is not relished at all. In view of what has already been said about the soil, it may be taken for granted that there would be some difficulty with strawberries in such an exceptional year as the present. Grown from last year's runners, Noble has fruited well; it is never grown a second year. Old plantations of President and Premier have withstood the drought well and are now ripening their fruits. As is now well known to most gardeners, Dr. Hogg grows but indifferently at the best of times, and it need be no surprise to see it dying off under the present severe test. The foliage of the other kinds is, however, good.

Apples and Pears grown as small pyramids have in many cases a good crop of fruit, which may now be expected to retain their hold upon the trees and reach maturity. Some of the varieties of Apple we noted in a good bearing condition were Alfriston, Cellini, and Duchess of Oldenburgh. They will not, however, have it all their own way this year as they did last year, for the Pears are as well fruited as Apples in most cases. The trees are grown as pyramids of no great age. The crop of Marie Louise d'Ucle is exceptionally heavy and somewhat lighter, but still good are Beurré Rance on the wall, and Josephine de Malines and Winter Nelis grown as pyramids. Plums are not an equal all-round crop, but Green Gage upon a wall is bearing heavily. The tree is of considerable size and generally bears more or less abundantly every year. Mulching and watering in many cases is resorted to, and Mr. Sage is greatly improving a place that had been allowed to go to decay for many years.

VARIEGATED PLANTS.

I HAVE no doubt but that the new cream edge form of the old silver-leaved Cineraria maritima will presently become popular as a bedding plant. Still it will be a great mistake to employ it largely. A few plants intermixed with golden blotched Abutilons and red-flowered Fuchsias, on a carpet of some neutral tint, may look very pleasing, but the worst possible thing that can happen to so striking a plant is to use it too liberally, as in such case it soon satiates. The introduction into bedding of these carpets having about them thinly, disposed striking dot or tall plants constitutes very attractive features for which we are thankful.

One great mistake made, however, is to plant these tall plants in straight lines, or in particularly formal fashion. In such case all pleasure in seeing such beds is destroyed. It is somewhat odd, but it is so all the same, that we endure masses or quantities of dark foliage plants in beds, better than we do those of white or silvery leafage.

Take for instance, those exceedingly diverse coloured trees, the Purple Beech, and the variegated Maple. Whilst the former is always welcome, and the larger deeper coloured and more perfectly grown the tree or or trees, the greater the admiration; the other has a gaudy and somewhat fantastic look, ill assorting with the sombre, yet beautiful greenery abounding in other trees. It is very much the same in beds or bedding plants. On the whole, however, it seems as if the fancy for violent contrasts in bedding was dying out. Now the taste seems rather to run in favour of smooth, soft, simple combinations of colours, a very gradual gliding from one tint to another, with an avoidance of gaudy, or loud effects. The public taste is either improving, or the gardeners are leading it into better directions.—*A. D.*

LONDON PANSY SHOW.

THE first exhibition of the London Pansy and Violet Society was held at the Drill Hall, Westminster, in conjunction with the meeting of the Royal Horticultural Society on Tuesday last, and we are glad to be able to congratulate the promoters on their well-earned success, for certain it is that not for many years has there been such a display of show and fancy Pansies in the South, and never before have we seen such a grand lot of Violas. The inaugural year of the society has not been a happy one for the Pansy grower in the south of England, but our Scotch friends on the other side of the Cheviots have contributed largely to make the first exhibition a success, and to show what can be done provided we get more rain during the spring months. Of course, the present has been a very exceptional season, and we may not get its like again for a long time. That Pansies and Violas can be grown with a little attention to their well being in the neighbourhood of London, there can be no doubt, judging from the collection now flowering in the Royal Horticultural Society's Garden, at Chiswick, and some other places not far distant where the plants were put out in the early part of March, and the beds mulched with cocoanut fibre, decayed cow manure, horse droppings, or something else of that nature according to the fancy of the grower. The plants should be propagated from cuttings every autumn, and the beds filled with them in spring if large flowers are desired. The beds should also be well manured in autumn when dug or trenched.

A Gold Medal was offered for the best trade exhibit of Pansies and Violas, and this was won easily by Messrs. Dobbie & Co., Rothesay, Scotland. They showed about ninety sprays of Violas, numbering about sixty to seventy distinct varieties, including all the leading sorts in cultivation with exception of the new rayless and miniature Violas, which were not well represented. The procumbent varieties often termed "tufted" were shown in all the forms, namely, Duchess of Fife, White Duchess (a white sport from the former) Goldfinch, and Ardwell Gem. The first-named is shown in our illustration (No. 1), which was prepared from specimens received from Messrs. Dobbie & Co. some time ago. The markings of this type are peculiar and very refined. Grand yellow sorts are Prince of Orange, Bullion, Ardwell Gem already noted, and Rothes, a golden yellow, rayless variety. We must not omit the golden Vernon Lee, with the mahogany upper petals (see No. 4). Lucy Ashton represents another type, with rosy purple edges and a white centre (see No. 2). There were several varieties of this type in this fine collection. H. M. Stanley (No. 3) is intense purple flaked with rose, and comes more true to character with Messrs. Dobbie than we have seen elsewhere. York and Lancaster (No. 5) is white, heavily striped with purple and rose, and is the favourite of this type because one of the best defined. Grand blues were shown in Archibald Grant, Max Kolb, Holyrood, Ariel, Duchess of Sutherland, and many intermediate sorts. The last-named is pale lavender when grown in the south, but takes on a beautiful bluish mauve with Messrs. Dobbie; and the same thing was noticeable in many other varieties grown under the cooler and more favourable conditions at Rothesay. Countess of Hopetoun, Sylvia, Lady Dundonald, and others well represented the white varieties too numerous to mention. The parti-coloured or variegated sorts were typified by The Mearns, Ida's Choice, Beauty, and others, all of which were wonderfully highly coloured. Peacock (No. 6) shows a striking mixture of crimson, rose, and blue, edged with white or rose. The firm also showed nine stands of fancy Pansies, containing some 216 blooms, all of which were named sorts. The second prize was also awarded to a Scotch firm, namely, Messrs. William Paul & Co., Bridge of Weir, whose collection was much smaller and contained a large proportion of fancy varieties; both the latter and the Violas ere

set up in bunches, not sprays. A Silver Medal was awarded this collection. A Bronze Medal as third prize was awarded to Mr. Andrew Irvine, Tigbnabruaicb, Scotland. If his bunches of fancy Pansies and Violas had been more artistically arranged or displayed, they would have made a good second. The first prize for forty-eight Fancy Pansies in distinct varieties was awarded to Mr. J. Smellie, Busby, near Glasgow, who had fine blooms of Mrs. C. E. Scarce, witb dense violet blotches, Annie Ross, large bright yellow self, Marmion, Mrs. John Downie, large chocolate blotches, Lord Hamilton, a large and perfect flower and others. Mr. Alexander Bailey, Junr., Sunderland was second in this class, and had twelve blooms of one fancy variety Mr. Alex. Lister took the leading award with Tom Travis, a grand sort witb glossy, blackish, violet blotches, edged with creamy-white and deep purple top petals. Mr. Matthew Campbell was second, showing Lord Hamilton; and Mr. Alex. Bailey was third with David Rennie, having black blotcbes, yellow edges, and violet top petals. The first prize for twelve unnamed seedlings was awarded to Mr. Alex. Lister, who had some large and striking flowers. Mr. Andrew Irving received a third prize. The champion exhibitor of fancy Pansies, namely, Mr. John Smellie, took the leading award for twelve show varieties, showing Dr. Inch, blackish purple self, Harry Paul, purple self, Harry Campbell, a white those of Mr. John Smellie, who arranged them in sprays on arched or curved wires. Mr. A. J. Rowberry, South Woodford, took the second place with neatly set up and fresh sprays. Mr. Alex. Bailey was third witb his sprays on a velvet-covered flat stand, the others being elevated or sloping. The secretary of the society, Mr. Geo. McLeod, Chingford, was the only exhibitor of six sprays of rayless Violas, showing Rose Queen, Violetta, Sylvia, Geo. McLeod, Sylvia's Rival, and the bandsome Blush Queen, and receiving the first award.

In the amateurs' classes a second prize was awarded to Mr. E. J. Petber, Walthamstow, for twenty-four fancy Pansies. In the class for twelve of that type, Mr. A. J. Rowberry took the first award

Popular Violas:—1, Duchess of Fife; 2, Lucy Ashton; 3, H. M. Stanley; 4, Vernon Lee; 5, York and Lancaster; 6, Peacock.

many large, bold, and prominent flowers in his stand. Mr. Alexander Lister, Rothesay, was third, and also showed well. In the class for twenty-four Fancy Pansies Mr. J. Smellie again led with fine blooms of Lord Hamilton, D. Rennie, James Campbell and others. Mr. Alexander Lister was second with circular blooms of good substance that lasted in good condition throughout the day. Mr. Matthew Campbell, Blantyre, Scotland, was third in this class. Mr. John Smellie again led in the Class for twelve Fancy Pansies, and had fine blooms of Mrs. Wm. Watson, Lord Hamilton, Mrs. A. Irvine, deep violet blotches on a creamy ground, D. Rennie and Mrs. W. S. Young with clearly defined prune blotches and a wonderfully strong grower with huge flowers. Mr. Alexander Lister took tbe second place with some handsome blooms of good substance. Mr. Alex. Bailey took the third place. In the class for ground with intense purple belting, and several handsome unnamed seedlings. Mr. Alex. Lister was second with some grand selfs, but less variety than in the first prize lot. Mr. Matthew Campbell was third with blooms rather badly matched for size. Tbe best fancy Pansy in the exhibition was Lord Hamilton, with dense circular, violet purple blotches almost covering the petals, edged mauve, and pale bronze top petals. This was shown by Mr. M. Campbell.

The first prize for twenty-four sprays of Violas, nine blooms in a spray, was awarded to Mr. J. Nicholson, Sewardstone, who bad several of the leading varieties in cultivation arranged on a stand covered with black velvet, and kept fresb by means of a fine spraying instrument. Mr. Alex. Bailey was second, but allowed his flowers to dry up and wither. Tbe best displayed twelve trusses of Violas were with blooms of good average size. Mr. H. A. Needs, Woking, was second with moderate-sized, but neat blooms. Mr. H. A. Hitch, Waltham Cross, took the third place. Mr. Arch. McWilton, Leytonstone, was awarded the first prize for twelve fancy Pansies of one variety. Mr. A. J. Rowberry took the first prize for six blooms of one kind, and he also had the honour of taking the prize for the best fancy variety in the amateurs' classes with the same lot of blooms. Mr. H. A. Needs took the second place for six blooms; and Mr. Bruce Cook, Chingford, was third. The best twelve show Pansies exhibited by an amateur were shown by Mr. A. J. Rowberry, who had some attractive and neat blooms. The first prize for twelve sprays of Violas was awarded to Mr. H. A. Needs, who displayed them on a triangular upright board covered witb black velvet; his blooms of Annie King, Dawn of Day,

Goldfinch, and Crimson King were fine. The second award went to Mr. A. J. Rowberry, who had some of the newest varieties in J. B. Riding and Peter Barr arranged on a semi-circular board. Mr. E. J. Pether was third with his blooms on a heart-shaped board. The blooms in all three cases were kept fresh and attractive. The first award for six sprays of Violas went to Mr. Bruce Cook. Mr. Edw. Fuller, Kelvedon, had the best six sprays of Violas, three blooms in a spray. Mr. Archibald McWilton was second; and Mr. Geo. H. West, Chingford, took the third place. The Silver Medal for six sprays of rayless Violas was awarded to Mr. A. J. Rowberry, who had attractive samples of Blush Queen, Sylvia, George McLeod, Violetta, etc. Several special prizes for twelve sprays of Violas, including certain named varieties, were offered by Messrs. Dobbie & Co. The first prize, a Gold Medal, was awarded to Mr. A. J. Rowberry, who had his sprays arranged on a semi-circular, upright, velvet-covered stand. Mr. E. J. Pether was second with his sprays displayed on a heart-shaped stand. He was awarded a Silver Medal.

The new varieties brought up in competition for the prizes offered were in no case striking, while some of them were so worthless that no award was made. In a few cases they were of average merit. There were, however, some excellent kinds brought up for certificates, and those that were honoured with this distinction we shall describe in our next issue. The new rayless Violas, shown by Dr. Stuart, Chirmside, Berwick, were very interesting, but few of them show anything strikingly distinct from those already named and put into commerce. We cannot omit mention of Albino, however, which by some experts was pronounced as the purest white Viola of the Countess of Hopetoun type in the exhibition. Blue Gown is also a beautiful pale blue, rayless Viola, with a glossy or satiny lustre about it. A blue and white shaded variety named Border Witch is very interesting amongst the more fanciful types.

A rather extensive collection of Violas not for competition was exhibited by Messrs. Dicksons & Co., 1, Waterloo Place, Edinburgh. They were done up in bunches, and included amongst others some fine types, such as A. Grant, Countess of Hopetoun, Ariel, Goldfinch, Duchess of Fife, Dawn of Day, Glow, a striped one in fine condition, Violetta, Lilacina, Pilrig Park, white, and many others. Mr. John Smellie had four fine stands of fancy Pansies. Mr. Alex. Lister had seven stands of fancy varieties and one stand of the show type of Pansy. It will be noticed by the above report that fancy Pansies and Violas for bedding purposes were most amply represented at the above show, but that the true old type of show Pansies was very poorly represented. This is their fate in most gardens in the South of England, but surely they are more plentiful in the North. We are not surprised that the new rayless type of Viola should have been thinly represented, for they are late in coming into bloom, and were practically put into commerce as recently as last autumn. We think, however, that there is a brilliant future before them both as bedding plants and for exhibition purposes, for their flowers are very refined and beautiful. The chief drawback to them will be that the amount of variety amongst selfs must necessarily be limited, more particularly in face of the fact that they are also without the rays which play so important a part amongst the older types.

THE WATER LILY GARDEN.

We all love Pond Lilies, and we all can grow them if we wish to. No class of plants is easier managed. We winter them dry in the cellar and set them out in the warm sunshine in the summer time, keeping their tubs well filled with water, and that's nearly all there is to it. When you go out into our great public parks and see the large Lily tanks, and the gorgeous array of tropical beauties so luxuriant in the water, don't fret and exclaim, "If I could only grow one of them I'd be perfectly happy!" You can go right home and attain your heart's desire in an old tub.

As there are a great many kinds of Pond Lilies and we cannot grow all in one tub or in a dozen tubs, we should first make up our minds about what we want to have to begin with, and get that and try it, and after we have succeeded with it, we can plunge deeper into the rapturous enjoyment of growing aquatics.

Nymphæa is the botanical name of the true Pond Lilies, and we have white, yellow, blue, purple, pink, rose, and crimson-red flowered Nymphæas. This rather annihilates the often-expressed notion of those who insist that red, blue, and yellow-coloured flowers never occur among the species of one genus. But then they cannot know much about plants, and probably never heard of Hyacinths, Columbines, Anemones, Salvias, Clematises, or Larkspur, among all of which the same thing happens.

Nymphæa odorata is the delicious white Pond Lily of New England, and the pink variety of it called rosea is often known as the Cape Cod Lily; N. cœrulea is the blue Pond Lily from the Nile, N. Zanzibarensis a blue, often purple, one from Africa; and N. Mexicana, or better still N. Marliacea chromatella, are both yellow. All of these grow easily and bloom freely, and we recommend them to beginners in the cultivation of water plants. Wait a little before you try the splendid red N. Devoniensis, or the gigantic N. dentatum.

All of these Lilies can be raised from seed were it obtainable, but N. Zanzibarensis is about the only one commonly offered by our seedsmen; you had better get plants of the others to begin with. Then get some tubs, one or more, as your plants run in size or number; liquor or gasoline barrels sawn in two do very well. Put three inches deep of open rubble in the bottom, a thin inverted sod over that, then fill up to half full with turfy loam and cow manure, plant your Lilies in it, set it outside in a warm, sunny place, and fill it up with water. Be particular about the cow manure, and don't use horse manure. A rubble drain in the bottom of a water tub may seem ridiculous, but this is one of the items of experience you too can learn for yourself some day if you care to experiment.

After the summer is past and your Lilies have died down, empty out the water from the tubs—you needn't drain them dry—and carry them into the cellar where frost cannot reach them, but where it isn't very warm. Next spring, say middle or end of April, bring them out again, fill up with water, and set in some warm sunny place as last year.

All of the above Lilies except N. Zanzibarensis will live over winter very well in this way; but as it is easily raised from seed and it blossoms the first year, we needn't be so anxious about it.

Big tubs are good enough for big plants but not at all necessary for small ones; in fact it is a good plan to plant the Lilies in ordinary flower pots and put these into the tubs of water, so that they will be within four or six inches of the surface and as many pots as the tub will hold. In order to raise them as high as this the pots may be set on other inverted pots or on a bed of loam or gravel put into the tub for this purpose.

A pretty way to set the tubs in summer is to dig a hole near the edge of the lawn and set the tubs down in it to the level of the grass making them appear like real little ponds.

Water Poppies, water Hyacinths and floating Hearts are exceedingly interesting little plants that float on the surface of the water, grow thriftily, and bloom most all summer, and a few of them in the tubs with the pond Lilies add to the variety and interest. You don't need to plant them; just drop them into the water, they will soon find out a place for themselves and enjoy it.—*American Gardening.*

INJURIOUS INSECTS.

Currant Attacks.—Amongst Currant attacks, that of the Phytoptus ribis, the microscopic cylindrical four-legged mite which causes distorted growth of the black currant buds into round de ormed knobs of abortive leaves and flowers, has continued still to increase. The best method of checking spread appears to be that practised at the great Toddington Fruit Grounds (as well as elsewhere) of breaking off the infested buds and destroying them. During the last few days I have information from Germany of a similar attack to red currant bushes, caused by a newly-observed species of Phytoptus, being recently recorded, and it would certainly be well to be on the watch for this infestation in England.

The Little Bright-Red Caterpillar, which does injury in the buds of Raspberries (ultimately turning to a small moth), is another serious trouble which is present, and which, like the above (whatever other methods may be tried to lessen its presence) requires breaking off the infested buds as a means of destroying the pest within. From the unusual forwardness of the season it will, however, only be in some late districts that the remedy can still be applied this year. The history of the attack will be found in my Annual Report for 1891. The Raspberry weevils, the Otiorhynchus picipes, have also appeared. Where these severely destructive pests are at work, and also attacking Strawberry plants, it would be well, besides the regular methods of getting rid of them (by shaking them down at night on tarred boards by lantern light), when they are out at feed, to try the plan of placing pieces of slate, or tile, or sods, by the low-growing plants to serve as shelter for the pests after their nightly feeding excursions, from which they may be cleared in the morning.

Apple Pests.—The various Apple pests, whether caterpillars, weevils, or the little Psylla mali, the "Apple sucker," with its four gauzy wings, are too numerous to enter on here, more particularly as means of remedying or of lessening the ravages are before those concerned (if they please to desire them), with full details of localities and names of observers, and of applications and means of applying them.

Caterpillars.—Amongst these the ravages of caterpillars are especially important, for counteraction of which particular attention has now been devoted for some years past to the use of Paris green, which has long been known to be successful in America. It is not safe wholly to follow the American plan, on account of the difference in climate and in kinds of fruit trees. Therefore, after long experiment, carried out by a committee of the leading fruit growers in the neighbourhood of Evesham, and the superintendents of the Toddington Fruit Grounds, also with the co-operation of Mr. Fletcher, Entomologist of the Experimental Farms of the Dominion of Canada, I have with their co-operation, or as record of our practical observations on fruit tree leafage, prepared a short pamphlet giving all requisite information, including kinds of sprayers, of which I should be happy to forward a copy to any applicant, and of this I may be permitted to add that after its perusal by Prof. Riley, the Entomologist of the Department of Agriculture of the United States, he favoured me by information that it met all points for practical use. To the vast number of infestations previously recorded, I now add that of the great brownish caterpillar of

The Lappet Moth, sent to me on the 8th inst. from Apple trees in a Herefordshire locality. This very fine caterpillar is as much as three inches in length, of a general brown or ash-grey ground colour, and slightly hairy, with a conspicuous hump or bunch of hair on the back of the twelfth segment, but it is especially distinguishable by two brightly shining dark blue bands situate near the head, and a row of fleshy appendages along each side, those on the segments next the head being the largest, and from their pendant appearance giving the name of lappet. The caterpillar may be hand-picked, or shaken, or got rid of by the usual means, before turning to the beautiful rich brown gastropacha quercifolia moth, about (or over) three inches and a half in the spread of the wings. The food is various, and I only find slight reference to it in the works at hand as an Apple pest.

Besides the above and various other infestations not now specified, I have knowledge of the further spread of the

Root Knot Disease in Tomatos, Cucumbers, &c., which we are doing all in our power to find a cure for; also infestation of minute boring beetles of the genus Xyleborus, of a species hitherto apparently undescribed, supposed to have been introduced from New Guinea, which is gradually making its way in some of our large Orchid-growers' collections.—*A. E. Ormerod, in Farmer and Stockbreeder.*

Market Gardening in Cornwall.—Potato crops in Cornwall have turned out quite up to expectations, considering the dryness of the season. These at the best are, however, but small. As a proof of this it may be stated that one extensive grower in the west of Cornwall, who on an average "draws" just over 13 tons from a certain field, this year has only lifted 6 tons 5 cwt., and this is a fair sample of the experience of many other growers. The strawberries have turned out well, the crops being for the most part heavy.

GARDENING MISCELLANY.

DRACÆNAS IN THE WEST AND AT SCILLY.

It is owing to the climatic conditions of the county of Cornwall, and especially the western portion, that it becomes possible to freely grow in the open such exotics as are elsewhere seen only in greenhouses. These include the American Aloe, Acacias and the like, which attain to great perfection. But even the west of Cornwall cannot compare with the wonderful power of growth which the near neighbouring Isles of Scilly possess. Everybody has heard of the far-famed Tresco Abbey Gardens, but their beauty, it is said by experts, never excelled that of the present time. This, however, has been an exceptionally favourable year, especially for the growth of Dracænas, including D. indivisa, and D. australis, which have far and beyond eclipsed all previous years for blooming. There are some hundreds of them in full flower, and redolent with aroma, their appearance perfectly baffling all description, their entire foliage being hidden by the huge masses of flowers. For several years the ripened seeds from these plants have been very carefully preserved by the representative of the King of the Isles, J. Dorrien Smith, Esq. It need be no matter of surprise to learn that the Dracæna is being now cultivated by growers on other islands than Tresco.—*Z.*

THE PEACH-LEAVED CAMPANULAS.

On looking over a long border of hardy herbaceous perennials a few days since, I could but admire those grand old herbaceous plants in their full beauty, and no garden should be without them, as their erect habit, profuse blooming, and their clear colour make them so desirable as garden decorative plants and for cutting. The single and double white, also the blue, are so telling in mixed borders and continue in bloom for a good period, and they are also so perfectly hardy and easily propagated by division.—*W.D.*

PANSIES AND VIOLAS FROM HAWICK.

Some flowers of the three leading types of these popular flowers have reached us from Mr. John Forbes, Buccleuch Nurseries, Hawick, N.B. Two yellow ground show varieties were very attractive, especially that named Mrs. John Harper, banded with intense purple, almost black. Mrs. Wm. Oliver was banded with velvety brownish purple. Both varieties are inclined to be laced with yellow on the lower petals, otherwise they are perfect. The fancy varieties measured from 2½ in. to 2¾ in. across. Joseph Oliver is a yellow ground with velvety maroon blotches; Rev. James Robertson had violet purple blotches and creamy yellow edges; Miss Jessie Campbell had blackish maroon blotches and purple edges; the blotches of Maggie Forbes were intense violet purple with pale purple edges; Buccleuch Beauty is a dark purple Viola in the way of Mrs. Turner, but more shaded with violet round the eye. It is of medium size and very neat. In the matter of striped Violas, Perfect Gem seems an improved York and Lancaster, darker in colour and densely flaked and striped with maroon purple on a paler purple ground. All of the above were seedlings raised by Mr. Forbes, and, with exception of Miss Jessie Campbell and Maggie Forbes, are not yet in commerce.

DIANTHUS CALLIZONUS.

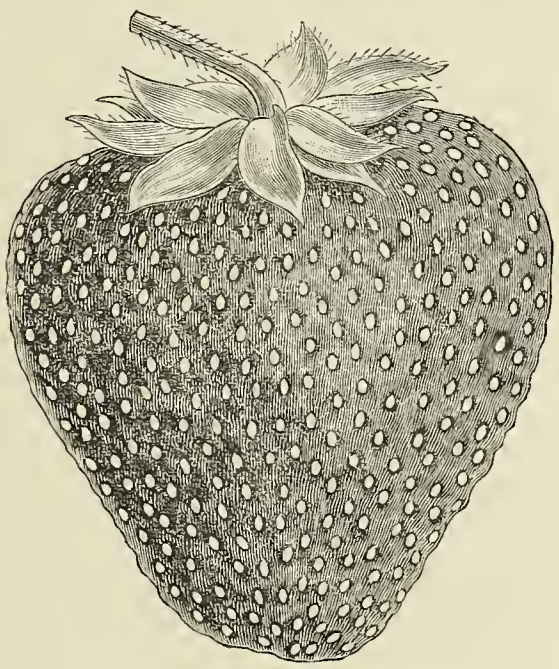
It seems strange that so little has been made of the wealth of Pinks at the cultivator's hand, we mean species of Dianthus other than D. plumarius and D. Caryophyllus. There are several with large, showy flowers, such as D. alpinus, D. neglectus, D. monspessulanus, D. cæsius, and several others that might be taken in hand and improved. That under notice has flowers as large as those of D. alpinus, but the plant is of more robust habit and seems as if it would take kindly to cultivation. The scape is 3 in. to 4 in. high and one-flowered. The petals are obovate, shallowly toothed at the apex, and so broad that they touch one another. They are bright rose, with a deep purple, thinly bearded blotch at the base of each, and this blotch is beautifully spotted with white. The leaves are subulate, slightly glaucous, and form a dense cushion from which the flowers rise in great abundance. It may be seen on the rockery at Kew. It is a native of Transylvania.

SARRACENIA PURPUREA.

When this plant flowers out of doors the colours of the flowers are much more intense, and altogether more interesting than when grown under glass. The sepals and petals are of a deep crimson-red, the latter fading to yellow at the base, and the whole of them shine with a metallic lustre. The large umbrella-like stigma is pale yellow, shaded with red. The flower stalks attain a length of 12 in., and the blooms appear quite as large as they would be under glass. The leaves are green, more or less heavily stained with brownish-purple, and although they cannot be described as effective or showy, they are certainly very interesting and unique in their way for outdoor work. The edge of the bog garden is the most suitable place for it, if the situation is sheltered, as may be seen in the rockery at Kew, where it is now flowering finely in one of the recesses through which a tiny but constant stream is flowing.

STRAWBERRY ROYAL SOVEREIGN.

A box of fruits of this new Strawberry has been sent us by Mr. Thomas Laxton, Bedford, by whose kindness we are now enabled to figure it. The variety was honoured with a First-class Certificate from the Royal Horticultural Society last year, and another at Earls Court on the 18th ult., on both of which occasions we noticed the variety in our columns. Last year the forced fruits were conical, as represented by the illustration, which was prepared from a fruit grown under glass. In the open ground last year, Mr. Laxton tells us about half of the fruits were flattened or cockscomb-shaped, and this year the greater part of them have behaved in this way. Mr. Laxton attributes this to the fact that many of the blooms were cut up by the frost in spring, thus thinning the crop in his grounds. The skin is bright scarlet and the seeds set almost evenly on the surface. Well ripened fruits have a considerable amount of flavour with a pleasant acidity, in fact more of these qualities than one would expect in so large a fruit. It has already given great satisfaction as a variety for forcing on account of the large size and fine appearance of the fruit, as well as its quality and the vigorous constitution of the plant.



Strawberry Royal Sovereign.

SOLLYA PARVIFLORA.

There are only two species of Sollya with several varieties, natives of Australia. All have bell-shaped, nodding and bright blue flowers that have a pretty effect on the slender, twiggy stems. That under notice is also known in gardens under the name of S. Drummondi, and has much smaller leaves than S. heterophylla the other species. They are linear, dark green and not sufficiently numerous to hide the stems nor flowers, so that on the whole the character of the plant is one of gracefulness. From one to three flowers are produced together at the tips of the most slender side shoots. It belongs to the class known as New Holland plants and is very nearly hardy, but to give satisfaction must be grown in a greenhouse or cool conservatory as it is grown at Falkland Park, South Norwood Hill, the residence of John Mc Meekin, Esq., where it is now flowering freely in one of the cool houses devoted to that class of plants. July is considered its usual month for flowering.

PHŒNOCOMA PROLIFERA.

At one time this was a favourite plant for exhibition purposes, but has long since become neglected, even although the species of Aphlexis are still received with favour, and are grown by those who still continue to exhibit specimen greenhouse plants. The stems and leaves of Phœnocoma, independently of the flower heads, render the plant a more interesting object than Aphlexis. The plant is easily grown under suitable conditions, and, all things considered, we cannot see why it should suffer the present neglect into which it has fallen. The stems are white and cottony, while the small leaves are densely crowded like little buds along the branches. The outer bracts of the head are closely adpressed, while the inner ones are long, spreading, and deep rosy red. The name Phœnocoma was given to it by Don, because the central florets of the head were male only. By others it is the Helichrysum proliferum. We noted a plant of it in full bloom at Falkland Park.

NEW WHITE SWEET PEAS.

The "boom" on white Sweet Peas in the land of the stars and stripes has naturally called forth new varieties, and as I have grown three of them side by side with each other, I thought a note taken on the spot might be interesting. The varieties are Queen of England, Mrs. Sankey, and a new one from America named Emily Henderson. To begin with, all three are good. Mrs. Sankey is a pure paper white; Queen of England is more of a milky or creamy white, and the individual blooms are larger; Emily Henderson is, to all intents and purposes, Queen of England—in Sweet Peas. They resemble each other so closely that it would puzzle the proverbial Dutchman to separate them if a bunch of each were mixed together. Mrs. Sankey is quite distinct apart from the shade of white, for while the pedicels of Mrs. Sankey are reddish and dark, the pedicels of Emily Henderson and Queen of England are a greenish cream colour. It is a pity, perhaps, to put it into the head of any seedsman that he might substitute sweet Emily for the Queen, or rather, the other way about, for the Queen is cheapest, but if he did, few would find it out. I don't see how they could. *Caveat emptor—Devoniensis.*

ORCHID NOTES AND GLEANINGS.

Cattleya labiata Sanderiana.

A magnificent flower of this Cattleya has been sent us by Mr. Malcolm McIntyre, gardener to Sir Charles Tennant, Bart., The Glen, Innerleithen, N.B. It was one of four on the same raceme, a fact which speaks well for the cultural treatment it must have received. The bloom measured 10 in. across when spread out, and the great length of the sepals and petals deprived them of their apparent width. Each was 5 in. long, the sepals were close upon 1½ in. wide, and the petals 2¾ in. They were of a warm rose colour, the petals being some shades darker with a rich netting of darker veins. The tube of the lip was intensified to crimson purple near the top externally, and the huge lamina was of a rich crimson purple fading to a paler hue at the wavy margins; the lamina measured 3 in. across. A large white blotch on either side of the throat shaded with yellow served to give character to the flower. On the whole we consider it a very fine form of the variety, both as to intensity of colour and the size of the flower. The latter may be due in part to cultivation.

Cattleya Arnoldiana.

This magnificent hybrid of Mr. Sander's, the deepest, richest coloured of all the genus, is now in bloom in the rich collection of George Hardy, Esq., at Pickering Lodge, Timperley. The plant which Mr. Holmes has in grand health carries a spike of three large blooms which are simply lovely to behold. The sepals and petals are of an intense shade of rosy purple, and the well-formed lip deep regal purple. It must be seen to be appreciated, for one cannot adequately describe it.

Cyrtopodium Aliciæ.

There are numerous species of Cyrtopodium, all confined to Tropical America, but hitherto only represented in European collection by two species. Most of them require a considerable amount of space for

their development and consequently few people undertake their cultivation. Their large panicles of flowers and petaloid bracts render them very conspicuous objects when in bloom. That under notice is an additional species, and was introduced from the Pernambuco district of Brazil by Messrs. Linden L'Horticulture Internationale, Brussels, in which establishment it was flowered last autumn. The flowers are smaller than those of the species already introduced, with yellowish green sepals and petals spotted freely with reddish brown markings. The lip is three lobed, with prominent side lobes, and is white or nearly so, spotted with red. The bracts are of moderate size compared with those of C. maculatum and, as in that case, coloured like the sepals and petals. There is a figure of it in *Lindenia, pl.* 371.

Cattleya labiata.

A BEAUTIFUL coloured plate of four of the varieties of the recently re-introduced Cattleya labiata are figured in the *Lindenia, pl.* 370. C. l. alba is pure white with the exception of a large pale yellow blotch in the tbroat. All the parts of C. l. gloriosa are white, lightly washed over with soft pink; the lip, in addition, has a small, rhomboid, dark crimson purple blotch in the centre near the apex, and a large bright yellow blotch in the throat, lined with orange. The sepals and petals of C. l. flammea are of a rich warm rose and the beautifully crisped lip is heavily veined with crimson in radiating lines along the centre on a deep purple ground, with two large orange blotches in the throat. The fourth is named C. l. majestica and is even more intensified in colour, particularly in the case of the lip, which is heavily shaded with crimson all over the purple ground, becoming paler only towards the edges.

Disa tripetaloides.

THE flowers of this species are small compared with those of D. grandiflora, but there is a charm about them which fascinates those who undertake its cultivation. They are produced in a long raceme which elongates very gradually, so that the flowers expand in succession over a considerable period of time. It was introduced from the Cape of Good Hope by Mr. James O'Brien, and has already found its way into several establishments, where it has proved easy to grow. The sepals are white, finely spotted all over with purple, and the upper one is hooded and spurred, the spur being short and green. There is a coloured illustration of it in the *Orchid Album pl.* 462, and which was prepared from a plant which flowered in the collection of A. H. Smee, Esq. (gardener, Mr. G. W. Cummins), The Grange, Carshalton. There are twenty expanded flowers upon the raceme, and several others in the bud state. They remain a long time in full beauty. A temperate house or heated but cool frame is the best place in which to grow it.

Cattleya Mossiæ Reineckiana.

THIS fine variety has been known to cultivators for the last twenty-five years, yet it is still far from common in collections. The fact of its being seldom imported amongst the other varieties of the type would point to the conclusion that it is uncommon even in its native habitats. The sepals are broad, ovate, obtuse; petals are pure white, and the lip is also of that colour except in the centre, which is marbled with massive spots and lines forming a blotch there. The ever-present blotch in the throat is bright yellow, and the tube is lined with crimson-purple. As in other varieties of C. Mossiæ the lamina of the lip is beautifully waved and crisped. There is a coloured illustration of it in the *Orchid Album, pl.* 461, and which was prepared from a plant which flowered in the collection of A. H. Smee, Esq. (gardener, Mr. G. W. Cummins), The Grange, Carshalton, where the collection is very rich in the varieties of C. labiata, but particularly of C. l. Mossiæ and C. l. Mendelii.

Calanthe vestita Oweniana.

The sepals and petals of this hybrid are lanceolate, acute; the former are white, suffused with rose, and the latter are of a rich rose purple. The lip is flat, spreading, three-lobed, and of a deep rose purple, with a white disc extending along the centre nearly to the apex. The side lobes are broad and notched at the apex while the middle lobe is bifid. The seed parent of the plant was C. vestita and the pollen parent C. Veitchii. The latter is itself a hybrid of which C. vestita was one and Limatodes rosea the other. All are therefore closely related. That under notice was raised by Messrs. B. S. Williams & Son, Upper Holloway, and is a fine acquisition to the group on account of the rich colouring of the flowers and their large size. The leaves drop by the time the plants come into flower, but the nakedness of the plants may be improved by standing Maidenhair Ferns amongst them at the time of flowering. There is a coloured illustration of the hybrid in the *Orchid Album, pl.* 464

Orchid Growers' Calendar.

EAST INDIA HOUSE.—There should be no stint of moisture in the air or at the roots of the occupants of this division, provided that sufficient air is given to prevent anything like a stuffy atmosphere, which would cause a too succulent growth. Too much shade would be equally as bad for them, so that it is easy to see how important it is to have light, heat, moisture, and air as evenly balanced as possible.

MANURE WATER.—When syringing the stages, walls, etc., we use manure water in a weak state. This, as previously stated, is made by putting horse droppings into a tub. A half-pint of this manure water to two gallons of clear water can do no harm, even should a little fall on the plants when syringing.

CALANTHES.—These are much more forward than in previous years, owing no doubt to the bright, warm weather, and as they are gross feeders some stimulant must be afforded. They are not very particular as to what is given them, provided they get something. We have used Clay's fertiliser, Standen's manure, guano, and drainings from the farmyard with equally good results.

CATTLEYA HOUSE.—The Mendelii season has been rather a short one with us this year, all of them being in bloom within a fortnight of each other. Those that require it will be repotted, using good tough peat, with just a little live sphagnum moss put in here and there as the work proceeds. They will soon take hold of the new material, as at this time they are rooting freely. Water very sparingly for a time, but the pots and stages should be kept moist by frequently syringing amongst them.

LÆLIA ANCEPS.—When writing about these last season I expressed a hope that readers of THE GARDENING WORLD who grow this fine winter flowering Orchid would try the effect of a little manure water on them. Has any one done so? If so their experience I am sure would be read with interest. Ours promise to be finer than ever. One plant of L. a. Williamsiana that last year had four blooms to a spike is now carrying a fine seed pod, and throwing up two strong growths from the same bulbs. We have now commenced to give them manure water, generally about once a week. The best Peruvian guano we find the best and safest to use, and a good sized thimbleful to two gallons of clear water is ample.

COOL HOUSE.—Oncidium macranthum just pushing spikes, will be greatly helped if watered with manure water once a week It must be given at first in a very weak state, increasing the strength as the plants get used to it. Slugs are very partial to the spikes of this Orchid, and must be sought after when there is any trace of them. We grow these plants at the cool end of the house, close to the door, summer and winter. In this position they get plenty of air, which they thoroughly enjoy.

TEMPERATURES.—East India house, 70° at night; Cattleya house, 65°; cool house, 50°; with a rise of 10° all round by day.—*C.*

SOCIETIES.

Royal Horticultural, *June 5th.*—The exhibits for the committees on Tuesday last were more circumscribed than on several former occasions, some of the tables being occupied, of course, by the exhibits of the London Pansy and Violet Society's Show, Pæonies, and other herbaceous plants generally, together with Roses, Rhododendrons, Begonias, and a fair representation of Orchids which made up the display. A group of Orchids was exhibited by Messrs. Hugh Low & Co., Clapton, including some showy pieces of Cattleya Mossiæ, C. Mendelii, a grand variety named C. gigas Sanderiana, Lælia purpurata, La grandis, and others. A Silver Flora Medal was awarded the group. A Silver Banksian Medal was awarded to Messrs. W. L. Lewis & Co., Southgate, for a smaller group of Orchids, in which the same species predominated, together with some pieces of Epidendrum vitallinum majus. Some cut flowers of very showy and interesting varieties of Cattleyas and Laelias were exhibited by Thos. Statter, Esq., (gardener, Mr. R. Johnson), Stand Hall, Manchester, Cattleya gigas (Stand Hall var), C. granulosa superba, Lælia grandis tenebrosa (Stand Hall var.), and L. purpurata gigantea had showy flowers of great size. A small but interesting group was exhibited by Messrs. F. Sander & Co., St. Albans, including Lælia hybrida Maynardi, L. Oweniana, Batemannia Burtii, and some others, for which a Silver Gilt Flora Medal was awarded. Cut flowers of many beautiful varieties of Cattleya Mossiæ, C. Mendelii, and Lælia purpurata Schroderæ were exhibited by A. H. Smee, Esq. (gardener, Mr. G. W. Cummins), The Grange, Carshalton, to whom a Silver Banksian Medal was awarded. A large collection of Pæonies, Delphiniums, Iceland Poppies, and Spanish Irises was staged by Messrs. Barr & Son, Covent Garden, who were accorded a Silver Banksian Medal. Cut flowers of the same classes of plants, as well as a fairly extensive collection of Violas were exhibited by Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, to whom a Bronze Banksian Medal was awarded. Herbaceous Pæonies and cut blooms of Roses were shown by Messrs. Paul & Son, Cheshunt, who were accorded a Silver Flora Medal. Some varieties of Calochortus were exhibited by G. F. Wilson, Esq., F.R.S., Heatherbank, Weybridge. Abies orientalis aurea, and Cleome pungens were shown by Messrs. J. Veitch & Sons, Chelsea. A showy and interesting collection of Briers was exhibited by Lord Penzance (gardener, Mr. Baskett), Eashing Park, Godalming. They showed considerable variety of colour, and some were semi-double, but all highly fragrant. A box of cut flowers of Ixora Westii and another of I. Prince of Orange were exhibited by the Messrs. de Rothschild (gardener, Mr. J. Hudson), Gunnersbury House, Acton. A collection of new varieties of tuberous Begonias, mostly double, was exhibited by Messrs. J. Laing & Sons, Forest Hill. A Bronze Banksian Medal was awarded to Messrs. E. D. Shuttleworth & Co., Peckham Rye, for a collection of Delphiniums, Lilies, Pyrethrums, Pinks, and other herbaceous plants in season. A Silver Banksian Medal was awarded to Mr. A. Waterer, Knap Hill, Surrey, for two boxes of cut hardy Rhododendrons, and another of Azaleas, the flowers of which were large and handsome. A group of variegated Negundos, Liliums, Caladiums, and Ferns was exhibited by Messrs. E. D. Shuttleworth & Co. A collection of cut flowers of Cannas, and some Roses was shown by J. C. Tasker, Esq., (gardener, Mr. P. Perry), Middleton Hall, Brentwood. A collection of twenty-four distinct varieties of Tea Roses was exhibited by Mr. Geo. Prince, Market Street, Oxford. A large bunch of flowers of Pyrethrum Jubilee was exhibited by Messrs. W. Balchin & Sons, Hassocks, and Brighton. Some cut flowers of Chrysanthemums, including Etoile de Lyon, Mrs. Irving Clark, W. Coles, and others were exhibited by Mr. A. McMillan, Trinity Cottage, Edinburgh. A collection of Pinks grown in the Society's gardens at Chiswick, was exhibited and some laced Pinks were shown by Mr. C. Turner, Slough. A strain of Sweetwilliams shown by Messrs. Dobbie & Co., Rothesay, N.B., was commended.

At a meeting of the Fruit and Vegetable Committee a collection of Cherries ripened in the open, some Potatos, Cabbages, and Peas, were exhibited by the Duke of Northumberland (gardener, Mr. G. Wythes), Syon House, Brentford. Taber's Duke of York Pea was shown by Messrs. Cooper, Taber & Co., Witham, Essex. Some dishes of Strawberries and some Melons were exhibited by Mr. O. Thomas from the Royal Gardens, Windsor. A Cultural Commendation was awarded to Messrs. de Rothschild (gardener, Mr. J. Hudson), for a box of Lord Napier Nectarines. Six huge Melons of the variety named Conqueror were exhibited by W. J. Myatt, Esq., Hextable, Swanley, Kent. Melons were also shown by Mr. Joseph Fitt, Panshanger, Hertford; by Mr. G. J. Hunt, Ashtead Park, and others. A Cultural Commendation was awarded to Viscountess Portman (gardener, Mr. H. C. Prinsep), Buxtead Park, Uckfield, for twelve dishes of Peas.

WHAT TO DO IN THE GARDEN.

Hoyas.—If the trusses of bloom are left on the plants till the flowers drop, the stalk that bore them will remain, and this should not be removed as other flowers will be produced from it next year. Take

care, however, that mealy bug is not left to increase there, as such lurking places are liked by them.

Gardenias.—Young plants and old ones that have been cut back and restarted would make more satisfactory progress now if plunged in a pit or frame in slowly fermenting material. Syringe heavily and close the frames early so as to secure a high temperature from sunheat. If troubled with mealy bug, lay the plants on their sides and thoroughly syringe them with paraffin and water at the rate of a wine-glassful of the former to four gallons of the latter.

Ixoras.—The flowers of Ixora are particularly liable to mealy bug which must be eradicated before the blooms expand, otherwise it cannot be done without injury to the flowers. Heavy syringings with clean water, directed with some force amongst the flower buds, will prove sufficient to dislodge the enemy without resorting to stronger measures, but the plants must be treated individually if very badly affected. Lay them in a slanting position so that when syringed the bug may be washed on to the path, or anywhere clear of the plants.

Dipladenias and Allamandas in pots.—Do not be in too great a hurry to tie down the flowering shoots when they commence to show their flower buds, or the latter may become arrested and fail entirely. Allow them to remain in an upright position till the buds get to some size, and then they may be trained into position. This, of course, does not apply to plants trained horizontally or erect upon wires close under the glass; but in the case of pot plants enjoying but a moderate amount of light, it is different.

Vinca rosea.—After this has been got into a bushy condition by pinching, the plants may be allowed to flower. As they progress in this direction syringe them heavily and feed with weak liquid manure.

Peaches.—Whenever the crop has been gathered from the early trees a good syringing should be given the latter, using the garden engine by preference so as to dislodge any red spider that may have obtained a footing while the trees were kept dry. Supply the roots with plenty of water and throw all the ventilators open to prevent the too rapid ripening of the wood.

Figs in pots.—Old pot plants that were started in November will now be swelling up their second crop fast, and should be encouraged with plenty of heat and moisture, syringing them heavily overhead till the fruits are on the point of maturity. After this the fruit must not be wetted, although the roots must be abundantly supplied, and every available space well damped down.

Sweet Peas and Mignonette.—The final sowing of these annuals for late blooming may now be made. Stake the Sweet Peas already up, for unless attended to in this respect they lose time and make less satisfactory growth. Select a sunny and sheltered position for the Mignonette.

Sub-tropical plants.—Such things as Solanums, Tobacco, Wigandias, Eucalyptus, and others of that class should by this time be well hardened off and ready to plant out, a work which should now be accomplished without delay.

Alternantheras and Coleus.—Small plants well hardened off are the best for bedding purposes. They should be planted rather closely for immediate effect, as it is a bad plan to trust to good growth to cover the beds. The season may yet prove ungenial, and in that case the plants will grow very slowly and perhaps look bad all the season.

QUESTIONS AND ANSWERS.

JOURNAL OF KEW GUILD.—*An Outsider*: The Journal can only be obtained by members of the Guild.

NAMES OF PLANTS.—*S. G. W.*: 1, Virgilia lutea; 2, Fraxinus Ornus, the Manna Ash.—*Pea Flower*: Cytisus purpureus.—*H. B.*: 1, Lychnis Viscaria splendens; 2, Melitis Melissophyllum; 3, Aquilegia chrysantha; 4, Iberis gibraltarica; 5, Lilium pyrenaicum; 6, Saxifraga (Cotyledon) pyramidalis.—*G. Henderson*: 1, Cobæa scandens; 2, Adiantum diaphanum; 3, Pteris straminea; 4, Dianthus arenarius; 5, Dictamnus Fraxinella.—*L. G.*: 1, Lycaste aromatica; 2, Oncidium Schlimii; 3, Jacobinia magnifica, otherwise known as Justicia carnea in gardens.

RHODODENDRONS WITH SMALL FLOWERS.—*A. R. J.*: The recent lifting or transplanting of your Rhododendrons would affect the size of the flowers to some extent in fairly ordinary seasons, but the last three months have been so dry, that established plants, particularly on dry and sandy as well as chalky soils, have suffered considerably, and the plants almost killed in some places. All you can do now is to remove the flowers or seed pods and wait for a more favourable season next year. Then, if dry, you should give the plants a good watering now and again. If you would take the trouble of erecting a light awning over the plants it would improve the size of the blooms and make them considerably more durable.

GREENFLY ON ROSES.—*A. Brand*:—Forcibly syringing them with clear water will knock down the fly for a time, but the weather being very dry they soon recover and return during next day. Make up a strong solution of soft soap and syringe them forcibly in the evening. It may be necessary to repeat the process in a week, as winged specimens come from various other gardens, and soon create fresh colonies.

EPIPHYLLUMS ON THEIR OWN ROOTS.—*Chas. Bentley*: It is a matter of convenience or taste as to whether these plants should be grafted or grown upon their own roots. The object of grafting is to show off the drooping habit of the plant with its pendulous flowers. Plants that are grown upon their own roots you may prune to a single stem and tie to a stake, afterwards allowing it to form a branching head. Or if you like you may grow the plants as dwarf branching bushes.

COMMUNICATIONS RECEIVED.—J. C. & Co.—A. V. M.—T. A. M.—A. H.—T. L.—J. H.—J. S.—A. B. W.—M. McI.—X.—W. M.—S. E.

TRADE CATALOGUES RECEIVED.

WILLIAM BULL, 536, King's Road, Chelsea, S.W.—New and Rare Plants.

DAMANN & Co., San Giovanni a Teduccio, near Naples.—Catalogue of Bulbs, Roots, and Orchids.

TOOGOOD & SONS, Southampton.—Turnip Seeds.

LONDON SEED TRADE.

June 6th, 1893.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report sowing demand for Clovers and Grass Seed slow. Konigsberg Tares being in short supply, realise high prices. Mustard and Rape steady.

COVENT GARDEN MARKET.

June 7th, 1893.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Tasmanian Apples per case	5 0	10 0	Melons ... each	1 6	2 6
Grapes, per lb.	1 0	2 6	Strawberries, per lb.	0 6	1 0
Peaches ... per dozen	3 0	12 0	Pine apples. —St. Michael's, each	2 6	6 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Asparagus per buudle	1 6	5 0	Horse Radish, bundle	2 0	4 0
Artichokes Globe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, French, per lb.	1 6	2 0	Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	5 0	Seakale .....per bkt	0 0	0 0
Celery.....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers .....each	0 4	0 8	Spinach ... per strike	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 9	1 0
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 6	

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	2 0	4 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Bouvardias, per bun.	0 6	1 0	Pelargoniums, 12 sps.	0 6	0 9
Carnations .....doz. bunches	4 0	8 0	— scarlet.....12 bchs.	4 0	6 0
Cornflowers, dz. bun.	1 6	3 0	Pinks, doz. bunches...	1 0	3 0
Eucharis ...per doz.	3 0	6 0	Pyrethrum doz. bun.	1 6	4 0
Gardenias 12 blooms	1 0	2 6	Primula, double, bun.	0 6	1 0
Gladiolus, White, dz bn	4 0	9 0	Red Roses, doz. blns.	3 0	8 0
Heliotropes, 12 sprays	0 6	0 9	Roses, yellow, dozen	2 0	4 0
Iris, var., doz. bunches	6 0	12 0	— Red..... doz. blms.	1 6	3 0
Lilium Harrisii, doz. blooms	2 0	3 0	— Saffrano...per doz.	1 6	2 0
Maidenhair Fern, 12 bs	4 0	6 0	— Tea ..... per dozen	0 6	2 0
Marguerites, 12 bun.	2 0	4 0	Spiræas, doz. bunchs	3 0	6 0
Mignonette... 12 bun.	2 0	4 0	Stephanotis, dz. sprays	1 6	2 6
Narcisse, various, doz. bnchs	2 0	4 0	Sweet Peas, doz. bhs.	4 0	8 0
			Sweet Sutton, dz. bhs.	3 0	6 0
			Tuberoses, per doz	0 6	1 0

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Cyperus .....per doz.	4 0	12 0	Liliums, various, per doz.	12 0	24 0
Cineraria ...per doz.	6 0	9 0	Lobelia .....per doz.	3 0	6 0
Dracæna term., doz.	18 0	30 0	Marguerites, per doz.	6 0	12 0
Dracæna viridis, doz.	9 0	18 0	Nasturtiums, per doz.	3 0	4 0
Erica, various, doz.	12 0	24 0	Mignonette, per doz.	4 0	8 0
Evergreens, in var. doz	6 0	24 0	Palms in variety, each	2 6	10 0
Ferns, invar., per doz.	4 0	18 0	Palms, Specimen ...	15 0	63 0
Ferns, small, per 100	6 0	10 0	Pelargoniums ... doz.	9 0	15 0
Foliage Plants, doz.	12 0	60 0	— scarlet.....per doz.	4 0	9 0
Fuchsia .....per doz.	6 0	12 0	Saxafrage...per doz.	12 0	18 0
Genista .....per doz.	9 0	12 0	Spirea, per doz.	6 0	12 0
Hydrangea, per doz.	9 0	18 0			
Ivy Geraniums...doz.	4 0	6 0			

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FLOWER SHOWS, 1893.

Revised to date.

JUNE.

14, 15, 16.—York Floral Fete.
14, 15.—Rose Show at Earl's Court.
15.—Newport Rose Show.
20.—R.H.S., Drill Hall.
20.—National Rose Show at the Drill Hall.
21.—Royal Botanic Society.
22.—Ryde Rose Show.
24.—Reigate Rose Show.
27.—Maidstone Rose Show.
28.—Rose Show at Earl's Court.
28.—Richmond (Surrey) Flower Show.
29.—Eltham Rose Show.
29.—Newport Rose Show.
29.—Windsor Rose Show.

JULY.

1.—National Rose Show at the Crystal Palace.
1.—Chingford Flower Show.
4.—Bagshot Rose Show.
4.—Canterbury Rose Show.
4.—Diss Rose Show.
4.—Gloucester Rose Show.
5.—Ealing Flower Show.
5.—Royal Botanic Society Evening Fête.
5.—Croydon Rose Show.
5.—Dursley Rose Show.
5.—Hereford Rose Show.
5, 6.—Ipswich and East of England Horticultural Society.
5, 6.—Lee, Blackheath, and Lewisham Horticultural Society.
6.—Bath Rose and Begonia Show.
6.—Royal Horticultural Society of Ireland.
6.—Farningham Rose Show.
6.—Norwich Rose Show.
6.—Sutton Rose Show.
7.—Hitchin Rose Show.
8.—Reigate Rose Show.
8.—Wakefield Rose Show.
11.—R.H.S., Chiswick.
11.—Wolverhampton Rose Show.
12, 13.—Royal Caledonian Horticultural Society.
12.—Tunbridge Wells Show.
13.—National Rose Show at Worksop.
13.—Woodbridge Flower Show.
13.—Boston Flower Show.
14.—Helensburgh Rose Show.
15.—New Brighton Rose Show.
18.—Eye Flower Show.
19.—Carnation and Picotee Show at the Clifton Zoological Gardens.
20.—Ludlow Flower Show.
20.—Bedford Rose Show.
20, 21, 22.—Newcastle-upon-Tyne Summer Show.
20.—Trentham Flower Show.
21.—Ulverston Rose Show.
22.—Rose Show at Old Trafford.
25. R.H.S., Drill Hall.
25.—Tibshelf Rose Show.
26, 27.—Carnation Show at Earl's Court.
27.—Sleaford Flower Show.
27.—Southwell Rose Show.
27.—Halifax Rose Show.
29.—Bedale Rose Show.
29.—Wakefield Cottagers' Window Garden Competition.

AUGUST.

1.—Oxford Union Carnation and Picotee Show.
2.—Great Saughall Flower Show.
5.—Midland Counties Carnation Show at Birmingham.
5, 7.—Southampton Floral Fête.
7.—Battersea Summer Show.
7.—Beddington, Carshalton, and Wallington Flower Show.
7.—Duffield Flower Show.
7.—St. Neots Amateur and Cottage Horticultural Society.
7.—Mansfield Flower Show.
8.—R.H.S., Drill Hall.
9, 10.—Flower Show at Earl's Court.
10.—Margam Cottagers' Show.
10.—Maidenhead Flower Show.
10.—Taunton Flower Show.
12.—Ovenden Flower Show.
15, 16.—Cardiff Flower Show.
16.—Bishop's Stortford Flower Show.
16—Eling (Hants) Flower Show.
16.—Reading Flower Show.
16.—Kingswood St. George Flower Show.
16, 17.—Bilston Flower Show.
17.—Parsonstown (King's Co.) Horticultural Society's Show.
18.—Devon and Exeter Horticultural Society.
18, 19.—National Co-operative Flower Show at the Crystal Palace.
22.—West Malvern and Mathon Flower Show,
23, 24.—Shrewsbury Summer Show.
23, 24.—Gladioli Show at Earl's Court.
25.—Royal Horticultural Society of Ireland.
29, 30, 31.—R.H.S., Agricultural Hall.
30, 31.—Bath Autumn Show.

SEPTEMBER.

1, 2.—National Dahlia Society's Show at the Crystal Palace.

5, 6.—Brighton Autumn Show.
6,7,8.—National Chrysanthemum Society at the Aquarium.
8.—Bute Rose Show at Rothesay.
12,26.—R.H.S., Drill Hall.
13,14.—Royal Caledonian Horticultural.
13, 14.—Dahlia Show at Earl's Court.
27.—N.C.S. Floral Committee.
27, 28, 29.—Hardy Fruit Show at Earl's Court.
27, 28.—County of Gloucester & Cheltenham R.H.S.

OCTOBER.

10,24.—R.H.S., Drill Hall.
11,12,13.—National Chrysanthemum Society at the Aquarium.
25.—N.C.S. Floral Committee.
28,29.—Havant Chrysanthemum Show.

NOVEMBER.

1,2.—Kent County Chrysanthemum Show.
1,2.—Battersea Chrysanthemum Show.
1, 2.—Steyning Chrysanthemum Show.
2,3.—Forest Gate and Stratford Chrysanthemum Show.
2,3.—Ascot Chrysanthemum Show.
2,3.—Highgate Chrysanthemum Show.
2,3,4.—Cornwall Chrysanthemum Show.
3,4.—Grimsby Chrysanthemum Show.
6.—St. Neots Chrysanthemum Show.
7,8,9.—National Chrysanthemum Society at the Aquarium.
7,8.—Eastbourne Chrysanthemum Show.
7, 8.—Brighton Chrysanthemum Show.
7,8.—Kingston Chrysanthemum Show.
7,8.—Sevenoaks Chrysanthemum Show.
8.—Evesham Chrysanthemum Show.
8.—N.C.S. Floral Committee.
8, 9.—Bath Chrysanthemum Show.
8,9.—Barnsley Chrysanthemum Show.
8, 9.—Brixton, Streatham, etc., Chrysanthemum Show.
8,9.—Bournemouth Chrysanthemum Show.
8,9.—Bath Chrysanthemum Show.
8, 9.—Dalston Chrysanthemum Show.
8,9.—Guildford Chrysanthemum Show.
8, 9.—Northamptonshire Chrysanthemum Society.
10.—Exeter Chrysanthemum Show
10.—Windsor Chrysanthemum Show.
10,11.—Derby Chrysathemum Show.
10,11.—Bradford Chrysanthemum Show.
11.—Bacup Chrysanthemum Show.
11.—Batley Chrysanthemum Show.
14, 15.—Ipswich and East of England Chrysanthemum Show.
14, 15.—Plymouth Chrysanthemum Show.
14,15.—Croydon Chrysanthemum Show.
14,15.—Hartlepool Chrysanthemum Show.
14,15.—Cardiff Chrysanthemum Show.
14,28.—R.H.S., Drill Hall.
15.—Ealing Chrysanthemum Show.
15.—Reading Chrysanthemum Show.
15,16.—Birmingham Chrysanthemum Show.
15,16.—Bristol Chrysanthemum Show.
15,16.—Cranbrook Chrysanthemum Show.
15,16.—Great Yarmouth Chrysanthemum Show.
15,16.—York Chrysanthemum Show.
15, 16, 17.—Hereford Fruit and Chrysanthemum Show.
16, 17, 18.—Edinburgh Chrysanthemum Show.
16, 17.—Royal Horticultural Society of Ireland.
17.—Crediton Chrysanthemum Show.
21,22.—Manchester Chrysanthemum Show.
22.—Beverley Chrysanthemum Show.
22,23.—Dundee Chrysanthemum Show.
23,24.—Norwich Chrysanthemum Show.
24,25.—Eccles Chrysanthemum Show.

DECEMBER.

5,6,7.—National Chrysanthemum Show at the Aquarium.
12.—R.H.S., Drill Hall.

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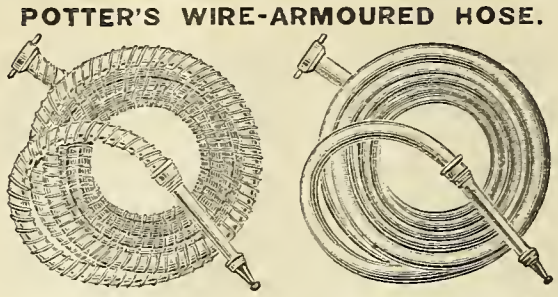

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in.	Extra stout quality 43/7
in.	Best quality 45/0
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½ in.	Best quality 21/5
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in.	Extra stout quality 33 0
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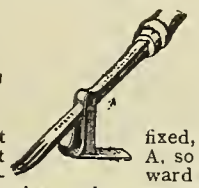

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It has received an Award of Merit from the Royal Horticultural Society.

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ROYAL EXOTIC NURSERY,
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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, June 20th.—Royal Horticultural Society: Meeting of Committees at 12 o'clock. National Rose Show at the Drill Hall.
Sale of Established Orchids at Protheroe & Morris' Rooms.
WEDNESDAY, June 21st.—Royal Botanic Society's Summer Show.
THURSDAY, June 22nd.—Gardeners' Royal Benevolent Institution: Annual Dinner. Ryde Rose Show.
FRIDAY, June 23rd.—Sale of Imported Orchids at Protheroe & Morris' Rooms.
SATURDAY, June 24th.—Reigate Rose Show.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, JUNE 17th, 1893.

THE PANSY SHOW.—Whilst we have not the slightest desire to set one popular flower against another, yet was it difficult to refrain from an expression of sympathy with the exclamation overheard at the Drill Hall the other day—"Well, Pansies give more to look at than Auriculas!" That is very true, although to the true florist there is perhaps no flower regarded with deeper veneration than is a perfect Show Auricula. But the Pansy does appeal to popular taste much more effectively because of its exceeding beauty, thorough hardiness, and considerable size of the flowers. Of course it is not easy for everyone to produce even from the same varieties such splendid flowers as the Scotch growers set up; but at least with fairly favourable conditions of soil and situation, they can accomplish much and doubtless be more than satisfied.

It probably surprised many visitors to the recent show to note that few flowers indeed were shown that were grown in the South, and that by far the larger proportion came from the North. Practically it has been a North season, but then it may not be so always, for to us down South it has been one of exceptional drought and warmth. Such exceptional weather, however, should be far from discouraging to would-be Pansy growers, and we urge them to try again, obtaining some of the fine sorts plentifully shown at the Drill Hall, and getting them, too, early in the autumn, keeping them in pots in a cool frame, the pots plunged in ashes for the winter, then

THE CARNATION:

Its History, Properties, and Management;

WITH

DESCRIPTIVE LIST OF THE BEST VARIETIES IN CULTIVATION

BY

E. S. DODWELL,

Hon. Secretary and Treasurer of the Carnation and Picotee Union.

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With Supplementary Chapter on the Yellow Ground.

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planting out towards the end of March in a moderately-shaded situation, and in deep, well—prepared soil, where they may be mulched and watered.

It need hardly be said that where trouble is taken to obtain the best sorts, trouble in cultivation should not be spared also. It is only possible in such case to secure the finest flowers. Any one can grow Pansies as ordinary hardy flowers by growing them in garden borders, and such culture is good enough for inferior sorts, but the best do merit the best of attention.

THE ROSE SEASON.—It is so exceptional a circumstance to have a first-class Rose Exhibition in London so early as the 14th of June that no wonder it calls for special notice. We cannot yet fully ascertain how the great growers stand this season in relation to their flowers, but so far as all ordinary garden-grown Roses are concerned they will be more than beyond their best by that date. Roses have been blooming, if not finely at least with exceeding luxuriance and beauty. It is worthy of note also that in spite of the exceeding dryness of the season there is no exceptional attack of aphis or maggot, nothing so far as we have learned that could not be grappled with by ordinary means.

It does seem after all as if cold changes of temperature, fluctuations of bright sunshine and cold storms and clouds were more productive of insect pests than continuous warm drought. So far as relates to exhibition roses, the fact that the bulk of the blooms are the product of autumn buds places them in a different category from roses that are grown under ordinary conditions in gardens, and although the flowers can hardly be so large as usual, yet we may see them fuller and perhaps more beautiful than is ordinarily the case, even if they also be somewhat earlier.

In any case that is our anticipation. No doubt our growers for exhibition have been watering freely and mulching heavily. Teas especially should be good. They like sunshine and warmth, and under existing climatic conditions should display their delicate tints and purity of complexion in the most perfect form.

PEAS.—These most delicious of vegetables, evidently impressed with the necessity of being up to date, have this year in common with so many other things been breaking records, and the earliest maturing within the history of man almost seems to have marked the present year. It has been a somewhat dangerous thing for an editor to admit into his paper the mention of a particular Pea being ready at such a date, for immediately come floods of other communications that certain other varieties were ready at least one day earlier, if not some thirty-six hours. Practically, all this goes for little when it is found that it is not in this or that sort that special earliness has been evident, but rather in the general average, which has been from a fortnight to three weeks earlier than ordinarily is the case.

Of course it is easy enough to assume that exceptional earliness is due to exceptional precocity in newer kinds. That some gain has been secured in that respect we will not question, or that in relation to these first early sorts there has been great improvement. That is undoubtedly the case. Still remarkable earliness has not characterised one or two varieties only. It is general. That some of this precocity has been obtained at the expense of edible quality there can be no doubt, as the best of Peas eat somewhat dry. But as since the middle of April we have had no frosts that would harm Pea-bloom, and May having been both warm and frostless the great earliness of Peas is easily explained. Still such very favourable blooming times are rare. Peas as it is have suffered more from the usual sin of thick sowing than from actual drought. Some day, perhaps, growers will learn to treat them when sowing with more justice.

STRAWBERRIES.—There are few fruits with respect to which it seems more difficult to obtain anything like unanimity of opinion as to respective merits than of Strawberries. Why this should be so would be hard to understand were it not for the fact that these fruits seem to be more susceptible to variations of soil than perhaps any others—and it may be but natural that such should be the case—as the fruits have closer contact with the soil than any others have. It is for that reason, we suppose, so difficult to fix what seems in one case the excellent quality and what in another is the very reverse. In any case that is so with a large number of varieties, and is not so with a few.

On the whole, probably, few sorts are more reliable than are President, Sir Joseph Paxton, and Sir Charles Napier. Certainly few, if any, are more generally grown. But then we could name a dozen, even a score, of others which find favour in one place and denunciation in a dozen others. It is indeed strange, but 'tis so. Just now we see our markets full of Strawberries. They are sold very cheaply in the streets and might obtain there perhaps better prices were they more agreeably presented to purchasers. There is nothing we should like to see better than the ordinary town dweller enjoying a fill of clean, sweet Strawberries, but on the street barrows, although the fruits are often wonderfully fine, yet are they usually set up in heaps and wearing an untidy, almost objectionable, appearance.

Could these dealers be induced to present the fruits in neat cardboard or wicker baskets, carefully sampled and cleanly packed, how much more attractive and appetising they would be! Shovelled with a scoop or by a hand that is none too clean into a scale and from thence into a paper bag, no wonder a somewhat hardened stomach is needed to render them appetising. How much room have we for amendment in this direction!

Mr. McCormick, lately foreman at Trentham, has has been engaged as gardener at Canford Manor, Wimborne, in succession to Mr. T. Crasp, who has gone into the market-growing business at Swansea.

The North Lonsdale Rose and Pansy Show will be held at Ulverston on Friday, July 7th. instead of on the date originally fixed.

Manchester Rose Show.—In consequence of the peculiar season the date upon which the above show should have been held has been changed, and it will take place in the gardens at Old Trafford, on Thursday, the 6th of July.

The Carnation and Picotee Union.—We are requested to state that the annual meeting in Mr. Dodwell's garden, at Oxford, is fixed for Tuesday, July 18th, instead of as previously arranged. The votes given for the alteration of the date were equally divided between the 15th and the 18th, but tents cannot be had for the earlier day.

"Cottage Gardening."—We note with pleasure that the essay on this subject which won Mr. W. Egerton Hubberd's prize in 1870, and which its author Mr. W. E. Badger, of Birmingham, has kept carefully revised up to date has reached its twenty-seventh thousand. It deals with out-door cultivation only, and is a cheap and admirable little work to place in the hands of owners of small gardens. Messrs. Houlston & Sons are the publishers.

Royal Gardener's Orphan Fund.—At the meeting of the committee, held on the 9th inst., the honorary secretary announced the receipt of the following donations since the previous meeting: Mr. F. M. Mould, £5 5s.; Mr. John Wills £10 10s.; Messrs. W. Thomson & Sons £1 10s.; Mr. H. J. Jones £1; Young men at Ruxley Lodge, Esher, 10s.; and Mr. J. Perry, Crystal Palace Park, £1.

Fine Strawberries.—The first home-grown strawberries of the season were on sale at Mayhole, Ayrshire, on the 6th inst. The fruit was grown in the Gardens at Culzean Castle, and twelve selected berries weighed over one pound.

Early Potatos in Scotland.—The first public sale of the season in the Girvan district took place on the 1st inst., the crop being quite a fortnight earlier than last year. The quantity sold was over 200 acres. The highest figure obtained was £36 per imperial acre, and the lowest £15 for a small lot. Prices on the average are similar to last year. The crop on the Girvan shore is the earliest since the beginning of the early potato trade.

The New Park for Wakefield will be opened on July 6th. Mr. C. Millnes Gaskell presented to the town Lawe Hill and the plateau immediately surrounding it, and to this has been added by purchase some twenty-eight acres, at a cost of £3,500. The cost (£3,000) of laying-out the park has been raised by donations, and entrance gates, lodge, band-stand and seats have all been given by public-spirited citizens. It is hoped that Holme Field, with its fourteen acres of magnificent grounds, may be eventually added, the present owner having generously offered the estate for £10,000, a sum greatly below its value.

High Prices for Growing Peas.—At the first sale of this season's crop at the Swan Hotel, Stourport, last week about fifty-five acres were offered. There was a very large attendance of buyers, and the highest prices ever made in the district were realised. 9¼ acres of Carter's Lightning, grown by Mr. A. Tough, on the Kidderminster Corporation Farm at Oldington, made the remarkable price of £18 10s. per acre; whilst 9a. 2r. 20p. of Leicester Defiance on the same farm made £13 5s. per acre. In the same week five acres of Leicester Defiance, grown by Mr. A. Horne, Clifford Bank, Stratford-on-Avon, realised £21 per acre, the highest price brought in the neighbourhood for very many years.

The Condition of British Crops.—The *Times* on the 8th inst. in a special report on the condition of the growing crops on June 1st states that taking the crops as a whole, they are in all cases but hops below the condition they were last year in England and Wales; but, on the other hand, the condition of all crops in Scotland surpasses the point they occupied in 1892. The cause of this in England and Wales was threefold—the difficulty of sowing in the autumn from wet land, the impossibility of getting in seed in the spring through hard and dried-up soil, and the delay which took place in germination consequent upon the absence of rain.

Destruction by Fire of the Horticultural Hall, Philadelphia.—We regret to learn from American exchanges that the well-known Hall of the Pennsylvania Horticultural Society at Philadelphia was destroyed by fire on the 27th ult. One source of congratulation is that the most valuable portion of the Society's library was not damaged either by fire or water, and that the valuable oil paintings of the founders of the Society were saved including the portraits of John Bartram, Caleb Cope, William L. Schaffer, J. E. Mitchell, Henry A. Dreer, A. W. Harrison and Miss Elizabeth Schaffer. The Directors met on the Monday following when it was decided to erect a new edifice on the old site, and if possible a more spacious and handsome one than that so unfortunately destroyed.

New Plants Certificated in Ghent.—Certificates of Merit were awarded at a meeting in Ghent on the 5th inst. to Mr. Em. De Cock for Cypripedium Lawrenceanum var. extra; to the Establishment Horticole St. Dorothée for Encholirion roseum fol. aur. var.; to Mr. Eugene Buysse for a seedling Canna; to Messrs. Edward Vervaet & Co. for Ærides crassifolia and Odontoglossum crispum guttatum; to Mr. F. Desbois for Spiræa ruberrima; to Messrs. Duriez Bros. for Cyperus alternifolius

gracilis; to Mr. A. Van Imschoot for Mormodes luxatum eburneum and Trichopelia crispa marginata; to Mr. Alexis Dalliere for Bilbergia macrantha; to Mr. Jules Hye for Odontoglossum hybrid; to Mr. A. Van den Heede for Pteris tremula albo lineata; to Mr. F. Desbois for Anthemis frutesceus Bedding Gem, Cyperus alternifolius gracilis, Gaillardia Gerbeauxi fl. pl., and Aster trinervis.

Town Gardening in Manchester.—The difficulty of rearing any kind of vegetation in Manchester is matter of general knowledge. Several attempts have been made to introduce trees into public places, but generally with most discouraging results. A deleterious atmosphere, which chokes the pores of the leaves, is the main obstruction, and a second, of but little less moment, is the presence of destructive insects. An invention which has approached nearer to a remedy than any yet found, was experimented with recently on the plantation just completed in St. Ann's-square. Already, favoured by a dry, warm atmosphere, insects had gathered thickly on the leaves, and destruction seemed imminent. Under the supervision of Mr. Lamb, the general superintendent of parks and open spaces, the invention patented by Messrs. Stott Bros., of Deansgate, known as the "Stott insecticide, or disinfectant distributor," was brought into operation, and in a short time apparently not a living insect remained. Moreover the effect of the discharge on the leaves was to remove the accumulated soot and dirt, and thereby effect a thorough cleaning. The invention has for some time been in use at the parks with admirable results.—*Manchester Courier.*

Scottish Horticultural Association.—At the monthly meeting of this Association, held on the 6th inst., Mr. M. Todd presiding, Mr. J. Wilson, Leith Walk Nurseries, read a paper on "Select Stove Flowering Plants," in which he adverted to a variety of these plants that were easily propagated, that grew quickly and that generally gave a large supply of blooms in their season. He also entered into some details as to the method of treatment calculated to bring about the latter result, and in this connection he urged that in the existing state of affairs gardeners were obliged to give up the cultivation of many of their old favourite flowers in order to satisfactorily meet present-day tastes and requirements. At the close some discussion took place, and Mr. Wilson was awarded a cordial vote of thanks. An unusually large number of exhibits were on the table. Mr. M'Millan, Trinity, showed some very fine chrysanthemums, and for his skill and energy in the cultivation of this popular flower the committee recommended the council that he should be awarded a Silver Medal. Mr. Grieve, of Messrs. Dicksons & Co., Edinburgh, exhibited an excellent assortment of blooms, including Pansies, Calceolarias, and Clematis. Mr. M. Cuthbertson, Rothesay, also had on view an admirable collection of herbaceous plants.

"Noxona" and "Izal" as Insecticides.—In reply to a question as to whether the new sheep dip, "Noxona" and the new antiseptic and disinfectant "Izal" had been tried as insecticides, Messrs. Newton, Chambers & Co., write:—"Both "Noxona" and "Izal" have been used with great success as an insecticide for the destruction of pests and the clearing away of filth in gardens and greenhouses. We recommend the use of "Izal" as follows:—Syringe with 1 part of "Izal" to 100 parts of water, and before the preparation has had time to dry well wash with water, in order to prevent any damage being done to delicate plants by the concentration of "Izal" through evaporation."

A Whirlwind and some of its results.—A few days ago an extraordinary whirlwind, originating in the neighbourhood of Scilly Islands and proceeding to Penzance, did considerable damage to gardens. In one case a net covering a Strawberry bed in the garden of the ex-High Sheriff of Cornwall (T. R. Bolitho, Esq.) was snatched up by the wind to a considerable height, and carried a quarter of a mile away before it fell. In the same garden two Seakale pots, standing four or five feet from each other, were dashed together and smashed to atoms. A square patch of Potatos was beaten down as if it had been rolled: while a fence between the Potatos and the Strawberries was not injured in the least.

The long-continued Drought and its results in the West.—There is now but little chance for the market gardeners of the west sending to market anything like the quantity of green vegetables which has been the custom. Those who have possessed sufficient courage to plant the Cabbage or Cauliflower have for their pains the not very lively satisfaction of seeing them die and wither in the ground for lack of moisture. In some of the more favoured parts, the vegetables, whether tilled or remaining in beds, have to be watered, and this has put an enormous strain on the household water supply, which has become very scarce. At last, however, there is a chance for the market gardener to reap a better harvest for his remaining crop of Potatos; for prices, which dropped to 8s., have gone up to 12s., and the tendency is up. But the rise has come too late to be of much service. If Cornish market gardeners are to do anything towards making their rent from their gardens, it must be from early produce, and this year it has been impossible to accomplish this from vegetables. It is true that fruit will help from its general abundance, especially of Currants and Gooseberries; but for Apples and Plums, in many cases, there will, we fear, be but little chance. We have recently seen whole orchards where the trees (from pestilence) are as free from leaves as they are at Christmas. Our foreign neighbours will decidedly have the best of us this year.

World's Fair Auxiliary Congress.—The Committee of Division of Horticulture of World's Congress make the following announcement:—"The date for the World's Horticultural Congress at Chicago has been fixed, beginning August 16, 1893, and continuing four days. Horticulturists throughout the world are cordially invited to so arrange their visit to the World's Columbian Exposition that they may be with us at the above date. The Society of American Florists and the American Seed Trade Association and the American Pomological Society will hold their annual meeting during the same months. We therefore anticipate the largest possible attendance. Correspondence may be addressed to the chairman of the Local Executive Committee, J. C. Vaughan, Chicago."

Dianthus Cæsius.—The Cheddar Pink has flowered well this season, showing that much moisture is not essential to its welfare, although the blooms may have had greater duration with a moister atmosphere. The stems vary from 3 in. to 6 in. high, bearing one or two flowers according to vigour. They arise from among a dense cushion of grey or glaucous leaves that are well adapted for resisting drought, both structurally and by the way they protect the soil in which the plant is growing from the drying influences of sunshine. The flowers are of fair size, rosy-purple, and fragrant; the petals are bearded near the base somewhat in the same way as those of D. plumarius, the garden Pink.

Araucaria imbricata and Wellingtonia gigantea in the Chester Nurseries. (*See p.* 660.)

FUCHSIAS AND GLOXINIAS.

There is a fine display of Fuchsias in one of the houses treated as a conservatory, and also in the long corridor connecting the houses of the fine new range together, in the gardens of John McMeekin, Esq., Falkland Park, South Norwood Hill. The plants have been grown from cuttings within the last ten months, and are now 6 ft. to 11 ft. in height. Most of them are grown in pots, but a few are planted out and trained up under the rafters of the corridor. Considering the short time that has elapsed since they were mere cuttings, it would not be supposed that they would resemble pyramidal specimens of some years' standing. They are nevertheless well furnished from top to bottom, and though narrow, carry a fine lot of bloom. Had they been bulky specimens they would hardly have been admissible in their present position round the edges of the large central bed of the house. The dwarfer ones are, of course, stood on the side stages. As it is, such tall and floriferous specimens speak of high cultural skill on the part of the gardener, Mr. Wright. The varieties grown are also very numerous, creating a wonderfully varied and interesting display.

Single Fuchsias.

Amongst many of the newer kinds some of the most popular of the old-fashioned sorts may still be noted. One of these is—

Mrs. Marshall, with a carmine rose corolla and the rest white. It has figured at many an exhibition of by-gone days.

Rose of Castille is another equally noteworthy and floriferous kind of the olden times. It has bluish purple petals and white sepals.

Rose of Castille Improved has larger flowers with pink sepals, and a violet purple corolla.

Our Future Queen is a striking flower with a massive white tube and rosy carmine petals. The sepals of

Display are red, with spreading rosy-purple petals. Some of the specimens are grown in pots, and others trained up the rafters as in the case of Rose of Castille. A very pretty one with flowers of the same spreading habit as Display, is

President Grevy with red sepals and soft mauve petals striped with carmine veins.

John Bright has reflexed red sepals, and a short violet-purple corolla. One of the most satisfactory and valuable sorts grown is

Charming, by reason of its pyramidal and branching habit, as displayed by several specimens grown. The long, violet-purple corolla is very striking, and ifts this into the first rank of desirable Fuchsias to grow. Another old favourite is

Wave of Life, having greenish yellow foliage, and a deep blue, or ultimately purple corolla, which although not large, is very striking from its intensity. The white sepals and rosy-purple petals, edged with scarlet, offer striking contrasts and are characteristic of Marginata. Pretty also is

Lustre, having white or blush sepals and scarlet petals. Another picotee-edged sort is

Lady Heytesbury, with white sepals, and a purple corolla-edged scarlet. It has longer and darker coloured flowers than Marginata. Very pretty is

Emily Bright, with a short scarlet corolla. When trained to a wall, the branches form long, drooping, floriferous sprays. A vigorous grower is

Charles Blaine, about 10 ft. high, with spreading, red sepals and purple petals. The flowers of

Lee's Perfection are widely bell-shaped, with blush sepals and a scarlet corolla, shaded with purple. A bold and striking variety is

Aurea superba, with heart-shaped leaves of great size, and light green in colour. The sepals are salmon-coloured, and the petals orange-scarlet, colours which we should expect from the name.

Lord Beaconsfield is now pretty well known for its dwarf drooping habit and long salmon red tube, salmon-coloured sepals and scarlet corolla. It is very floriferous. The revolute sepals of

Lady Hexham are crimson red and the corolla of an intense blue.

Warrior Queen is a robust variety with large, spreading crimson sepals and blackish violet blue petals, ultimately shading off to deep purple. The old

Fuchsia fulgens still finds a place amongst the many new kinds. Its dwarf habit and long-tubed, brightly coloured flowers have much to recommend it. The tube is scarlet, the corolla a deeper shade and the sepals are tipped with green. The dark foliage and the lively scarlet flowers of the still dwarfer F. triphylla are very engaging.

Double Fuchsias.

There are few collections in which double Fuchsias do not hold a subordinate position to the single ones and we are highly pleased that it should be so, for doubling destroys much of the graceful elegance which is so characteristic of the Fuchsia. A few of them are sufficient to lend variety in a collection of the single kinds. The flowers are frequently so heavy that they drop bodily at a relatively early age, especially if the plants are disturbed. Some of them may be considered beautiful when their bulky flowers are of bright and pleasing colours. There are many such double kinds being grown and we should not entirely discourage their cultivation. The flowers of

Kaiser Wilhelm are large, with rosy-purple sepals, and deep purple petals. Those of

Madame Cornillisson are relatively small and graceful, or in other words, the white petals are not too numerous to render the flowers heavy. The sepals are red. On the whole it is a variety well adapted for training to the pillars of the roofs of greenhouses or conservatories. The flowers of

Avalanche are large, with reflexed soft red sepals, and numerous deep blue petals. There is also another sort named Avalanche, with white flowers. The sepals of

Papin are red, and the petals curiously flaked with blue and scarlet. A more pleasing colour is exhibited by

Lamenais which has short red sepals and white petals, often veined with pink.

Gloxinias.

Seldom, if ever, have we seen such a range of variation in the colour of the flowers in a single batch of seedling Gloxinias as may be seen here, and all flowering together in one of the stoves. The flowers are all funnel-shaped, of the improved, erect types, and both self-banded, and spotted varieties may be noted in great abundance. A very distinct sort is a white one, with fifteen short, heavy brown bands in the throat. Another self has rich crimson-scarlet flowers. Another is scarlet with a pale purple throat, and some differ from the last by having a dark crimson lamina.

Banded and edged flowers are also very numerous. For instance, there are some of them with a large crimson blotch in the centre, and base of each segment with a broad, smooth, salmon-rose edge. Others are maroon purple in the centre, followed by a crimson band, and then a rose edge; or rich crimson with a scarlet edge; violet-purple with a paler edge; maroon purple, marbled with that colour on a white ground, and blue at the edge; deep violet-purple. with a lilac and white margin; or like the last named with a bluish purple border. Those that are crimson, and spotted on a paler ground, with a lively rose edge are also very beautiful. Spotted varieties find acceptance with a large number of admirers. For instance, the lamina of the flower would be white, blush, or lilac, more or less densely and finely spotted all over with some darker colour. Some of them here are white, thinly spotted with rose, and others densely punctate in the same way giving the flower an elegant and charming effect, especially when contrasted with the richly and darkly coloured selfs or belted kinds. Others are finely spotted with blue or purple on a white ground.

When such an interesting and varied lot of flowers can be obtained from a packet of seed, it would seem superfluous to keep a stock of selected and named plants. A selection of the best of them set apart for the production of seed would, however, furnish a strain of seed from which very fine results might be expected in succeeding years. In fact this selection would form the nucleus of a collection that would fairly represent most of the types in cultivation, and might give rise to others.

Afforesting in Ireland.—The afforesting carried out by the Congested Districts Board in the west of Ireland is now beginning to show the beneficial effects that in the future will be reaped by this important step. At Knockboy, Recess, co. Galway, the works carried out there are proving very encouraging, and the large number of young trees that have been planted show a fine healthy growth this season. The weather seems to have suited them well, and the varieties selected, from their vigorous appearance, seem well adapted for the western climate. All vegetation is fresh and luxuriant.—*Surveyor*.

FLORICULTURE.

The National Auricula Society.

Very much I regret to note the remarks of my good friend, R. D., on page 644 of your last issue. Very reluctantly I made my statement as given May 27th, page 612, and certainly I shall not be a party to any war of words. I hoped rather to allay controversy.

But I can withdraw nothing therein said. My friend's recollection of the episode touching Mr. Ben Simonite's note may be clear and distinct, but his relation is imperfect. Opposed to his remembrance, I maintain Mr. Simonite did not in his note decline to come to Oxford because he would not meet Mr. R. D. It would have been preposterous and impertinent for him to do so, for he had no knowledge that R. D. would be present, and I am sure Mr. Simonite would be amongst the last to dictate to me who should be invited to our little feast. Mr. Simonite's objection was general. He had been accused by R. D. of, with Mr. Horner, spoiling flower shows, and therefore he thought he had better abstain altogether from taking part in showing or judging. And my memory is that Mr. B. S. did not aver that R. D. had been making "malicious" insinuations, but insinuations that he, B. S., and Mr. Horner were "maliciously spoiling flower shows." But whether my remembrance or the few words placed by R. D. in inverted commas be most accurate with the sense of the context, I care not. Upon the point of publication I am confident and immovable. I stringently—sternly would not be too strong a word—refused to permit that note to be the vehicle of hostile proceedings. After reading the note, R. D. said "This letter is a gross and scandalous libel; I shall place it in my solicitor's hands." I rejoined "You shall do nothing of the sort—I withdraw that note, it is private, and I will have no reference to it for a hostile purpose." R. D. said, then was he not to write to Mr. B. S., and to that, as leading to amicable explanation, I saw no objection whatever. Here I must leave the matter, and I heartily hope my friend will let it be forgotten.—*E. S. Dodwell.*

Late-flowering Violas.

It is evident that most, if not all, of the miniature rayless Violas are destined to flower late. Whereas most of the older bedding varieties allied to the Pansy have been flowering more or less profusely for the last two months, the miniature types have been doing little but making growth till about the beginning of this month. The latter would thus show considerable affinity with the old Viola cornuta Perfection, which has indeed been largely concerned in their parentage. This old variety has just commenced blooming. Amongst late ones Summer Cloud, Marginata, Blush Queen, Jeannie Turnbull, and Violetta may be numbered. Large flowered sorts having more affinity with Countess of Hopetoun are Sylvia's Rival, Springville, and others. Bridal Wreath is also late. These cannot therefore be reckoned upon for early spring bedding. In such a decidedly early season as the present, it is remarkable that they should thus have remained comparatively flowerless till June. It would seem as if they were guided more by the calendar than by the season, for it is probable that they will flower by June even in average or comparatively late seasons.

THE GOLDEN CINERARIA MARITIMA.

Reading in one of your contemporaries a statement that the plant referred to under this heading, and also by me in your pages as new, was, after all, but an old thing that had been figured in Hibberd's "Beautiful Leaved Plants," published in 1870, I turned up that book and found it to be as stated. There can be no doubt whatever but that the form there illustrated as Cineraria maritima Fairbairnianum is the same thing as is that certificated at the Temple Show as Cineraria maritima aurea variegata.

It would be very interesting to learn whether the variety was, when originally put into commerce, certificated by the R.H.S.? [No.—Ed.] As it was raised or sported at Syon by Mr. Fairbairn some thirty years ago or so, it is evident that it is an old thing, but one that seems to have been neglected. Mr. Hibberd's descriptive note includes the following:—"Its beauty and novelty fairly entitle it to a

place in the book, as for many years to come it is likely to be in request as a bedding plant, and to grow into specimens for the conservatory. Its peculiarity is its golden variegation, a most unusual occurrence in a plant of this kind, yet one we might expect, for the silvery hue of the Cineraria Maritima is not a case of variegation at all, it is the result simply of the close, thick down with which the plant is clothed."

How little did the writer think that this beautiful hardy plant would for years sink into obscurity, and then be reproduced to the gardening public as a new thing!—*A. D.*

THE VEGETABLE GARDEN.

The Early Forcing of Vegetables.

In a paper on this subject read at a recent meet- of the Dundee Horticultural Society, Mr. Mungo Temple, Carron House Gardens, Falkirk, said it was well known to practical men that there were many plants which, with ordinary requirements, could fairly well take care of themselves when growing in the open ground, but when under artificial treatment they must have the most watchful care and painstaking attention, and the skill and energy of the cultivator were often severely taxed, especially if the appliances at command were inadequate to the demand. Heat, moisture, and food had to be supplied, and by artificial means did fairly well; but there was one element in nature which no art or science had yet supplied—namely, light. The sun was the propelling power by supplying the best heat, and its light was life-giving. It consolidated foliage, as well as completed the maturation of fruit and developed flowers. He referred to this, because some choice vegetables were forced in the dark, by covering in close, light-excluding structures. Speaking of forced Asparagus, he said there was probably no vegetable sent to the culinary department which gave greater satisfaction to a *chef* than well grown asparagus, especially during the weeks between the end of October and the month of February. It took the place of green peas from the open ground, in the same way in which green peas took the place of asparagus in summer. In cultivation strong, well-ripened, and healthy roots and crowns were essential, each plant being grown separately and freely exposed to the sun and air, so that the crowns might be thoroughly matured. Undrained land and wiry soil in a shady position would never grow good Asparagus, and plants so grown were totally unfit for early forcing. He dwelt next on French Beans, Potato culture during winter, and how to grow Potatos so as to have them young and fresh all the winter through; and, in conclusion, said that success in early forcing could not reasonably be expected when due advantage was not taken of the aid rendered by sun and natural elements. All artificial assistance must be accepted as necessary evils, and such must not be tampered with, even when one was sure that such was indispensable. At the close, Mr. Temple was accorded a hearty vote of thanks.

Early (?) Mazagan Bean.

In the majority of seed catalogues, and certainly in those of the London wholesale trade, this Bean is given as *Early* Mazagan. A generation ago—before we had the Seville and the Aquadulce, or the earlier forms of the long pod—it may have been early as compared with the Windsor Beans, but early it is not. I have tried it year after year, and it always comes dawdling along after the others. In addition to this it is a poor little thing, and not much better than a Horse Bean. Its one redeeming feature is that it can be sown in autumn, for it is hardy, but even then it does not come in early. Why grow it at all?—*Devoniensis.*

Early Peas.

This year I sowed American Wonder on a warm south border on the 6th of February and Carter's Lightening in the open two days later. I have this day, June 7th, gathered our first dish from the latter, while American Wonder will not be ready for another fortnight.—*T. Cockerill, The Gate House, Wirksworth, Derbyshire.*

Onions and Peas at Ham House.

The spring sown Onions at Ham House, Richmond, Surrey, one of the seats of Lord Dysart, have been making excellent progress. They were sown the first week of March, and although the weather has been dry ever since and they have received no watering, they showed no trace of the Onion maggot when we noted them on the 3rd inst., although they are being decimated by it in many of the neighbouring gardens. The Peas are also making good progress notwithstanding the dry weather and the porous nature of the soil, which is simply a very fine alluvial silt, consisting of sand and mud laid down by the Thames in bygone times. American Wonder was the first to give a return on the 24th ult. It was sown on a vinery border in the beginning of February and has not been staked. The haulm is about 9 in. to 12 in. long and lays upon the ground. When treated in this way it would make a suitable Pea for small gardens, as the rows could be sown comparatively closely together so as to economise space. It was succeeded four days later by William I., now in full bearing, and 3 ft. to 4 ft. high, having apparently suffered no diminution in stature through adverse conditions. May Queen was the next to fill, being ready on the 1st inst. The stems are about 3 ft. high in ordinary seasons, but at present are only 2 ft. The Peas are of good rich flavour, and in this respect excel William I., although not in earliness. These latter too are sown in the open ground alongside of later kinds, which are making most wonderful progress. The secret of all this is that the ground has been well mulched and watered. It speaks well for the cultural skill of Mr. Sage, the gardener, who knows how to contend with circumstances.

Pea Blue Express.

Horticulturists need not now place so much dependence upon American Wonder for a first crop in view, of the fact that considerable progress has been made in the raising of more productive sorts, which, if not earlier, are of better quality. By reason of its short stems, and more especially in dry seasons, it soon gives over bearing. Blue Express was fit for use on the 24th ult., and was sown in the open without any protection. The stems are now about 2 ft. high, and look as if they would continue bearing for some time in the garden of J. McMeekin, Esq., Falkland Park, South Norwood Hill. The variety named First Crop was not ready till the 1st inst., although there is little to complain about that. The soil of the garden is very light, consisting of alternating layers of gravel and clay.

Cabbage Sutton's Imperial.

This is one of the numerous varieties of conical Cabbages of the old Early Battersea type. It proves a useful variety for spring work, inasmuch as it is not liable to "bolt" or run to flower, but forms firm heads of a useful size and good quality. When cooked, the leaves are firm, sweet and otherwise of excellent flavour. Mr. Wright, the gardener at Falkland Park, South Norwood Hill, makes several sowings of Cabbages at intervals in August, and speaks in favourable terms of Sutton's Imperial Cabbage as the best for autumn planting, in his gravelly soil at least.

Rhubarb Seedling.

Last year a very promising variety of Rhubarb was sent to the gardens of the Royal Horticultural Society, Chiswick, where it may be seen labelled Seedling (Dawes 1892). It resembles Victoria in the form of the leaves and stalks, but looks as if it would exceed that well-known variety in size if planted in good soil and well-manured. The leaves are large with broad, deeply-grooved stalks having rounded edges. These stalks under present, and not particularly favourable conditions, measure 15 in. to 30 in. in length and 1 in. to 2 in. wide. At first they are wholly of a deep crimson-red, ultimately becoming nearly green at the top as they get old. It may be noted that some of the longest stalks are comparatively thin, but this may be due in part to crowding and other circumstances, as the clumps of it are very large. The variety has every appearance of being productive, and may be grown for weight if so desired.

General Work.

The last sowing of Peas should now be made, and all the rows as soon as staked must be mulched with litter, or anything else available, to prevent evaporation. Good soakings of water must also be given regularly so long as the dry weather lasts. Finish earthing up the late Potatos, and if possible, give water before these begin to suffer. Celery must be planted as soon as the plants are ready, as they soon spoil if crowded in a frame. Dig in plenty of rotten manure at the bottom of the trenches before planting and give liberal supplies of water afterwards. Vegetable Marrows must be kept free from weeds, and well watered, and the shoots pegged out so that they do not overcrowd each other. Asparagus should not be cut after the middle of June, especially considering how early it started this season. The growth should, if possible, be tied securely to sticks, or it is liable to get broken at the crowns, which does great injury to next year's crop. Dressings of salt and soot do good at this season and weeds must be kept down. Tomatos planted either in or out of doors must be carefully pinched so as to keep the growth from overcrowding. Single stems are the best, and when good crops are set a little manure-water may be applied with advantage. Sow more Dwarf Beans and the last rows of Runners.—*G.H.S.*

Gleanings from the World of Science.

Behaviour of flowers in foggy weather.—Plant growers in the suburbs of smoky towns are familiar with the dire effects of fog upon the leaves of plants, but particularly flowers and buds. What are usually considered tender may not prove so under the action of fog, and the different parts of plants do not by any means behave in the same way when under the same conditions. Professor F. W. Olive in his report on the "Effects of Urban Fog" has made some interesting observations on the behaviour of certain flowers and buds under the action of fog. Pink and blue flowers, such as those of pink Calanthes, Vanda cœrulea, Bouvardias, etc, suffer a loss of colour and get more or less destroyed. Flower buds of Orchids and other plants usually drop off, if they are on the point of expansion, but suffer to a less extent if very small. A curious exception to this occurs in Salvia lantanifolia and various species of Ixora, whose buds soon fall in foggy weather, while the fully-expanded flowers remain uninjured. The buds of hybrid greenhouse Rhododendrons are not injured while covered by the bud scales, nor do the fully-expanded flowers suffer, but if just on the stage of expansion they get crippled directly, or if the scales are just opening the fog so injures the buds that they are unable to free themselves and are held as in a trap. The flowers of various species of Angræcum escape uninjured, while the buds and flowers of A. sesquipedale, as growers well know, are amongst the first of Orchids to suffer. It is pleasing to note how many white flowers that bloom in winter prove comparatively hardy, to wit, white Tulips, Narcissi, Hyacinths, Allium, Crinum, Primula sinensis, Cyclamen, and Deutzia. Why this should be so is not easy of explanation.

Methods of Storing Celery.—The winter in the northern part of the United States is more severe than with us. More trouble is therefore taken to house or protect Celery, both for market purposes and for the use of private establishments. In the latter case the Celery is lifted, roots and all, in the first or second week of November, and placed, as thickly as the roots will allow, in deep boxes, with a little moist manure or soil at the bottom with which to cover the roots. These boxes are placed in dry, frost-proof cellars, and kept moist at the roots, but dry overhead. Another method is to take out the manure from hot-bed frames, and plant the Celery at the bottom as in the last case. Hay or leaves are placed over the Celery, the lights put on, the frames well banked up at the sides with earth, and the top covered with straw, and that again with earth. Trenches of greater or less width are taken out of the ground, so that the leaves of the Celery when planted in them may be on a level with the ground. An arched roof of boards is then put over, the top thatched with straw, and covered with earth. For the first fortnight the Celery throws off a deal of moisture; the roof is therefore put on to keep off the rain, and the other coverings are kept off as long as frost will permit. The ends are constructed so that they can be removed in mild weather during winter to afford ventilation and prevent rotting. Leaves and stalks alike get thoroughly blanched by this process. These records are made by Mr. T. Greiner in his little book on "Celery for Profit," published by W. Atlee Burpee & Co., Philadelphia. Trenches in the open ground are made on a large scale by the market growers. Some of these methods might be adopted with advantage in this country, to secure the Celery from the destruction which it frequently suffers.

THE HERBACEOUS BORDER.

Choice plants in flower.

LYCHNIS VISCARIA PLENA SPLENDENS.—The name is applied to the best, or darkest, double form of this old-fashioned plant. When seen at its best it is a grand plant, but in light and sandy soils it has behaved rather indifferently on account of the drought, which has retarded growth, or even killed many of the crowns of leaves. The drought commenced at an unfavourable time, just as growth was commencing; but in the average of years we need not fear such a long-continued drought occurring for many years. The flowers are of a deep and brilliant rose, perfectly double and abundantly produced in racemes terminating the stems. It makes an excellent bedding plant under ordinary circumstances.

RODGERSIA PODOPHYLLA.—The flowers of this Japan plant are creamy-white, and small, but produced in dense panicles on stems 2 ft. to 3 ft. high, according to the vigour of the plant. The leaves are in themselves very ornamental on account of their size and colouring. They consist of five wedge-shaped segments or leaflets arranged in a circular fashion, and have a rusty red appearance in the earlier stages, and later on deep green with bronzy edges. The plant thrives best in a moist position.

ERIGERON PHILADELPHICUS.—This elegant and freely-flowering species looks well, either in the herbaceous border or in the cut state. The flowers are borne in branching corymbs, and have pale or white rays tipped with rose. Many of the cultivated species have stems which terminate in a single head of bloom, with the appearance it may be of greater massiveness, but they lack the gracefulness of the present species. Cultivators are beginning to recognise the utility of a plant which is easy to grow.

GERANIUM PRATENSE.—There are several very distinct varieties of this species, and amongst those that approach the wild type most nearly is a form with flowers that are almost blue, in fact as nearly blue as can be found in the genus. Occasionally they are more or less tinted with purple; but if anyone were to take the trouble of raising seedlings with the view of improving this shade of blue, some very interesting varieties might turn up. It is a most accommodating herbaceous plant.

DICTAMNUS FRAXINELLA. — The rosy - purple, irregular flowers of the Fraxinella are in themselves very showy for border decoration, and in addition they emit a strong and agreeable odour like Lemon peel, but are more balsamic when bruised. There is also a white variety, and both are handsome for border decoration. They increase very slowly at the rootstock and dislike root disturbance. They are easily propagated by seeds, which are freely produced as a rule.

MELITTIS MELISSOPHYLLUM.—There are few of the British Labiates which produce so large and showy flowers as that under notice. The stems grow about 12 in. to 16 in. in height, and bear a few large, white flowers, with a prominent purple blotch on the lower lip. It is an old garden plant that might be more frequently grown than it is at present.

GILENIA TRIFOLIATA.—This is closely allied to the herbaceous Spiræas, but the white flowers are much larger, and produced in more sparsely arranged cymes. The leaves consist of three leaflets, and the stems are red, thus giving the plant a graceful and attractive appearance. It increases very slowly, grows about 2 ft. high and never overruns its neighbours.

SILENE FIMBRIATA.—The petals of the species of Silene are usually notched at the apex but in this case they are lacerated or fringed, very much like what occurs in the garden Pink. The stems grow about 2 ft. high and are furnished with broad ovate leaves. Propagation may be affected late in autumn or in March, by the division of the rootstock.

GEUM CHILŒNSE.—The flowers of this plant, whether single or double, are very ornamental on account of their rich scarlet hue. In rich, friable soil the plants keep growing more or less freely all the summer, and likewise flower till late in the autumn. No doubt growth will be considerably checked this year unless we get a more plentiful supply of rain soon. The plant is best known in gardens under the name of G. coccineum, but it is a native of Chiloe whereas the true G. coccineum is a native of Greece and has purplish petals.

ERIGERON AURANTIACUS.—The leaves of this species are mostly radical and the stem one-flowered. Both rays and disc are of a deep orange hue, and render the plant most distinct amongst its fellows. It is a native of Turkestan, but proves perfectly hardy in this country.

ACHILLEA RUPESTRIS.—The deeply pinnatifid, hoary leaves of this species produce a dense cushion above which the short flower stems arise bearing corymbs of white heads similar to, but smaller than, those of A. rupestris.

FLORICULTURE AT THE WORLD'S FAIR.

Now that the exhibits in the Horticultural display are all in place and the little rough spots have been smoothed over, its magnitude and beauty cannot fail to excite great admiration. The half of the Horticultural Building that is devoted to floriculture is a bewildering maze of flowers and foliage. The favorable weather during the last two weeks has done wonders for the plants, and specimens that seemed slow have suddenly put on their best exhibition dress and are ready to receive the visitors of the world. The Australian tree ferns seem to lengthen their fronds while you look at them. These ferns have been arranged in a beautiful, naturally disposed group near the entrance to the north curtain, the earth banked up around the boxes in which they are planted, and the earth covered with quick-growing creepers. It is a charming exposition of the "Art that doth mend Nature."

It was an inspiration on the part of the architect of the building to arrange a view from the balcony of the dome into both curtains. From the balcony a fine view is had of each curtain and from this position the scene is a charming one. Truly, floriculture has taken the position it was entitled to at the great Fair, and that this magnificent display will result in incalculable benefit to the trade, none can doubt.

The plants that comprise the display of the French Government will be arranged in a group out of doors. The collection includes some very handsome specimen palms and like decorative plants, and the display when arranged is bound to be a very attractive one.

The calceolarias have been adjudicated upon, Mr. F. Kanst, superintendent of South Park, acting as judge. But the awards have not yet been made public. The American exhibitors were Messrs. John Gardiner & Co., H. A. Dreer, R. & J. Farquhar, Peter Henderson & Co., and J. M. Thorburn & Co. The English exhibitors were Messrs. John Laing & Sons, H. Cannell & Sons, James Carter & Co., Kelway & Son and John Forbes. Germany was represented by Messrs. Fred Roemer, E. Benary, Haage & Schmidt, Henry Mette and Deppe Bros. France was represented by but one exhibitor, Messrs. Vilmorin, Andrieux & Co., but the exhibit of this firm made up in quality what was lacking in quantity, and it will in all probability receive first prize. The big rhododendrons from Moser, the French nurseryman, are now in bloom and are a magnificent sight.

The Island now begins to make a showing, though the foliage of the trees and shrubs is not yet fully unfolded. Some of the magnolias are beginning to bloom, but as yet nothing else is in flower. The Japanese village at the north end of the island is now being put into shape and quite a number of additional trees and shrubs are being planted. The miniature Japanese garden in the Horticultural Building is being remodelled, Mr. Izawa having received a fresh consignment of plants, with which he is replacing those in the garden that have missed or were not giving the best results.

The extensive display of Messrs. Ellwanger & Barry, on the Island, came through the winter in good shape and will prove very interesting. The displays of the Dingee & Conard Co., and of Rea Bros, are also looking well. The rose garden shows occasional misses, but on the whole looks well considering the very hard winter.

The Landscape Department has planted big beds of rhododendrons in front of several of the buildings and have also placed pots containing palms and Dracænas on the posts of the massive railing that lines the lagoon in front of the Manufactures, Machinery, and some other buildings. The general effect of the latter is good and will be perfect when the pots are painted white, the red of the pots being rather too obtrusive against the white buildings. *American Florist.*

THE CHESTER NURSERIES OF DICKSONS' LIMITED.

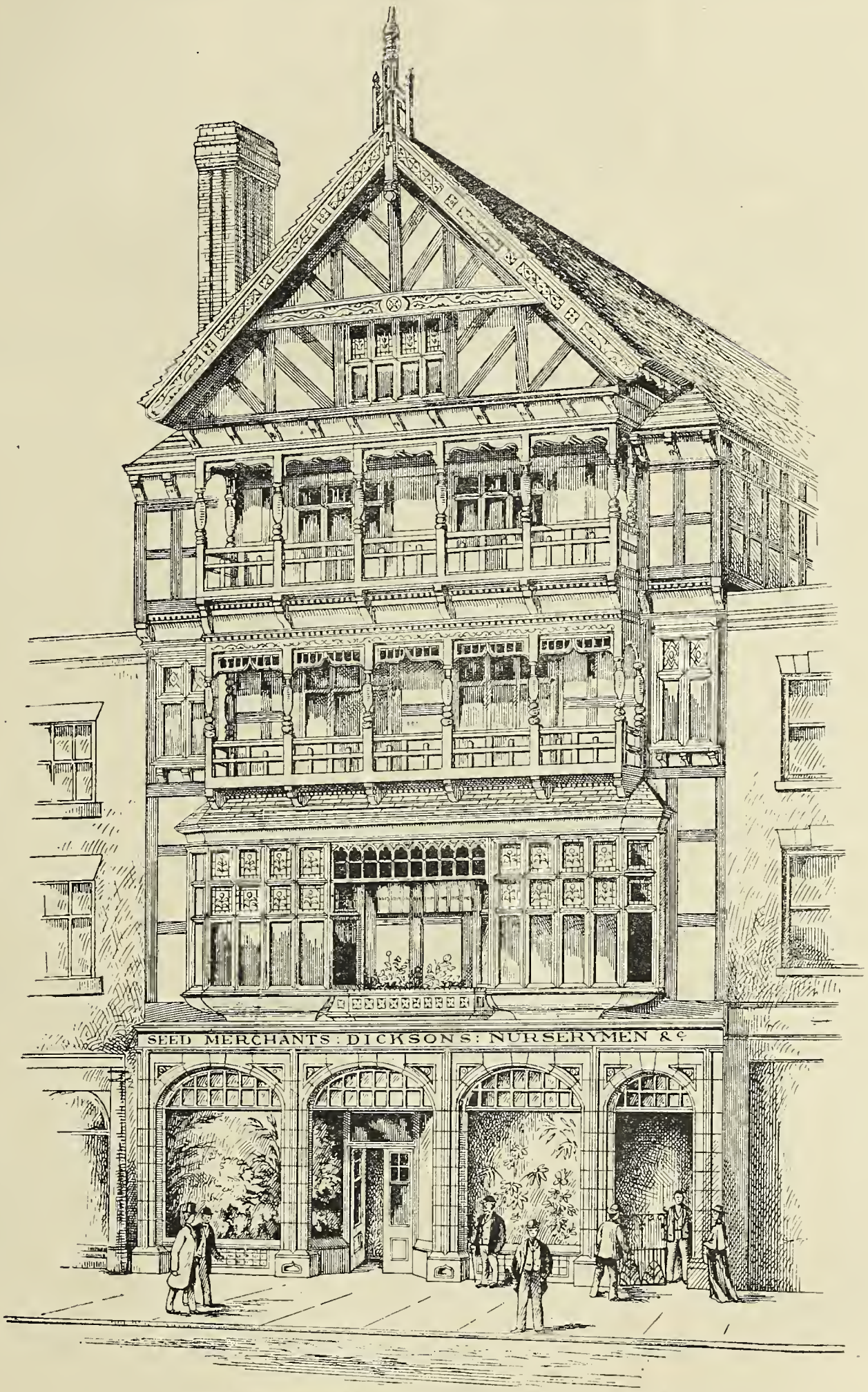
NEXT week the ancient city of Chester, so dear to antiquarians, so attractive to tourists from all parts of the civilised world will be *en fête* on a more than usually extensive scale; for has not the Royal Agricultural Society of England pitched its annual camp within the city boundaries, and will not the great high festival of British agriculture be held from the 19th to the 23rd inst.? Situated in the centre of an immense agricultural district, and within easy reach of all the great hives of manufacturing industry in the North Midland counties, Chester offers well nigh unrivalled facilities for the successful holding of large exhibitions of this character; and given fine weather there can be no doubt the Chester show of the "Royal" will prove one of the most successful of the long series which the Society has held, to the lasting benefit of the agricultural community. The show-yard is situated on a commanding site at Hoole, and within easy reach of the General Station, so that visitors, besides seeing the show can "do" the sights of the city as well, without, figuratively speaking, walking their legs off, and any one possessing a mind above fat cattle, cheese and buttermilk may spend a most agreeable hour or two in a perambulation along the ancient city walls, through the delightfully quaint "Rows," or in the beautiful Queen's Park. Chester is famous to different sections of the community in a different way. To the agricultural mind the city is symbolical of cheese; the sportsman associates it with "The Cup" and the Roodee; while to horticulturists it is famous for Eaton Hall and Dicksons' Nurseries; and taking these two famous establishments together—the one as typical of the stately home of an English nobleman and the other as representing high-class "up to date" commercial horticulture, what other city can show their equal?

Dicksons', Limited, is a union of the two great firms of that name, so long, so well, and so honourably known as engaged in the same sphere of business, now united with the happiest and best results, and with such capable business men and courteous English gentlemen at the head of affairs as Mr. George A. Dickson and Mr. Edmund J. Baillie, promising a future of rare prosperity and success. The business is one of great magnitude, combining, as it does, an extensive garden seed trade, still larger and more important operations in agricultural seeds, and a nursery business which involves the cropping of some four hundred and fifty acres of land and the employment of four to five hundred hands. The Company has five Nurseries in Chester, and three in North Wales, the home establishments being known as the Newton, Upton, Hoole, Queen's Park, and Piper's Ash Nurseries. Newton and Upton now conjoined constitute the headquarters, which are within about ten minutes' walk of the General Station in a bracing, healthy district, with a soil consisting for the most part of a good sound loam from 2 ft. to 2½ ft. deep, in which all things make a clean, healthy growth. Here is to be seen a general nursery stock—something of everything, from the tenderest exotic to the hardiest of seedling forest trees. Several acres are covered with glass, and in this department there are practically no specialties, seeing that good stocks of everything may be found that should be included in a well-assorted plant catalogue, all well cultivated, clean and orderly arranged as becomes a well-managed plant establishment. Palms, we noticed, were a large stock, and the pot vines, some thousands in number, and mainly Hamburgh and Muscats, are an exceedingly good lot. Tuberous Begonias are a growing trade here as elsewhere, and about 20,000 will be planted out this season. Herbaceous plants and Daffodils are a strong order, as all know who have seen the grand collection staged by the Company at the Manchester, Shrewsbury, and other provincial exhibitions. The department is in capable hands, the stocks large, well selected, and admirably grown. At the present time the beds of Pæonies and Pyrethrums are a glorious sight, such a wealth of blooms do they give in response to genial treatment.

But it is the immense collection of hardy ornamental trees and shrubs to be seen here that claims the largest share of our admiration. Beautiful specimen trees meet one's eye in every direction, their variety infinite, their numbers bewildering, and

their beautiful growth most pleasing. The pictorial trees, deciduous and evergreen, have a delightfully fresh and bright appearance, and a walk along any of the main drives through the nursery brings some beautiful object into view at every step. It is a cold place in winter, and well tests the hardiness of any plants put out. Among the variegated Conifers we noted Thuja occidentalis lutea, very bright in colour. This is a very fine Conifer and thoroughly hardy. The Rhododendron quarters, some ten or fifteen acres in extent, have carried a grand head of bloom, affording proof, if any were now wanted, that peat is not essential to their cultivation, and that they will do well in any loam that does not contain lime. Hollies also do splendidly here, and the company has quite an extensive collection of named varieties, though Hodgin's variety, Golden Queen and the old silver variegated are grown in the largest numbers. Azalea Mollis is also very extensively grown in named varieties and mixed seedlings to meet the growing demand for plants for forcing. Roses also are done extensively and well, especially as dwarfs on the seedling brier and brier cutting. Among Conifers the Company are going in extensively for Abies Douglasii, a plant that has never been cheap, and of which they will have some 80,000 to 100,000 to sell at a reasonable price during the coming season.

The Hoole Nursery is close to the Royal Agricultural Society's show-yard, situated about a mile from the station, and is almost exclusively devoted to the propagation and training of fruit trees, of which some sixty-five acres are under cultivation. Of one sort and another, from 50,000 to 55,000 fruit trees will be under training this year, necessitating the use of some 200 tons weight of stakes, of which bamboo canes form the greater proportion, these being found the most economical. Apples, of course, are grown in the largest numbers, Plums coming next, and the stock is singularly clean and free in growth. A piece of 70,000 Apples, budded last year, is a picture to the eye of a "knifeman," and another field containing 130,000 maidens as well illustrates as anything else the skilful manner in which fruit tree propagation is manipulated, the growths being beautifully clean, regular, and healthy. Gooseberries are



Messrs Dicksons' New Offices, Eastgate Street, Chester

also largely grown, and a stock of 30,000 saleable plants of Whinham's Industry speaks well for the continued popularity of that most useful variety.

At Queen's Park and Piper's Ash Forest trees are the special feature; and of Larch, Thorns, and Quick, the adjective "enormous" only gives a faint idea of the quantities grown. Of Larch alone two and a half million seedlings were planted this spring, and like all the other spring plantings have been most successful, showing no signs of suffering from the prolonged drought. Indeed, it is a fact worthy of remark that while we hear of losses—heavy losses in some cases—through the drought elsewhere, in these Chester Nurseries the plants that have died are infinitesimal in number and hardly observable. Thorns and Quicks run up to several millions. The seed beds of forest and ornamental trees form one of the most interesting sights in these nurseries, some ten acres being occupied with these alone, representing uncountable numbers of plants for future cultivation in more extended order.

It is impossible in this place to give more than a general idea of the character of these famous Nurseries, they must be seen to be fully appreciated, as while bearing eloquent testimony to the enterprise of the Messrs. Dicksons, the high condition of the stocks and the thorough cleanliness and good order maintained throughout, speak volumes for the skill and administrative ability of the nursery manager, Mr. Johnstone.

The principal offices and seed warehouses are in the city, and these, like the Nurseries, have had to undergo expansion to meet the increasing volume of business which the Company is favoured with. The new offices in Eastgate Street, of which we give an illustration, have been rebuilt on the old site opposite the Grosvenor Hotel, and are nearly ready for occupation. The style of architecture adopted is singularly appropriate to the character of the surrounding buildings, being half timbered, with the red sandstone of the district on a red granite foundation. It is four stories high, with cellar accommodation running the entire length of the building, some 250 feet from front to rear, and providing a splendid floor for the accommodation of the agricultural implements and garden tools, which forms one section of the Company's business. The agricultural seed stores are situated in St. John Street, near the General Post Office, and comprise a fine block, in the cellars of which may be seen a portion of the original Roman Wall which was probably built during the earlier period of the Roman occupation in the first century. In this warehouse the Company have improved machinery of the best character for the cleaning of seeds, and the importance of this will be recognised by all. Visitors to the Royal Show will find Messrs. Dicksons' stand and offices close to the gates of the main entrance, almost immediately on the left hand of the admission avenue.

PLANTS RECENTLY CERTIFICATED.

The subjects mentioned hereunder were exhibited at the meeting of the Royal Horticultural Society on the 6th inst., and received awards according to merit.

Iris Lorteti.—This belongs to the same group of Irises as I. susiana and I. s. Gatesi. The falls are densely and finely dotted with purple on a buff ground, and bearded on the black, central disc. The standards are much larger, obovate, folded over the top of the flower, and somewhat variable in colour, from pale to deep lilac, closely lined and netted all over with purple veins. First-class Certificate. Exhibited by Mr. C. G. Van Tubergen, Junr., Haarlem, Holland.

Abies orientalis aurea.—The generic name Abies is best known to gardeners as applied to the Spruces, but scientifically the most correct name is Picea orientalis aurea in this case. The form and habit of the tree is the same as in the type except that the leaves are of a uniform, soft, golden yellow, fading somewhat as they get one or two years old. First-class Certificate. Exhibited by Messrs. J. Veitch & Sons.

Begonia Gigantea.—The leaves of this double-flowered, tuberous variety are large, obliquely cordate, and deep olive green. The flowers are also of great size, with broad, rounded, outer sepals, and smaller, wavy inner ones, all of a soft salmon, shaded with pink. Award of Merit. Exhibited by Messrs. John Laing & Sons.

Begonia Ernest Cook.—The flowers of this variety are also of large size, double, and of a rich or intense crimson-scarlet. The sepals are slightly wavy, arranged round a few centres and of uniform hue throughout. Award of Merit. Exhibited by Messrs. John Laing & Sons.

Begonia Richard Dean.—In this case the flowers are of a brilliant orange, fully double, with the sepals arranged round a single centre in the young stage and later on showing a few centres when fully expanded. Award of Merit. Exhibited by Messrs. J. Laing & Sons.

Carnation Annie Sanders.—The flowers of this variety are large semi-globose, quite full, and of an attractive bright rose. The petals are slightly toothed at the apex and the flowers not very decidedly fragrant. Award of Merit. Exhibited by Mr. George Fry, Lewisham.

Pink Empress of India.—A stand of different varieties of Pinks, including several blooms of Empress of India, was exhibited by Mr. C. Turner, Slough. The petals are flat, entire, or minutely crenate, and not too numerous so as to spoil the symmetry of the flower. It is a laced variety with a dark crimson-purple base and bold purple lacing. Award of Merit.

Gladiolus delicatissima superbissima.—Happily it does not often happen that two superlatives are attached to the name of a plant to indicate its high order of merit. The Gladiolus in question is a variety of G. Colvillei and has white or pale blush flowers with an elongated rose-coloured blotch edged with crimson on each of the three lower segments. There is also a large red blotch in the throat. Award of Merit. Exhibited by Messrs. Hubert & Manger, Doyle Road Nurseries, Guernsey.

Sweet Briar Rose Mina.—The flowers are of medium size, slightly cupped and fragrant. The five obovate petals are of a deep rose colour. Award of Merit. Exhibited by Lord Penzance (gardener, Mr. Baskett).

Sweet Brier Rose Matilda Marchment.—In this case the flowers are of a soft rose pink, but otherwise similar to those of the last. Award of Merit. Exhibited by Lord Penzance.

Carnation Sir Charles Fremantle, K.C.B.—This is one of the Malmaison type with huge, globular flowers and numerous petals, finely toothed at the edge or entire, and of a soft salmon-red. They are highly fragrant, a property we are pleased to note these cross-bred Malmaison varieties retain. The leaves are broad and glaucous. Award of Merit. Exhibited by Martin R. Smith, Esq. (gardener, Mr. Blick), Hayes Common, Kent.

Richardia aurata.—The spathes of this yellow Trumpet Lily are obliquely funnel-shaped, suddenly pointed at the apex, and of a soft, pale yellow with a blackish-purple blotch at the base, internally. The lamina is comparatively short, but the spathe, as a whole, is of good average size, and may get larger by good cultivation. Award of Merit. Exhibited by Mons. J.B. Deleuil, Sainte Anne, Marseilles.

Pæony M. Boucharlet.—This is one of the numerous varieties of P. albiflora and has large fully double flowers of a soft rose and satiny towards the edges. Award of Merit. Exhibited by Messrs. Paul & Son.

Pæony Jeanne d'Arc.—The outer petals of this variety are broad and pink, while the inner ones are smaller, cut or lacerated at the ends and mixed with a few longer and broader ones. Award of Merit. Exhibited by Messrs. Paul & Son.

Pæony Marie Lemoine,—As in the previous two cases, this is also a variety of Pæonia albiflora. The flowers are large, double with the outer petals blush pink, and the central ones white. Award of Merit. Exhibited by Messrs. Paul & Son.

Melon Frogmore Seedling.—The fruits of this variety shown were about four or five pounds in weight with a pale yellow skin, netted with grey. The flesh was white, of great thickness, juicy and sweet. Award of Merit. Exhibited by Mr. Owen Thomas, The Royal Gardens. Windsor.

Pea, Duke of York.—A basket of Peas under this name was exhibited by Messrs. Cooper, Taber & Co, Witham, Essex. They appeared from the pods to be much in the same style as William I. but perhaps a little larger, measuring 2 in. to 3 in. in length, of a glaucous hue when young, and ultimately becoming well filled. If grown in the open air it would rank as an early variety. Award of Merit.

The undermentioned Pansies were exhibited by the members of the London Pansy and Violet Society on the same date and at the same place of meeting as the above.

Beauty.—In this we have a fancy Pansy of fine proportions, and in fact, reckoned to be one of the finest shown that day. The bloom is large, and circular, with a very small and neatly-formed yellow eye. The blotches are large and blackish maroon, edged with yellow, and the top petals are of a rich claret. First-class Certificate. Exhibited by Mr. Alexander Bailey, junr., Sunderland.

Alice Bolton.—This also is a fancy variety with large, blackish violet blotches, edged yellow, and the top petals are broadly edged with violet purple. Award of Merit. Exhibited by Mr. Alexander Lister, Rothesay, N.B.

Rev. R. McAllister.—In the dull light of the Drill Hall this appeared almost black, with a golden yellow eye and blue eyebrows. It is therefore a self-coloured show variety. Award of Merit. Exhibited by Mr. Alexander Lister.

Princess.—The blotches of this fancy sort are dark violet with creamy white edges. The outer edges, but particularly of the top petals, are laced with a lively rose red. First-class Certificate. Exhibited by Mr. M. Campbell, Blantyre, N.B.

John Watt.—This is a yellow ground Show Pansy with well-defined, blackish-purple belting and a small golden eye. Award of Merit. Exhibited by Mr. M. Campbell.

AN ORCHID MANUAL
FOR AMATEURS.*

To those amateurs who understand French this would form a handy book for reference in the case of a large number of cultivated Orchids. In a chapter on the character of the Orchid family a considerable number of woodcut illustrations are given to show the various structures to be met with in the roots, stems, leaves, and flowers, including the anthers, pollinia, and ovary of that wonderful order of plants. As many as 119 of such illustrations are intercalated with the text throughout the body of the work. There is a short chapter on the fertilisation of Orchids, another on their geographical distribution, and a third on a rather interesting synopsis of the genera of cultivated Orchids. Something similar is given in "Babington's Manual of British Botany," and we should like to see a synopsis of a similar kind more frequently given in botanical works written in this country. We should apply this, not only to genera, but also to species, particularly when they are numerous. For instance, the alphabetical arrangement of species is very popular at the present day; but when a genera includes 100 to 300 species it is a work of labour to read over the bulk of the descriptions in order to find out the name of a species. A synopsis would enable an intelligent reader to find out the name of any given species with a minimum waste of time.

Less interesting to the general reader is the chapter on the explanation of the abbreviations employed, but to those who take an interest in the science of the subject these explanations are necessary if it is desired to use the numerous references to botanical works where the various species are figured. These references, on the other hand, would be most valuable to those who have access to such works in order to determine whether any particular species in their collection is true to name or otherwise. The sixth chapter is a long one and is devoted to a short description of Orchids in cultivation, with numerous references. To most amateurs who use this book, this chapter will no doubt be most interesting. The descriptions are generally short and to the point, except in the case of the generic characters, which are more lengthy.

The second part of the book is devoted to Orchids from a horticultural point of view, but it only runs to twenty-two pages, whereas the book, as a whole, runs to 323 pages. It is impossible in so small a space to say much on the horticultural side of the subject which is divided into three chapters, namely, value of ornamental Orchids, culture of and multiplication of Orchids, and lists of Orchids are given for the warm, temperate, and cool houses, with instructions in each case. A vocabulary and index are given, so that on the whole one could hardly expect more to be compressed into the same space. The book is less than octavo size and belongs to the "Library of of Useful Knowledge" series, and is sold at 3s. 4d.

* Les Orchidées, Manuel de l'Amateur. By M. D. Bois Published by J. B. Baillière et Fils, 19, Rue Hautefeuille, près du Boulevard Saint Germain, Paris. 1893.

A SUBURBAN VILLA.

A BEAUTIFUL part of Kent is the district of Bickley; well known to lovers of horticulture as the home of well-known Orchid collections, which, in the past, constituted a great feature in this neighbourhood. Business men find it a pleasant retreat after the noise and turmoil of the great city, and such it is. Situated in Bickley Park Road, a few minutes from the station, is Birkley House, the residence of Mrs. Leisham. It is by no means a large place, and the greenhouses are only few in number, but is now to be seen as a compact and well-kept garden.

A conservatory adjoining the house is a gay sight, the chief features being some very good Hydrangeas and zonal Pelargoniums. The effect was very pleasing. The flower garden attracted attention, and some good examples of Conifers were to be seen. A rock garden was a very interesting addition to this part of the grounds, which altogether were both neat and cheerful, in spite of the long continued dry weather. Mention must be made of the level and solid foot paths, coated with Croydon gravel. A walk in the kitchen garden revealed the probable result of the fruit crop. Apples and Plums good; bush fruits laden with fruit; Strawberries fair, below the average in quantity and size. Vegetables were well represented and in good condition.

About 200 Chrysanthemums are grown here in 10 and 12 in. pots, and on single stems, and they are a healthy and promising lot. A house of Tomatos contained a good crop of fruit, Sutton's Maincrop being foremost. Cucumbers and Melons in the same structure were yielding satisfactory results, in spite of obvious drawbacks. Stove plants and Ferns in variety also were noted. The most striking feature at present is a house of tuberous Begonias, raised by Mr. Harman. The effect was splendid, being literally a blaze of colour, ranging from delicate pink to the deepest red, with white and yellow interspersed. The flowers were of excellent substance and size, many measuring 5 to 6 inches across, and perfect in shape. Some had been grown even larger than this, and specimen plants, were in 12 and 14 in. pots. The various departments reflect credit on the skill and attention of Mr. Harman, who has been the gardener here for the past ten years, and who lives on the place.—*S.*

DROUGHT IN THE GARDEN.

CONSIDERING the cost of good fruit trees and their transplanting, it pays to spend a little labour to guard against loss, not only of the trees, but of a season. Even if young trees during drought do not actually die, they are so much crippled as to take long to recover.

All young trees at the time of planting should be well watered in. Do this in any case, and upon any soil, for it tends to support the trees, and is the means of saving the fibrous roots through settling the soil more closely. Mulch the ground around the trees to protect the roots from drought. The best mulch is farmyard manure, which retains moisture better than any other manure. Old Mushroom beds are excellent. Leaf soil is not so good, there being risk of fungus. It is a good plan, when mulching for the purpose is not to be had, to surface with soil above the roots rather deeper than eventually will be practised as the trees become established. The trees that suffer most during a dry period after planting are Apricots, Cherries, Peaches, and Nectarines; compared with Apples and Pears, these are more moisture loving. With a mulching of manure upon the soil it is always possible to water the trees more effectively.

Trees that have been planted a few years will even need attention; so also will older ones where not getting plenty of water. Should any trees promise well for fruit, it will pay to water them. Morello Cherries during the stoning period are very sensitive to drought. In some soils, where deficient in lime, it will be found necessary to have recourse to bone meal or other ingredients which contain a good proportion of this essential product in the case of stone fruits. More especially will this be the case if the trees have, during the past season or two, borne heavy crops without any such assistance being given them. A heavy crop of fruit in any case during a dry season is a severe tax upon the tree.

My kitchen garden is on gravel, and I therefore mulch as far as I can all crops likely to suffer. It does not do to first let them suffer; it is best to be in good time. Upon heavy soils, kitchen garden crops will continue to thrive longer than on light ones. There is one most pleasing feature in the kitchen garden with me this year—it is that of the germination of all kinds of seeds. The plant also looks strong and healthy, thanks again to good culture. Thus far I have not resorted to mulchings, but intend to do so in a few days. The first will be given to the Pea crop, then the earliest Scarlet Runner Beans, and the French Beans, and if I see any probability of a hot, dry summer, I shall mulch Brussel Sprouts, autumn Cauliflowers, and any crop that can be in this way helped. Asparagus, as soon as cutting is given up finally, should be mulched; it will greatly tend towards better results another spring. This is a crop that does not get nearly so much attention paid it as its merits deserve. After cutting has ceased, the only time often spent upon it is in the way of keeping down weeds. Treat it liberally by waterings of manure water or fish manure, and the results will be all the better. Mulching does not mean much labour, for the manure is upon the ground for the next crop, whilst it is a saving in watering. Strawberries should all have been mulched or strawed down before now, and frequent waterings given upon light soils; otherwise the fruits will not set and swell to a good size.—*H. G., in the Field.*

GARDENING MISCELLANY.

SONERILLA BARON SALIER.

As fine foliage plants, the garden varieties of Sonerilla are very ornamental and serve to enliven the stove, either in summer or winter. Of course they are gayest in summer when they have completed their annual growth and produce their attractive rosy flowers. The leaves are characterised by being spotted in various ways, somewhat after the style of the Bertolonias, but differently. The plants are more easily cultivated than the latter, and the foliage is not so susceptible of injury through damping or spotting. The above variety is new, and was exhibited by Messrs. E. D. Shuttleworth & Co., Peckham Rye, at the Temple Show, and again at the Drill Hall, Westminster, on the 6th inst. The leaves are ovate, hairy, and dark green, but so numerously studded over with small white specks as to obscure the green ground. In fact the spots seem as numerous as the hairs which cover the leaves and to have the same location. The spotting is therefore quite different from what we usually see amongst the Sonerillas.

SCHUBERTIA GRANDIFLORA.

FOR some years past this climber has been grown intermittently in British gardens, to appear and disappear like many other plants. Some authorities say that it should be classed under the generic name of Physianthus, and others say Arauja. Whatever may be the correct one matters little to the general public now that it has an opportunity of purchasing flowers in the open market in the same way as those of Stephanotis, to which they may be compared. They are much more massive than those of Stephanotis, and have recently been selling well. The tube is contracted in the middle like a dumb-bell, with a massive, five-lobed, pure white lamina. The latter is waxy in appearance, of fleshy consistency, and lasts a long time in good condition. Unopened flower buds on the point of expansion assume a beautiful salmon-orange colour after being kept in a room for some days. Like those of the Stephanotis they are agreeably fragrant. The leaves and flower stalks are covered with long, rusty brown hairs.

MAIANTHEMUM BIFOLIUM.

VARIOUS botanical names have been given to this plant, which is widely distributed over the north temperate regions, including Britain. Two of the generic names, including that above given, mean Mayflower or Mayblossom, in allusion to the period during which it flowers. The botanical names are somewhat shiftable, and it does not seem that the plant has generally been recognised by any English name. The plant forms a dwarf dense tuft, each stem surmounted by a raceme of small, white flowers, and bearing two heart-shaped, bright green leaves. It is a suitable plant for growing on moist positions of rockwork or in half shady positions such as would be given to Lily of the Valley, to which it is allied, though distantly. It remains in bloom for some weeks during May and June.

ASTER ALPINUS.

MOST of the dwarfer forms of Aster are of superior decorative value on account of the relatively large size of their flower heads. The small flowers are mostly produced by tall growing species. A. alpinus is a European species introduced to this country as early as 1658, but not so often cultivated as its decorative merits deserve. The stems vary from 6 in. to 9 in. in height, and terminate in solitary flower heads, with deep purple rays, and often measuring 1½ in. to 2 in. across. It is perfectly hardy, easily grown, and suitable for rockwork or for edgings to beds on account of its dwarf habit. Propagation may be effected by division or by cuttings of the short radical shoots in spring.

CERASTIUM OVATUM.

A LARGE number of the species of Cerastium or Mouse-ear are of no horticultural value, but C. ovatum is exceptional in this respect. The stems are only about 3 in. high, forming little tufts with ovate leaves. The large, white petals are marked with longitudinal lines, like those of a Saxifraga or Parnassia. It will be evident from this description that it is most suitable as a rockwork plant, and may be seen on the rockery at Kew.

EARLY STRAWBERRIES.

WE have this day, June 7th, gathered our first dish of Strawberries from Laxton's Noble. They were the largest fruits that I have ever seen. My employer told me that the flavour was excellent. James Veitch, President, and Competitor are just beginning to colour.—*T. Cockerill, The Gate House, Wirksworth, Derbyshire.*

MRS. SANKEY SWEET PEA.

IN a note last week upon three new Sweet Peas, I omitted to say that the seed of Mrs. Sankey Sweet Pea is *black*, the seed of Queen of England and Emily Henderson *white* or light dun colour, thus showing a distinction at the outset.—*Devoniensis.*

ORCHID NOTES AND GLEANINGS.

Eulophiella Elizabethiæ.

ORCHID growers who went into raptures over this lovely novelty when they saw it for the first time at the recent Ghent Show, could hardly have hoped that it would come into the market so quickly as it has done, and in such numbers as were offered for sale at Messrs. Protheroe & Morris' Rooms on the 9th inst., by Messrs. F. Sander & Co. The plant was first figured and described in *Lindenia* in May, 1892; it was named in honour of Queen Elizabeth of Roumania, better known in literature as "Carmen Sylva;" but for obvious reasons its habitat was kept secret. The honour of first flowering and exhibiting it in Europe belongs to MM. Linden, of L'Horticulture Internationale, Brussels, who exhibited it among their six new plants, not in commerce, which they staged at the Ghent Show, where, as we have already indicated, it took the Orchid fancy immensely; indeed, there were not a few present who considered it the best new plant exhibited on that occasion. It now appears that the plant was discovered in Madagascar by a French gentleman, M. Hamelin, who has recently returned with a consignment which Messrs. F. Sander & Co. were so fortunate as to secure, and hence the unexpected appearance of the plants in the sale room last week. In what part of Madagascar M. Hamelin found the beautiful novelty yet remains a secret, but we are informed that it grows upon a single species of tree, at 40 ft. from the ground, in swamps, a hint of some importance to growers, as indicating that it is not a terrestrial species, and that it will want heat and moisture, and plenty of both. Good prices were realised for all the lots offered, the best pieces commanding from five to five and a half guineas each. A consignment of Dendrobium phalænopsis Schroderianum offered at the same time also commanded a ready sale, prices ranging from one to four guineas each.

Miltonia vexillaria.

One of the most beautifully grown collections of this most showy Orchid that we have seen for a long time is that belonging to George Hardy, Esq., Pickering Lodge, Timperley. When we saw the plants a few days ago they were carrying a grand head of bloom and made a most beautiful display at the end of one of the cool houses. Mr. Holmes, who grows the Orchids so grandly at Pickering Lodge, has found that this handsome species does best along with Odontoglossum crispum, and under the same treatment, and certainly a cleaner grown lot of plants one could not wish to see, for they are without spot or blemish and most vigorous in growth. The dipping process to which so many growers submit their plants is not followed at Pickering Lodge, the plants only requiring to be cleaned once a year when the annual potting takes place.

The Culture of Phalænopsis.

It may be a wrinkle to some who do not succeed well with Phalænopsis to know that a very healthy, thrifty lot of plants in Mr. George Hardy's collection are grown in teak cylinders, stood on end on the side stages of a narrow span-roofed house. The cylinders are about 12 in. long, and 6 in. in diameter, and a third in depth from the top is filled with crocks, on which the plants are fixed with a little peat and sphagnum. The cylinders allow of the roots, &c., being well syringed without damping the foliage, and as no stagnant moisture can remain about the roots, the plants seem to like the conditions and make large thick leathery leaves. By this system dirt of all and every kind is banished, and scrupulous cleanliness is the order of the day in the houses at Pickering Lodge.

ROSE SHOW AT EARL'S COURT.

A two-days' Rose Show was opened at Earl's Court on the 14th inst., and may be considered as having beaten the record as far as earliness is concerned for London and the vicinity. The long continued dry weather seems to have had no appreciable effect on the size of the blooms, either in the case of the Tea or hybrid perpetual sections, for many of them were of unusual size, and the warm dry weather has not affected the purity of the flowers, as often happens when spring and early summer prove uncongenial. The dry weather in the jubilee year had an unfavourable effect on the durability of the flowers, and in this case we can hardly expect it to be otherwise. Nevertheless if the season is a short one we can still hope for a better display in autumn than usual. The old garden Roses, as they are termed, constituted a fine display, as they usually do early in the season. Prominent amongst them were the brightly coloured buds of the Noisettes, the mossy-calyxed flowers of the Moss Roses, the most floriferous Crimson Rambler, and other types of Polyantha Roses. The single forms of Rosa moschata, R. rugosa, and others were also in their best form. The Tea and hybrid perpetuals in each case were shown in considerable quantity and made a brave show, but it was evident that the heat of the tent was causing them to open with undue haste.

The premier award for thirty-six distinct blooms was taken by Mr. B. R. Cant, Colchester. Some of his finer blooms were Gustave Piganeau, A. K. Williams, Ulrich Brunner, Charles Lefebvre, Maria Baumann, Madame Gabriel Luizet, Madame Hippolyte Jamain, Pride of Waltham, Sultan of Zanzibar, Boieldien, Duke of Wellington, and others. Mr. Frank Cant took the second place with fine blooms of Comte de Raimbaud, Sultan of Zanzibar, Horace Vernet, Grace Darling, Etienne Levet, &c. Messrs. Paul & Son, Cheshunt, were third with smaller blooms. There were four entries in this class. The first prize for twenty-four blooms was taken by Messrs. D. Prior & Son, Myland Nurseries, Colchester. Gustave Piganeau, Her Majesty, Etienne Levet, and Catherine Mermet were amongst their best blooms. Mr. G. Mount, Canterbury, was second with fine blooms of Catherine Mermet, A. K. Williams, Souvenir d'un Ami, and others. Messrs. G. Cooling & Sons, Bath, took the third place with rather open blooms, though otherwise fresh. There were eight entries in this class. Mr. B. R. Cant was again to the front with twenty-four Roses, in trusses of three, and Gustave Piganeau, Countess of Oxford, Maurice Bernardin, Maria Baumann, and Baroness Rothschild were very fine. Mr. F. Cant was a good second with somewhat smaller blooms, and more open. The third prize lot contained many Teas, but the exhibitor did not show his name on the card. The first prize for eighteen Tea or Noisette Roses in trusses of three was taken by Messrs. D. Prior & Son, who had a fresh and attractive lot, in most cases in the freshest condition. Very fine were Madame Lambard, Souvenir d'un Ami, Marie Van Houtte, Innocente Pirola, Souvenir d'Elise Vardon, Niphetos, Catherine Mermet, and others. Mr. F. Cant took the second place with fine blooms of Souvenir d'Elise Vardon, Souvenir de S. A. Prince, Anna Olivier, Hon. Edith Gifford, and others. An extra prize was awarded to Mr. B. R. Cant. Messrs. D. Prior & Son again took the leading award for eighteen blooms, which were mostly in good form, including Souvenir de S. A. Prince, Rubens, Marie Van Houtte, Niphetos, etc. Mr. Geo. Prince, Market Street, Oxford, took the second award with some splendid blooms, but rather much expanded. The third prize went to Mr. J. Bradbury, gardener to S. P. Budd, Esq., Bath. Competition was keen in this class. The first award for twelve bunches of garden Roses was taken by Mr. C. Turner, Slough, whose exhibit was very attractive. Messrs. Paul & Son, Cheshunt, took the second place, and Messrs. G. Cooling & Sons were third. The first prize for any dark H. P. was taken by Mr. F. Cant with Horace Vernet. Mr. C. Turner was second; and Mr. B. Cant came in third. The latter had the best light H. P. in Madame Gabriel Luizet; Messrs. D. Prior & Son were second; and Mr. C. Turner took the third place. For twelve trusses of any Tea or Noisette, Messrs. D. Prior & Son, took the leading place with Marie Van Houtte; Mr. F. Cant was second; and A. H. Gray, Esq., Bath, was third.

In the amateurs' classes the first honour for twenty-four distinct blooms was taken by the Rev. J. H. Pemberton, Havering-Atte-Bower, Essex, who had some very respectable blooms; Mr. J. Bradbury took the second place with smaller blooms; and R. L. Knight, Esq., Sittingbourne, was third. Charles James Grahame, Esq., took the leading award for twelve blooms with fresh and sweet specimens. Mr. J. Bradbury had the best twelve blooms in trusses of three. J. Gurney Fowler, Esq., Woodford, Essex, had the best twelve trusses of any H. P. variety in Mrs. John Laing. R. L. Knight, Esq., had the best twelve Teas or Noisettes. The garden Roses exhibited by Mr. W. Mease, gardener to A. Tate, Esq., Downside, Leatherhead, were fine, and took the first award. The Rev. J. H. Pemberton took the second award with a less conspicuous but still interesting lot. The best twelve blooms of any Tea or Noisette, were those of Mr. C. J. Grahame, who exhibited the Hon. Edith Gifford, in fine condition, although not large.

There were a number of miscellaneous groups as usual, consisting of garden subjects other than Roses, and which served to give variety and meet the taste of the flower-loving public. Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, had a showy group of cut flowers of herbaceous plants in the main exhibition building, and consisting of masses of Irises, Spiræas, Delphiniums, Iceland poppies arranged in colours, the large-flowered Linaria genistæfolia and others. In the Rose tent Messrs. Barr & Son, Covent Garden, occupied two corners with English and Spanish Irises and Ixias in great variety, also Iceland poppies, Campanulas, Lilies and other herbaceous subjects. Mr. H. B. May, Dyson's Lane, Upper Edmonton, occupied the end of the tent between these two groups with an exhibit of Palms, Clematis Jackmanni, and others in pots, also Hydrangeas, Begonias, and other flowering or foliage plants. In the other end of the tent Messrs. Paul & Son, Waltham Cross, had a display of Roses often grouped in masses of a kind, especially in the case of Noisette, L'Ideal, Common Moss, Blanche Moreau, and other interesting old-fashioned garden Roses. Marie Van Houtte, Ma Capucine, and others were also fine. Mr. H. J. Jones, Hither Green, Lewisham, showed a large and a small group of show and decorative Pelargoniums, occupying the angles of the tent. They consisted of moderate sized plants, most floriferous, and showing a great variety of colour. On one of the tables was a fine exhibit of several kinds of Tomatos, Cucumbers, and Melons, shown by Mr. S. Mortimer, Swiss Nursery, Rowledge, Farnham, in a very attractive style. Some stands of old-fashioned garden Roses were shown by Messrs. G. Cooling & Sons. Some Tea and Noisette Roses were shown by Mr. G. W. Piper, Uckfield, Sussex. They were set up in trusses, mostly in the bud state and fresh.

LAW NOTES.

"Trade Customs" at Covent Garden.—At Bow Street Police-court on Monday, Henry Levy, of the Floral Hall, Covent Garden, appeared before Mr. Lushington to a summons charging him with selling seventy-two boxes of Tomatos unfit for human food, Mr. Fawcus appeared in support of the summons on behalf of the Strand Board of Works. Mr. Wallis (Wilson & Wallis) was for the defendant. The case was a somewhat important one, affecting many persons transacting business at Covent Garden Market. According to the case laid before the Court, it is the custom at Covent Garden when box goods are sold by auction, to open one box at random, and accept that as a fair specimen of the bulk. On May 19th, Samuel Scott, general dealer, of 15, Orchard Cottages, Mortlake Road, Richmond, purchased from the defendant, an auctioneer in the market, seventy-two boxes of Tomatos at the rate of 5d. per box, being guided entirely by a sample case opened in his presence. A friend of his had attempted to inspect the boxes containing the bulk, but was deterred by defendant, who said, "Don't touch those or you will spoil them." When Scott came to examine the contents of the boxes he had paid for, he found that the Tomatos were rotten. He told the defendant so, and the latter replied, "I cannot help that; you must make the best of them." Scott then took the Tomatos to Mr. Strutt, one of the sanitary inspectors in the employ of the Strand Board of Works; they were condemned by Dr. Allen, the medical officer, and afterwards destroyed by order of the magistrate. The case was brought under the 47th Section of the Public Health Act, 1891. For the defence, Mr. Wallis produced a copy of a notice exhibited in the market calling upon purchasers to inspect goods in bulk. It would, he said, be impossible to open every one of the thousands of boxes sold in the market every day, and contended that it was incumbent on the complainant to prove that the defendant knew that the Tomatos were unfit for human food. Mr. George Birrell, defendant's partner, said the Tomatos were sold for a Manchester firm at a commission of two per cent. One box was always opened in the presence of customers, who were invited to inspect the bulk. Tomatos might become damaged in three or four hours. If any of the Tomatos were damaged, it was presumed that the purchasers would make their profit out of the sound ones. In giving his decision, Mr. Lushington said it was perfectly certain that the Tomatos purchased by Scott were more or less rotten and unsound. It was perfectly absurd to say that they could become overripe in a few hours. It had been proved that the boxes containing the Tomatos were stained with juice, and the person who sold them had reason to believe that they were rotten, although he might not have been positive on the point. Under the circumstances defendant was liable under the Act, and would have to pay a fine of £20 and costs; in default of distress, one month.—*Daily News.*

WHAT TO DO IN THE GARDEN.

Stephanotis.—Plants of this that flowered early may now have the weaker branches, that would tend to crowding, thinned out. This will encourage a more vigorous growth and be productive of a finer display of flower buds in the autumn.

Clerodendron fallax.—Old plants of this now growing freely should have the tips of the more rampant shoots pinched so as to keep the plant as bushy as possible, while assuring a greater amount of bloom in the autumn. By the nature of the plant it is inclined to run away with a few straggling, rampant shoots which must be repressed.

Euphorbia fulgens (jacquiniæflora).—A more vigorous growth and more flowers for cutting are obtained from specimens that are grown in a shallow border, than when confined to pots. Where cut flowers is the sole end in view, this may easily be accomplished where a small border is at command. When so treated the plants should be freely syringed and kept moist at the roots as well.

Heaths.—Keep a close eye upon Heaths, which are very subject to mildew at this season of the year,

and whenever it makes its appearance, have the plants dusted with flower of sulphur or syringed with water containing sulphur mixed with it. A dry atmosphere should afterwards be maintained, but do not neglect the plants at the root.

Camellias.—When placing these out of doors it will be well to be careful not to expose the plants to strong sunshine all at once, or the young foliage may get scorcbed during the heat and the aridity of the atmosphere. A light shading during the middle of the day for a time would ward off all danger till the young foliage bardens.

Annuals for the Greenhouse.—The more useful annuals generally grown for this structure are now gay and help to make amends for the poor progress they are making out of doors. It is now time to sow again for autumn flowering, such things as dwarf Scabious, Rhodanthe, Mignonette, Browallia elata, mixed Cornflowers, and others.

Auriculas.—Some growers like to repot their plants early and otbers delay it to the end of the season. It must be apparent, however, that the summer is the best season for the plants to make their fresh growth in preparation for flowering next spring. Further, when the pots are well filled with roots while sunshine is still plentiful, tbey will keep through the winter better than tbose that are kept growing till late in tbe autumn by being shifted late.

Lilies in pots.—To prolong tbe flowering period, place a batch of the pot-grown Lilies out of doors in a sheltered position. This will likewise keep the stems sturdy and strong. Those retained under glass sbould be neatly staked witb bamboo sticks, whicb are effective and by no means conspicuous. Keep the plants cool and as near the glass as possible, looking closely after green-fly. A dusting of tobacco in the terminal buds will often effect a complete remedy.

Vineries.—The berries intended to be kept through the winter should have the tbinning completed without further delay. They should also be more severely thinned than those intended for use before tbe leaves fall, as they are more liable to damp during wet or damp weather when crowded. As the berries swell freely all the week lateral growths may be allowed to grow so long as tbere is space for the foliage without crowding. Ventilate early in the morning to dispel any moisture tbat may be on the berries and to prevent scalding.

Melons.—Young plants now making their growth should be attended to in the matter of watering, tying, and feeding. Ventilation is also most essential to secure firm and short-jointed stems. Wben the flowering shoots are being produced wait till a sufficient number of female flowers are developed so that they may all be fertilised simultaneously. If fertilised at intervals, the first fruits take the lead and keep the later ones in a puny and stunted condition, even if they do not drop off altogetber.

The Orchard House.—Wbere Peach and Pear trees are grown in pots they must now be top-dressed, if tbis bas not already been seen to. Well-made farm yard manure makes a good surfacing and wbile preventing the escape of moisture from the soil, also supplies it witb food. Some good artificial manure may also be applied if the natural manure is not so good as migbt be desirable. Syringe the trees twice daily and shut up the house early in the afternoon.

Strawberries—Pot plants may be put in the open ground as soon the crop is gathered. A second crop from tbem in tbe autumn would be higbly desirable, especially seeing that tbe outdoor crops will be finished very early this year. It will be necessary to water them for a time till they take to the fresh soil.

Celery.—Plant out the main batch at once in well-prepared trenches, in the bottom of which plenty of well decayed farm manure has been used. As soon as planting is completed give a good watering to thoroughly settle tbe soil about the plants.

Dwarf Beans.—A sowing, if made now, will come in suitable for late autumn use. See that those in full growth are not getting attacked by green or black fly, particularly the latter, as tbe dry weather has been very favourable to vermin of all kinds.

Lettuces and Carrots.—A late crop of Carrots may be sown now for drawing in a young state in the autumn. Lettuces may also be sown where they are intended to grow. Sow thinly and after the plants have attained some size they may be thinned out to the proper distance apart.

QUESTIONS AND ANSWERS.

DANDELIONS ON A LAWN.—*W. Yerbury*: The most effective plan of getting rid of Dandelions on a lawn is to get some sulphuric acid (oil of vitriol) in a wide necked bottle, into which a pointed stick can be readily dipped. Then go regularly over the lawn, cut off the heads of the Dandelions well down, and put a drop of the acid in the centre of the root-stock left in the ground. If the acid be good the operation will be thoroughly effectual. You must of course be careful not to let the acid touch your hands or any part of your clothing, and to keep the bottle under lock and key when not in use.

NAMES OF PLANTS.—*David Rymer*: 1, Odontoglossum Pescatorei (a good average bloom). 2. Oncidium pulvinatum. 3. Masdevallia maculata. 4. Iris siberica. 5. Iris virginica. 6. Spiræa callosa. —*R. B. L.*: The Caper Spurge, Euphorbia Lathyris.

TREE FERN.—*J. C., Aberdeen*: We can only suggest that the cause of your tree Fern throwing up its fronds more to one side instead of evenly all round may be that the light draws the fronds more in the one direction, or that the crown has met witb some accident or some injury to cause arrested development on tbe one side. Have you examined the crown carefully to see if this is the case?

ENAMELLED POTS.—*Scoria*: The glazing is done in the process of manufacture before the pots are fired. We like a hard, well-baked pot, but cannot recommend glazed ones.

DRYING ORCHID BLOOMS.—*Amateur*: Get a box of perfectly dry silver sand, and bury the flowers in the sand with all the parts in a natural position. The sand will gradually abstract the moisture from tbe flowers, whicb will retain their natural colours to a great extent.

COMMUNICATIONS RECEIVED.—G. J. I.—E. J. B.—B. F.—H. & S.—G. A. L.—E. S. D.—R. B. L—W. M.—E J. B.—Castor.

TRADE CATALOGUES RECEIVED.

C. BENNETT, Standard Nursery, Homebush, New South Wales.—Ever-blooming and other Roses; Cactus and otber Dahlias, &c.

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June 14th, 1893.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d	s. d.		s. d.	s. d
Tasmanian Apples per case	5 0	10 0	Melons ... each	1 6	2 6
Grapes, per lb.	1 0	2 6	Strawberries, per lb.	0 6	1 0
Peaches ... per dozen	3 0	12 0	Pine apples. —St. Michael's, each	2 6	6 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Asparagus per buudle	1 6	5 0	Horse Radish, bundle	2 0	4 0
Artichokes Globe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, French, per lb.	1 6	2 0	Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	5 0	Seakale .....per bkt	0 0	0 0
Celery.....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers .....each	0 4	0 8	Spinach ... per strike	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 9	1 0
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s d		s. d.	s. d
Arum Lilies, 12 blms.	2 0	4 0	Pelargoniums, 12 sps.	0 6	0 9
Bouvardias, per bun.	0 6	1 0	— scarlet.....12 bchs.	3 0	6 c
Carnations...per doz.	1 0	3 0	Pinks, doz. bunches...	1 0	3 0
doz. bunches.....	4 0	8 0	Pyrethrum doz. bun.	1 6	4 0
Cornflowers, dz. bun.	1 6	3 0	Primula, double, bun.	0 6	1 0
Eucharis ...per doz.	3 0	6 0	Red Roses, doz. blis.	3 0	8 0
Gardenias 12 blooms	1 0	2 6	Roses, yellow, dozen	2 0	4 0
Gladiolus, White, dzbn	4 0	9 0	— Red..... doz. blms.	2 0	3 0
Heliotropes, 12 sprays	0 6	0 9	— Saffrano...per doz.	1 6	2 0
Iris, var., doz. bunches	6 0	12 0	— Tea ..... per dozen	0 6	2 0
Lilium Harrisii, doz. blooms	2 6	5 0	Spiræas, doz. bunchs	3 0	6 0
Maidenhair Fern, 12bs.	4 0	6 0	Stephanotis, dz. sprays	1 6	2 6
Marguerites, 12 bun.	2 0	4 0	Sweet Peas, doz. bhs.	4 0	8 0
Mignonette... 12 bun.	2 0	4 c	Sweet Sutton, dz. bhs.	3 0	6 0
Orchid Bloom in var. per bloom, from	0 3	1 0	Tuberoses, per doz	0 6	1 0

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s d.
Cyperus .....per doz.	4 0	12 0	Liliums, various, per doz.	12 0	24 0
Cineraria ...per doz.	6 0	9 0	Lobelia .....per doz.	3 0	6 0
Dracæna term., doz.	18 0	36 0	Marguerites, per doz.	6 0	12 0
Dracæna viridis, doz.	9 0	18 0	Nasturtiums, per doz.	3 0	4 0
Erica, various, doz.	12 0	24 0	Mignonette, per doz.	4 0	8 0
Evergreens, invar. doz	6 0	24 0	Palms in variety, each	2 6	10 0
Ferns, invar., per doz.	4 0	18 0	Palms, Specimen ...	15 0	63 0
Ferns, small, per 100	6 0	10 0	Pelargoniums ... doz.	9 0	15 0
Foliage Plants, doz.	12 0	60 0	— scarlet.....per doz.	4 0	9 0
Fuchsia .....per doz.	6 0	12 0	Saxafrage...per doz.	12 0	18 0
Genista .....per doz.	9 0	12 0	Spirea, per doz.	6 0	12 0
Hydrangea, per doz.	9 0	18 0			
Ivy Geraniums...doz.	4 0	6 0			

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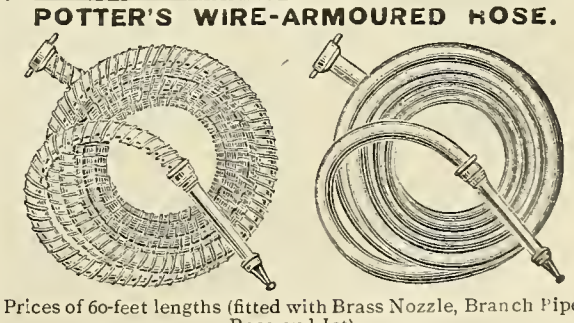

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Anonymous (special gift)	36	0	0
Ditto ditto	5	5	0
J. J. Litchfield	10	10	0
J. Menzies	0	2	6
Jas. Wilkins	10	10	0
C. B. Phillimore	1	1	0
Thos. Cordes	5	0	0
Lord Esher	3	0	0
F. Tress Barry	10	10	c
G. C. Raphael	5	0	0
J. Gaitskill	1	1	0
Lord Crewe	5	5	0
M. P. Grace	2	2	0
Lord Teynham	2	2	0
F. Ricardo	5	5	0
J. D. Crews	3	3	0
J. H. Sykes	10	10	0
W. Tothill	5	0	0
T. H. Wells	1	1	0
Mrs. Paine	10	10	0
H. Knight	1	8	0
F. Attrill	10	10	0
W. Bull	6	6	0
L. Alma Tadema	5	5	0
F. C. Pawle	1	1	0
L. Bertson	1	0	0
Bristol and Bath Auxiliary	37	16	0
J. C. Geiselbrecht	1	1	0
Lord Hay	1	0	0
Albert Brassey	5	0	0
John Copson	10	10	0
R. Clout	2	0	0
J. Corbett, M.P.	0	10	6
S. C. Clay	1	1	0
W. Sturdy	10	10	0
N. L. Cohen	3	3	0
Jas. O'Brien	2	2	0
J. Hossack	1	1	0
Sir. Lewis Cave	1	1	0
Hon, W. Rothschild	10	0	0
T. B. Haywood	10	10	0
E. W. Cathie	2	2	0
A. Watkins	2	2	0
J. Wimsett	2	2	0
W. S. Deacon	10	0	0
W. L. Corry	5	5	0
H. F. Tiarks	10	0	0
L. Schluss	1	1	0
Messrs. Protheroe & Morris	12	1	0
James Reiss	3	0	0
Sir William Farmer	1	1	0
W. Houghton	5	5	0
E. D. Stern	3	0	0
R. B. White	2	2	0
Sir Jas. Maitland, Bart	2	2	0
R. Baird (collecting card)	2	13	6
Joseph Lane do.	3	6	0
C. R. Fielder do.	10	10	0
Jas. Lorme do.	2	5	0
Richd. Wakeley do.	0	15	0
R. Jordan do.	2	2	0
R. Jones do.	5	0	0
William Buckland do.	0	5	6
A. Scott do.	0	9	0
J. Bishop do.	0	10	0
William Rowe do.	1	0	6
Thos. Smith do.	0	10	0
S. Smalley do.	3	16	0
J. Church do.	3	17	6
Jas. Russell do.	1	3	6
Jas. Foster do.	1	10	0
W. Lintott do.	0	7	6
C. Ford do.	2	0	0
G. Stephens do.	0	7	0
W. Rowe do.	0	2	5
R. Strand do.	0	5	0
H. Swain do.	0	8	6
C. Watkins do.	1	1	0
G. Lewis do.	0	15	0
W. Tribbick do.	0	10	0
R. Draper do.	0	10	0
J. M. Young do.	2	3	0
W. Harwood do.	0	5	0
J. Farrington do.	0	12	6
T. Lunt do.	1	0	0
W. Greenaway do.	0	5	0

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*** *Advertisements for the current week, and also "Stop Orders," must reach the office not later than the first post on Wednesday Morning.*

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FRIDAY NEXT, JUNE 30th.

SACCOLABIUM BELLINUM, CATTLEYA SCHOFIELDIANA, LÆLIA HARPOPHYLLA

Messrs. CHARLESWORTH, SHUTTLEWORTH & CO., Heaton, Bradford, have instructed

Messrs. PROTHEROE & MORRIS

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On FRIDAY, JUNE 30th, at half-past 12 o'clock.

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For Index to Contents see page 681.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, June 26th.—Hitchin Rose Show.
Canterbury Rose Show.
TUESDAY, June 27th.—Sale of Orchids at Protheroe & Morris' Rooms.
Maidstone Rose Show.
Sutton Rose Show.
WEDNESDAY, June 28th.—Rose Show at Earl's Court.
Richmond Flower Show.
THURSDAY, June 29th.—Important Sale of Fine Foliaged Plants at Dyson's Lane Nursery, Edmonton, by Protheroe & Morris.
Eltham Rose Show.
Newport Rose Show.
Windsor Rose Show.
FRIDAY, June 30th.—Sale of Imported Orchids at Protheroe & Morris' Rooms.
SATURDAY, JULY 1st.—National Rose Show at the Crystal Palace.
Chingford Flower Show.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, JUNE 24th, 1893.

THE DROUGHT.—This wonderful spell of continuous drought is now intensified by great heat, so that the effects of the long dryness are daily becoming more and more evident, and in many districts where water is running short there is much suffering. It seems useless to look for any early change. We had thought that the drought could not possibly continue over last month; but here is now almost the whole of June added to the long period, for it is almost four months since in almost all parts of the kingdom we had rain, except such as resulted from occasional local thunderstorms.

It is no longer possible to regard this dryness with equanimity. Of course let whatsoever condition of things prevail, let misfortune to some one or other section of the community be ever so great, the world will go on as ever, and make light of the trouble that is being created. Still we must suffer appreciably presently, for when the production of the year is totalled up there will be in many cases enormous deficiences of crops. We shall see corn generally light, straw even much more so, Potatos doubtless good but small in size, pulse of all kinds, whether field or garden, very deficient in quantity, vegetables and fruit a long way below the average, seeds an alarmingly short crop—and all the product of, not so much the heat, for that has been truly glorious and enjoyable, but of such a wondrous lack of rain.

If ever the British climate was redeemed from the frequent charge of being gloomy and miserable, a charge we have too often justified, it has been this year, when we have had some four months of the brightest, sunniest, most beautiful weather that could perhaps have been found in any country in the world. Nevertheless we can well have too much of a good thing and would now gladly hear of an abundance of rain falling in all parts of the country.

Ladies as Gardeners.—The product of the Ladies' Gardeners' Association, so far as we can learn, does not seem to be a great success, a result we were quite prepared for, not from bias or prejudice of any sort, but rather because we have the fullest appreciation of the long and continuous service to horticulture it is absolutely needful to give ere experience and knowledge are gained. Ladies may have art tastes, but these perform little of arduous work; and indeed so far as relates to taste, we have found too often good reason to contest that assumption, as very much of woman's work in horticulture has been found sadly wanting, at least from our practical view.

But there are aspects of gardening in which women may, and do, labour with excellent knowledge, as every private or market gardener knows who has long employed females in the performance of certain work, and found them most useful and capable. It is perhaps a most unusual thing to find a woman acting as Secretary of a Horticultural Society, but there is one such body in Middlesex that has a lady for its principal executive officer, and most admirably and efficiently does she discharge the duties of her office.

In the rules for the government of the twenty acres of allotments furnished to the working classes by the go-a-head Corporation of the town of Richmond, Surrey, it is stated that "any man or women of not less than twenty-one years of age shall be eligible to become a tenant of an allotment." That marks a distinct advance in this direction and shows that a public body recognises the capability of woman to manage an allotment. After all it is the hard-working women that make the best "lady gardeners."

Carpet Beds.—Whilst we have in the past commonly used this term in relation to what are sometimes called mosaic or inlaid beds, there are other carpet beds, where the soil is covered with some dwarf creeping plant and from out of this carpet springs a series of tall plants, thinly disposed, and usually having a very pleasing appearance. But almost every type of bed has its season, and the present hot summer should be particularly favourable to carpet bedding of the mosaic form, for these are chiefly fashioned from tender plants, such as Alternantheras, which revel in warmth and colour up superbly under the great sun heat, whilst succulents, also so commonly employed, seem also to like the drought and heat.

But then what suits these plants also suits all kinds of bedding Petunias, Begonias, Pelargoniums, &c., especially flowering varieties, provided they can find a sufficiency of moisture at the roots. Heavy rains soon become the *bête noire* of these tender flowering plants, but they make leafage in moderation and flower profusely in warmth and sunshine. There is no doubt but that we shall see carpet bedding in great beauty shortly. The plants employed have had wonderful opportunities, finding July heat in June, and an entire absence of cold storms and winds, which discolour and check them so materially.

It may, of course, be a moot question as to whether this form of flower gardening exhibits the best taste. We are not discussing that question, we are rather referring now to the general effects the hot weather is likely to have upon summer bedding in general, and on carpet beds in particular. It is one of the pleasing features of to-day's bedding, especially in large gardens, that so much variety, not only in material but in style of planting, is now produced so that strange indeed must be the season, that does not specially suit something or other.

Summer Pruning of Fruit Trees.—With respect to the application of the art of summer pruning to wall-trained trees, we are all agreed that under any other system of culture the successful production of crops of fruit on wall trees would be impossible. It is when we come to deal with bush and pyramid trained, for these are practically trained trees, that it is found material difference of opinion exists amongst gardeners. The fact is that all such forms of tree training and pruning are essentially of an artificial kind, and are practised for the production of crops which could hardly be obtained from such trees under other or natural conditions.

The *raison dê'tre* of summer pruning is not so much the repression of sap flow as the diversion of it, if possible, into other channels, so that trees shall show at the close of the season less a crop of barren wood than an abundance of either perfect or perfecting flower buds. If we allow trees to grow ever so naturally, we still must more or less artificially prune or thin them. Still in such case we do not touch them in the summer. It is when circumstances of culture compel the application of restriction either to form or dimension, or both, that summer pruning becomes absolutely indispensable, as it is the aim of the cultivator to secure the greatest possible quantity of fruit from the smallest possible area

Now the rationale of summer pruning is that by the removal of all superfluous branches, perhaps 80 per cent. of the whole on a tree, by pinching or cutting them back at a specified time perhaps about midsummer, to a few leaf-buds, not only is the rest of the tree thrown open to light and air, but that the sap force is then concentrated upon the development of the base, turning as a rule wood-buds, into more or less perfect fruit buds, for the succeeding year's cropping. That desired condition, however, does not always arise. Too often this artificial spurring produces myriads of imperfect fruit-buds, which are barren. Not infrequently the product is only more useless wood growth. Local conditions often govern results, still it must be admitted that with our present garden conditions, summer pruning is an indispensable function.

The Barnstaple Chrysanthemum Show will be held in the local Market Hall, on Wednesday and Thursday, November 1st and 2nd.

Great York Gala.—The total number of visitors last week were 52,915, an increase of 12,400 over that of 1892, and 3,169 more than the attendance in 1890, the highest number on record until this year.

The North Petherton Horticultural Society will hold its eighth annual exhibition in the picturesque grounds of Shovell House, on Thursday, August 3rd.

A Thermometer Bursts.—At Yealmpton, Devon, on Monday, an ordinary household thermometer, registering up to 130 deg. Fahrenheit, was exposed to the sun's rays about noon. Within a few minutes the alcohol rose to the top of the tube, and shortly afterwards the bulb burst under the pressure of the heated liquid.

Mr. J. W. Bayne, formerly gardener to Lord Belper, at Kingston Hall, Derby, and lately of the Craigleith Nursery, Cornely Bank, Edinburgh, last week received the appointment of Superintendent of the Cemeteries and Public Parks of the City of Perth. The position is a good one, and there were twenty-six applicants. Mr. Bayne, an excellent practical gardener, is to be congratulated on his success.

The Lowfield Nurseries.—The annual outing of the employés of the firm of Messrs. J. Cheal & Sons, took place on Monday, the 19th inst., Portsmouth and the Isle of Wight being visited, the dockyard being first inspected. The company, numbering ninety-six, then adjourned to the Speedwell Hotel for luncheon, after which the party with their own band entered a special steamer chartered for the occasion, visiting Osborne, Ryde, Sea View, etc., returning to Portsmouth to tea, and thence home to Crawley by the last train, all having spent a most enjoyable day.

The Cricket Match arranged between the "A" team of Messrs. Sutton & Sons' employés and the Swanmore Park Club was played on the ground of the latter on the 14th inst., and proved in every way a most enjoyable game, ending in a draw. The visitors batted first and ran up a total of 135, thanks to Messrs. Hawes, Allum, and Barrett. The home team replied with 110 for 11 wickets, 12 aside playing. The top scores were made by Messrs. Threlfal, Warren, and Agate.

Early Season on the Continent.—Speaking of Belgium, *L'Illustration Horticole* states that the evolution of foliage and flowers has not been so early there since half a century. By the 17th May the hybrid perpetual Roses commenced to flower in the garden of the State School of Horticulture at Ghent. The first or earliest Potatoes were likewise in flower. Vegetables are five weeks in advance of their normal period. It is the same with the trees and shrubs of the park and neighbouring plantations.

Trees without Water.—A naturalist writes from Tunbridge Wells:—"Can the authorities at Kew or other large arboricultural establishments inform us as to the length of time large trees can exist without rain? In this part of England nearly three and a half months have passed without any regular rainfall, and the Chestnuts, Oaks, Beeches, and Elms are drooping, lifeless, and in some cases withered. In this condition is it not probable that wind and rain will, when it comes, strip bare instead of revive their stricken foliage?"

Agricultural Fertilisers.—The Minister of Agriculture has in hand a Bill to amend the law with respect to the sale of agricultural fertilisers and feeding stuffs. With respect to the former the Bill provides that every person who sells for use as a fertiliser of the soil any article manufactured in the United Kingdom or imported from abroad shall give to the purchaser an invoice stating, as near as he can, the percentage of the nitrogen, soluable and insoluable phosphates, and potash, if any, contained in the article. The invoice is to have effect as a warranty by the seller of the statements therein. With respect to food for cattle there shall be implied a warranty by the seller that the article is suitable for feeding purposes. Heavy penalties are provided for reach of these regulations.

The Market Gardeners of Cornwall are virtually at their wits' end to know what to do. Truly the condition of things is most uncomfortable. Everything is parched and dying, and the abnormal heat is such as the like of no one can remember, registering as high as 134°. But what can be expected after waiting for rain three whole months? The Currants are falling to the ground, and the Apples strew around the roots more plentifully almost than on the branches. The Raspberries are small, and have lost their usual flavour. At this particular time, when hundreds of girls and women are usually employed in picking fruit, they are numbered by the dozens only. Potato picking is over for the early sorts, and green vegetables are most eagerly sought for, but difficult to obtain. Flowers exist now but in rare instances, where in ordinary years at this time they are most profuse. All parts of Cornwall seem now to be sharing the same experience.

Fen Farmers and the Potato Trade.—A correspondent writes to a daily paper:—"Owing to the state of the Potato market in London, some extraordinary transactions have just taken place with some of the Fen farmers. Mr. Alderman, a Thorney farmer, sent thirty-five tons of Potatos of good sample to a London salesman, and after carriage and commission, etc., had been deducted, the amount remaining for the grower was 12s. 10d., or less than 4½d. per ton. For five tons a farmer of Fleet, near Spalding, secured 7s. 9d.; and Mr. B. Banks, a prominent farmer of Gedney Dyke, near Spalding, forwarded two trucks of Potatos, and he was informed by the salesman that he was indebted to him in the sum of 7d. on the transaction, the amount not covering cost of carriage and expenses." It should be added by way of explanation that the Potatos were old ones, and that buyers are only to be found for them now among cowkeepers, bakers, and fried fish men!

Mildura Irrigation Colony.—It is a noteworthy, if not unprecedented, fact in the history of British colonisation that since the commencement of the irrigation colonies on the River Murray by the well-known company of Chaffey Brothers, Limited, about five years ago, no less than 5,000 persons have become settled at the irrigation colony of Mildura, in Victoria, or have acquired property there for the highly profitable cultivation of products, such as wine, olive oil, Oranges, Lemons, Apricots, Peaches, Raisins, Currants or Figs, which are in immediate requirement by the Australian colonies and in extensive demand in Great Britain and other markets of the world. At the sister settlement of Renmark, in South Australia, the population numbers about 1,000.

Forestry Examinations in Scotland.—At the half-yearly meeting of the Highland Society, held in Edinburgh last week, Sir Robert Menzies reported that at the forestry examinations, only one candidate came forward, viz, H. W. Tucker, Blackheath, and he was awarded a second-class certificate. Sir Robert Menzies also reported that about £2,000 had been collected for the endowment of a Forestry Chair in Edinburgh. The money they had invested, and with the approval of that meeting, they proposed to pay the interest to Colonel Bailey, who was presently carrying on the forestry class in the Edinburgh University. Mr. Fyshe, Treaton, said £50 was voted at the last meeting for the support of the forestry classes at Edinburgh. He observed that only one candidate came forward in the forestry section at the last examination, and that that candidate only got a second-class certificate. He thought £50 was rather a high price to pay for a second-class certificate. Sir Robert, and others, explained that good results could not be expected at once, and ultimately the report was unanimously adopted.

Royal Botanic Society of London.—At a meeting of this society, held last week, the Earl of Ancaster, vice-president, in the chair, the following were elected Fellows of the society:—Mr. H. F. Arnidroz. Mr. G. J. Baker, F.R.G.S., Mrs. Lewis, Mr. A. E. Cockshott, Mr. E. Harris, and Mrs. L. Pariente. The donations received included a copy in six volumes of the "Dictionary of Economic Products of India," presented by the Secretary of State for India; and Professor Bentley, in moving a vote of thanks, referred to it as a most valuable and useful work, and one which was especially needed at the present time. A special meeting afterwards took place to decide the form of present to be offered by the Council to the Princess May.

Influence of Electricity on Vegetation.—As related by *L'Illustration Horticole*, at a meeting of the National Agricultural Society of France, the result of experiments, quite negative, made with a view of determining the influence of electricity upon vegetation, was made known. On each side of a border, two plates of copper and zinc were soldered and united by copper wires passing across the borders. Cabbages and Chicory were sown. At the end of three weeks it was remarked that the Cabbages placed between the two poles were smaller than their neighbours placed outside; on the contrary, the bad weeds, grasses, and Umbellifers were better developed. That experiment was made by M. Tallavignes, director of the School of Agriculture at Oudes. M. Deherain stated at the same meeting that the numerous experiments made during a century to discover the influence of electricity upon vegetation have only given negative results.

The Month of May in Scotland—At the June meeting of the Edinburgh Botanical Society, Mr. Lindsay, curator of the Botanical Garden, said: The past month of May will be remembered as one of the most favourable experienced during recent years. No frost occurred, and vegetation had gone on advancing without any check. The rainfall of May was less than the average; still there was sufficient to prevent plants from suffering through lack of moisture. The foliage of all the ordinary deciduous trees and shrubs was now in perfect condition, being most luxuriant and healthy. Varieties having variegated and coloured leaves were unusually rich in colour, owing to the large amount of heat and bright sunshine experienced. Specially noticeable were the various Maples, Hollies, Yews, Biotas, and Retinosporas. The flowering of most kinds of ornamental trees and shrubs was above the average in richness and profusion of blossom. Hawthorn, Horse-chestnut, Laburnum, Weigelas, and Lilac were among the finest and most effective. The lowest night temperature registered at the garden was 33°, which occured on the 1st of the month; whilst other low readings were registered on the 2nd (37°), the 7th (39°), and the 31st (35°). The lowest day temperature registered was 49° on the 2nd, and the highest 76° on the 19th of the month. The rock garden was very attractive during the month, from the large number of plants in blossom. Three hundred species and well-marked varieties opened their first flowers in May. The Chairman, Dr. W. Craig, asked if Mr. Lindsay had ever before reported a May with no frost whatever? Mr. Lindsay replied that he had reported upon one or two at least without any frost.

BEGONIAS AT FOREST HILL.

If we may judge from the display now on view in the nurseries of Messrs. John Laing & Sons, the glorious sunshine of our early summer will have to be credited with having set a stamp on the tuberous Begonia that will help to enhance its popularity for some years to come. The Begonia, one cannot help feeling after seeing the show which the Messrs. Laing have provided this season, is not now "the coming flower," for it has come, and assuredly come to stay. Gorious indeed is the floral kaleidoscope which dazzles the visitor to the present exhibition, than which we have no hesitation in saying there has never been anything to equal at Forest Hill. The principal show house is veritably a Begonia man's paradise, and we can but express our regret that we cannot give any adequate description of what that paradise is like.

The sturdy growths made by the plants and their exceeding floriferousness, prove that the long continued period of warm dry air has suited them admirably, and certainly we never saw a collection looking better in health and vigour. The display also bears witness to the fine quality of last year's seedlings, especially as regards form and substance, and shows at a glance that there is no slackening of pace on the part of the Messrs. Laing in the production of high-class flowers. We note, however, with pleasure that there is a sensible abatement in the demand for monster blooms, and hope soon to see the undesirable craze pass away altogether. Moderate sized blooms of bright and pure colours, of perfect form, flat rather than cupped, and in substance as stiff as we can get them, and three or four open together on a cyme, are far preferable to one great gawky bloom, which has only its size to recommend it.

Form, substance, depth, and purity of colour in the flowers, allied to a sturdy growth and ample foliage, are the bright particular features of this year's display of singles, while the doubles show a welcome advance in the stiffening of the flower stalks, and some novelty of colouration in the direction of what may not inaptly be termed yellow ground flowers, which are of the rosette type, and have yellow or orange at the base of all the petals. These are already very pretty, and will doubtless in time give us something more striking still. Double yellows and whites are making good headway, many of the latter being exceedingly neat and pure. Amongst the singles, too, the whites are singularly good all round.

Mr. Laing is making a selection of variegated leaved forms, with a view to developing this particular feature. Most of those already in hand are of the Pearcei type, and certainly very pretty as seen with the bright sunlight striking through the leaves. Doubles are a strong order for planting outside at Forest Hill this season, but the drought has delayed planting some ten days later than usual, and rain will be wanted to set quick growth into them.

THE HERBACEOUS BORDER.

Choice plants in flower.

Geranium armenum.—The large, crimson-purple or red flowers of this species are very conspicuous in the herbaceous border at present, or in beds where it is grown in that way. Owing to the earliness of the season, it has, in fact, been flowering for some time past, and if its period of duration is thereby shortened, it is behaving no worse than other subjects under the same conditions.

Geum chiloense miniatum.—The typical form of this has dark scarlet flowers, and the variety under notice differs in having orange flowers of large size, thus presenting a marked contrast. There appears to be more than one form of it in cultivation, namely, with orange flowers and orange-scarlet ones, the latter more nearly approaching the type. All the forms continue to flower during the greater part of the season if kept moist and growing.

Linaria genistæfolia.—In the cut state the flowers of this species resemble a greatly magnified L. vulgaris, or the common Toadflax. The flowers are of large size and golden yellow, with an orange palate; but the leaves are relatively broad for a Linaria, ovate, glaucous, and therefore entirely different from those of the common species. The stems are taller, attaining a height of 2 ft to 3 ft.

Lychnis Flos-Jovis.—Many of the old-fashioned herbaceous plants are still amongst the most choice, notwithstanding recent introductions. That under notice generally grows about a foot in height, with a flat-topped cyme of flowers terminating each stem. The flowers are relatively of large size, rosy-purple, and very attractive when in full bloom. It may be propagated by divisions, or more extensively by seeds.

Achillea rupestris.—The stems of this species are dwarf and somewhat procumbent, bearing oblanceolate, slightly fleshy, dark green leaves. The whole plant would be 6 in. to 9 in. high, bearing corymbs of white flowers of relatively large size. It does not spread very rapidly, but can easily be propagated by cuttings and by division. Place the cuttings under a hand-light in a shady position.

Saxifraga Cotyledon pyramidalis. — When grown under favourable conditions this sometimes makes a brave display in the open. It usually makes so many crowns or rosettes that the small ones crowd the flowering ones, thereby preventing them from making the vigorous growth which those grown singly in pots do. Surely it would be worth while for growers to try single crowns so as to induce a vigorous development. Plants in pots generally grow 2 ft. high, and flower almost to the base.

Canpanula glomerata dahurica.—This form of an old garden plant has larger and darker coloured flowers than the type, and is a very reliable plant to grow, flowering freely in well prepared soil whether the season is dry or otherwise. The stems vary from 12 in. to 18 in. in height, according to conditions, and bear dense, terminal clusters of dark blue purple flowers.

Ramondia pyrenaica.—The dwarf Mullein, as this is often called, was once included in the genus Verbascum, but is now known to be one of two representatives of the Gesneraceæ in Europe. It is often grown in pots, but those who have given it a fair chance to become established in the crevices of rockwork know how beautiful a thing it is and the quantity of flowers it will produce. To ensure success like this, however, the stones of the rockwork should be porous and consist of sandstone if possible. The position should be shaded and the plants watered occasionally, especially in dry weather and until they get established.

Dianthus Cyclops.—This seems to be single form of the Carnation, with large purple flowers, having a zone in the centre formed of five large crimson-purple blotches. The foliage is glaucous, and the richly coloured flowers have a bold and telling appearance.

FORESTRY AT EARL'S COURT.

Most of the exhibits pertaining to forestry, and which had been promised by public bodies and private individuals, are now in their places in the main exhibition building, mostly at the south end. They illustrate forest trees from various parts of the world, as well as various abnormal growths and eccentricities of tree life, the ravages committed by insects and various fungi, and some of the uses to which the timber is put. An interesting consignment has been lent by the Queen from Windsor Forest as well as from Balmoral. A set of tools used in forestry also comes from Windsor, together with many instructive examples of bad or neglected pruning, showing what should be avoided. Reference to this is made lower down

Many fine samples of New Zealand Coniferæ have been sent in the form of slabs, which have been polished and one half of each varnished. They are 3 ft. to 4 ft. long and 2 ft. to 4 ft. wide, according to the size the tree naturally attains. The samples of Dacrydium Cupressinum or Rimu and Vitex littoralis or Purira are 4 ft. wide and must have been taken from magnificent trees. Some slabs of the Kauri Pine (Dammara Australis) are fine, and a log from a tree is 5 ft. in diameter. Several slabs of Podocarpus Totara show considerable variation in graining, and in some instances the numerous dark knots or small burrs give a more handsome effect than the bird's-eye Maple when polished. The New Zealand Beech or Tawhai (Fagus fusca) has a close and fine-grained wood of a reddish hue. A large number of kinds of wood showing their breaking weight and the nature of the breakage are arranged on folding leaves so as to facilitate examination. Another series of transverse, radial, and tangential sections of wood, polished and neatly arranged in a framework, has been lent by the Surveyors' Institution, but unfortunately for the British public, the descriptions are in German.

Some wooden water pipes, that were originally used for conveying water to the works, have been lent by the New River Company. Various kinds of wood apparently have been used, but some of the best preserved examples evidently consist of Elm or Oak. The partly decayed trunk of a Beech tree from Burnham Beeches, and reckoned to be about 700 years old, will no doubt interest many of the general public. Some planks of Teak show instances of damage that has been done to the interior by white ants (Termes). These had afterwards been driven out by ordinary ants, which, in their turn, were expelled by a kind of honey-bee (Tregona). A large quantity of a resinous substance found in the cavity is supposed to be the product of the last-named. Some fine samples of the Scotch Pine from the forest of Ballochbuie, Balmoral, have been lent by the Queen, in some instances showing the uses to which the wood is put in that part of the country. Amongst the latter was a beautiful polished table-top made of burr knots of Pine. The dark and light graining and the twisting of the wood give the finished article a handsome appearance. A log of wood was taken from a tree 215 years old, grown at an elevation of 1,250 ft., and another 206 years old at 1,200 ft. elevation.

A series of explanatory demonstrations on the spot will be carried out during the season under the direction of Mr. George Cadell, the president of the section. The first of the series was inaugurated last Saturday at three o'clock in the afternoon by Professor Curtis. The lecturer prefaced his discourse by explaining that the value of the exhibits would be to a great degree negative unless information should be disseminated with regard to the meaning that such object-lessons were intended to convey. There was scarcely a bit of timber, he continued, but had a history more or less important attaching to it. In Germany the forests belonged to the State, but in Britain they were private property and not always well managed. The object of the exhibition at Earl's Court was to improve upon that state of matters as far as possible.

As an example of what landowners should plant, with the object of growing as much timber as possible in a given time and area, he referred to the Douglas Fir (Pseudotsuga Douglasii), pointing to a fine log cut from a tree about sixty years old, and amongst the first introduced to this country. As a timber tree its popularity is only growing and as yet it is expensive. In its native country it develops eight or ten rings of wood per annum, and in this country adds sometimes nearly 1 in. per annum increment to its bulk, being more than it does in its native home. The timber is not quite equal to that of the Scotch Fir, and in this country often gets broken off short by the wind. When not too much crowded by other trees it retains large branches from the ground upwards, a fact which goes to explain the rapid growth which it makes. These large limbs, however, give rise to knots, which are objectional by deteriorating the timber. He showed a specimen of the Douglas Fir of twenty-five years' growth, measuring 18 in. to 20 in. in diameter, with an annual increment of nearly three-quarters of an inch, and a specimen of the Silver Fir of the same age, but only about 10 in. in diameter. Both samples had been grown in Ireland and under the same conditions The inference was that an acre of land planted with the Douglas Fir would produce more timber in a given time than would the Silver Fir. Owing to the high price of the young trees of the former, his advice was to plant only the requisite number of Douglas Firs at the proper distance apart for the mature trees, and to use Larch, Silver Fir, or others, as nurse plants, both for the sake of shelter and to encourage the development of clean timber without knots. An acre of land would produce more timber but support fewer trees than in the case of the Silver Fir.

He dwelt but a short time upon the Corsican Pine (Pinus Laricio), but said that it would go hand in hand with the Scotch Pine for the production of timber, and referred to some fine logs, about 2 ft. to 2½ ft. in diameter or more, cut from trees about sixty years old. The Californian Abies Menziesii next engaged his attention, and was described as of secondary importance to the above. He showed some specimens illustrating the injury caused to living trees by the Larch Disease or canker, and explained that the injury was brought about by a fungus belonging to the genus Peziza, the mycelium of which entered the living tissues and destroyed them, causing distortions of the wood, the exuding of resin, and ultimately the destruction of the tree or the whole plantation. The trees sometimes partly recover themselves. The fungus or its spores entered the tree by small openings or wounds caused by frost or by other trees falling upon it, etc. His advice was to plant in suitable positions where a free growth could be made. Serious injury was also caused to Beech trees by a similar fungus, which he should consider as the Beech Peziza. The withering of the leaves and the poor growth made sometimes showed the presence of this disease before it could be detected externally by the eye. Sometimes the wounds healed over, to be detected ultimately when the tree was cut into timber. He advised timely and proper pruning as one of the preventions of this destructive fungus.

By means of selected examples from Windsor Forest, the prejudicial effects of bad pruning were optically demonstrated. An Oak tree had a limb cut off about 18 in. from the trunk, and having no leaves to support it, the branch died. It was impossible for this to be healed over so that the fresh growth of the trunk curved inwards so as to occupy the base of the decaying branch, thus forming a blemish in the wood for all time coming. Other logs showed holes in them made by woodpeckers, which took advantage of the remains of decaying branches. Water let in by these holes caused the wood in places of the interior to become decayed, thereby rendering it commercially valueless. The lecturer advised pruning close to the tree if pruning was done at all, so that nature might be able to heal over the wound, otherwise the branches should not be pruned so close as to deprive them of foliage.

Some curious examples illustrating the power of nature to heal over a wound, was shown in pieces of tree-trunks that had been branded in numbering the trees about 100 years ago. The wound in some cases measured about 6 in. square, yet it had been completely covered over with fresh wood and bark, the latter merely showing a slight depression above the place of the hidden wound. When split open the figures were almost as fresh as when branded. Akin to this was the injury done to trees by driving nails and staples into them, as well as by placing the posts of fences too near the trunk. One of these posts is shown completely enclosed in the trunk of a tree. The evil effects of allowing two leaders to take the place of one upon a tree was that water runs down between them, causing the wood beneath to decay. Leaves and other matters are carried into the cavity produced, and the tree often roots into the products of its own decay. Samples both of Spanish Chestnut and Oak from Windsor Forest showed this form of injury. The lecturer also showed a log of an Oak that had been planted in good soil and had formed a trunk 2 ft. to 3 ft. in diameter, while another on poor soil was only 12 in. in diameter. Both had been planted about seventy years ago. From this he argued that it was the duty of landlords to give orders not merely for the planting of so many thousands of trees, but also that each particular species of tree should be planted in soil best suited to its requirements and profitable development.

YORK HORTICULTURAL FETE.

All concerned in the organisation of the great horticultural event of the year in Yorkshire, are to be heartily congratulated on the glorious success which crowned their efforts last week, when the thirty-fifth gala was held at York. Last year, it will be remembered, owing to two wet days, the exhibition was a profitless one, but the committee, nothing daunted, raised the amount offered in prizes from £600 to £650 for this year's show, and the combination of vigour, liberal management, and tropical sunshine, resulted in a record attendance of visitors, the total number of persons passed through the turnstiles being no less than 52,915 in the three days. This number largely exceeds any previous record, and the succes achieved must be highly gratifying to Mr. Simmons and his committee, who certainly spared no pains to deserve it.

We have seen some features stronger at York in other years than they were this, but taking the show as a whole, we doubt if it has ever been excelled for the general excellence of the exhibits all round, which did honour to the county of broad acres. The non-competitive contributions were numerous and exceedingly good, and here the Messrs. Backhouse were "at home" with a charming bit of rockwork; a tasty bit of work that greatly took the public fancy. The same distinguished firm also exhibited largely of their wealth of herbaceous and Alpine plants. Messrs. F. Sander & Co., St. Albans, and Messrs. Charlesworth, Shuttleworth & Co., Heaton, Bradford, were also extensive exhibitors of Orchids, and the St. Albans firm had besides, some very striking new and rare plants.

Mr. Letts, gardener to the Marquis of Zetland, Aske, beat Mr. Cypher and Mr. J. F. Mould with ten stove and greenhouse plants in bloom, with a grand lot of specimens; but with six specimens the two last-named exhibitors turned the tables on the local grower, Mr. Letts in this competition only coming in third. In an amateurs' competition with three plants in bloom Mr. Nicholas, gardener to the Marquis of Zetland, at Upleathan, came to the front with grandly grown specimens. The competition with a group not exceeding 300 square feet was a very good one, the principal awards going to Mr. McIntyre, gardener to Mrs Gurney Pease, Darlington, and Mr. Edmonds, Bestwood Lodge, Nottingham. Mr. Letts, Mr. McIntyre, and Mr. Leadbetter, gardener to A. Wilson, Esq., Tranby Croft, were also well to the front with specimen fine foliaged plants; and the same competitors also scored heavily in the classes for Ferns.

With ten Orchids in an open class Mr. Cypher beat Mr. Holmes, gardener to George Hardy, Esq., Timperley, but in a competition with six Mr. Holmes turned the tables on the Cheltenham grower, and secured first honours as well in the amateurs' class for four. The Pelargoniums, always a prime feature at York, were simply magnificent and beyond all praise, though the hot weather had naturally told its tale on some of the show varieties. For twelve of the latter type Mr. Vear, gardener to Miss Steward, York, came in first; Mr. Eastwood, gardener to Mrs. Tetley, Leeds, being second. In the corresponding class for zonals, the Leeds growers, Mr. H. Pybus, Monkton Moor, and Mr. Eastwood, secured the first and second awards, Mr. Vear coming in third, and all showing perfect examples of cultural skill. The Ivy leaved class was a revelation, and anything finer than the magnificent pyramids staged by Mr. Pybus has never come under our observation.

The season had told its tale on the pot Roses, but any shortcomings in this direction was more than compensated for by the greatly increased number of cut blooms and their grand quality. In the cut bloom classes the awards for seventy-two singles went to Mr. H. May, Bedale, Messrs. Harkness & Sons, and Mr. G. Mount, of Canterbury; but Mr. Mount came out first in the classes for forty-eight and thirty-six blooms respectively; and Mr. E. B. Lindsell, Hitchin, secured premier honours for twenty four and eighteen. The Rev. F. R. Burnside, Birch Rectory, Hereford, was in grand form with his Teas and Noisettes, securing two first prizes, and also another first for any variety of Tea, with a lovely box of Innocente Pirola. Pansies and Violas made a great display, and are noticed in another column.

The fruit classes were better contested than usual, and the quality was excellent all through. Mr. McIndoe, Hutton Hall, secured the first prize for a collection, beating Mr. R. Parker, of Impney Hall, and Mr. Edmonds; and in the classes for six and four varieties respectively, Mr. Bannerman, gardener to Lord Bagot, Blithefield, won both the premiers, Mr. McIndoe being second with six, and Mr. Leadbetter with four dishes.

THE VEGETABLE GARDEN.

Rhubarb Ryder's Perfection.

The stalks of this variety are 2 ft. to 3 ft. long, and 1½ in. to 2 in. in diameter across the wider part near the base. They have a deep or yellow groove on the upper surface, with rounded edges. At the base they are deep red, marbled with that colour for some distance up, and almost entirely green towards the top. In the young state the red colour would of course be more predominant. On the whole it seems a promising variety, and a free grower, producing a bulky growth. In some respects it may be compared to the Victoria Rhubarb, but it is dwarfer when allowed to attain its full dimensions, and in the young state the colour would give it an attractive appearance, while it would be profitable to grow on account of its vigour and the weight of produce it supplies. It is a new variety, and a fine piece of it may be seen in the gardens of the Royal Horticultural Society, where it has received no special attention, but is planted in heavy soil inclined to clay, and close to some pyramidal Pear trees.

Strawberries.

Although the Strawberry cannot be regarded as a vegetable, yet it has to come under consideration in the rotation of cropping followed in the kitchen garden, especially in light sandy soils where two years is the utmost it will stand to be a profitable crop. This year Strawberries, with the exception of a two-year old piece of President in the open, and a similarly aged plantation of Oxonian, under an east wall, are with me nearly a failure. One large plantation made last year with strong layered runners, which would in an ordinary season have given our best fruit, is not worth netting, notwithstanding the fact that they were watered several times. This bed contained President, Dr. Hogg, Sir C. Napier, Sir J. Paxton, James Veitch, British Queen, &c. Noble, on a south border, I forgot to mention among those that did well, but these were were well watered. John Ruskin I do not intend to grow again, as it is with me very small and liable to mildew, and very little, if any better in flavour than Noble, which for an early Strawberry far excels it in appearance, and cropping qualities. To get Noble at its best it must be planted yearly. Layer, as soon as the crop of fruit is gathered, into small pots, and when well rooted plant them about 18 in. apart on a warm border which has been thoroughly manured. The plants will then make good crowns for the following spring.—*G. H. S.*

Early Peas and Strawberries.

I commenced picking Sutton's Earliest Peas on May 15th, and they yielded splendidly for a month. I am now gathering Duke of Albany, the pods measuring 5½ in. in length, and containing nine and ten Peas in a pod. Sutton's Earliest was sown in the middle of February. Noble Strawberry was ripe in the open on May 18th, and they were very fine, several berries weighing 2 oz., and splendid in colour.—*W. Pepper, Holme Mead, Lymington, Hants.*

THE BARONS, TWICKENHAM.

In the fine collection of Orchids at the Barons, Twickenham, belonging to Henry Little, Esq., a number of good things are now in bloom, and amongst them a grand display of Cattleyas. It is satisfactory to note that the whole of the Cattleyas under the care of Mr. Little's grower, Mr. A. Howard, are in better condition than I have ever seen them. The Cattleya house is full of large specimens, and the varieties of Cattleya Mendelii are of a specially high order, being all selected and very gorgeous forms, most of which were certificated by the Royal Horticultural or the Royal Botanic Society a few years ago. They have grown into lovely plants, and some thirty-three specimens are now in flower, and carrying from five to fourteen blooms on each plant. One specimen I noticed particularly, it being a grand plant with six buds and fifteen flowers, the sepals and petals of which are delicate rose, and very broad, and the lip crimson, with a deep white fringe.

Cattleya Mendelii Miss Little is a beautiful variety of splendid form and good substance, the sepals and petals being white, and the lip white, with a small purple blotch. C. Mendelii Selbornense is a very large specimen, the sepals and petals rose, and the lip very large and of a beautiful shade of crimson, and deeply fringed. This plant is really a grand sight, the flowers being of enormous size. C. M. grandiflora, another superb variety, has a quantity of its beautiful flowers, the sepals and petals of which are very broad, and the lip dark crimson, with a bright orange throat. Another C. Mendelii has very delicate tinted sepals and petals, almost white, and the lip pure white, with a small blotch of pale rose. A second, with eight flowers, has the sepals and petals pure white, and very broad, and the lip very dark crimson, with a bright orange throat, very distinct; and a third, Mr. Little's favourite variety, has ten bulbs, with twenty flowers, the lip being of enormous size and very richly coloured. C. Mendelii grandis is undoubtedly the finest of all the Mendelii varieties, the flowers being of a lovely shape, of enormous size and of great substance, with a very rich crimson lip.

There are also in the collection several good varieties of Cattleya Mossiæ, notably C. Mossiæ aurea, very fine, the lip bright orange-yellow with violet streaks. Of C. Sanderiana Mr. Little's enormous specimen is one of the finest in the country, having about 153 bulbs, sixteen leads, and eight flowers fully expanded, with several more to open. The flowers are dark, rich crimson in colour, of great size and substance. There are also here several fine varieties of C. Warnerii, and one large specimen with eight bulbs carries eighteen flowers, each of which measures 9 in. across, the sepals and petals being dark, and the lip purple-crimson with a white throat.

Lælia purpurata is represented by several specimens. One with 150 bulbs and twelve buds has very large flowers, with the lip broad and of a very dark plum colour. Another is a very fine thing, the sepals and petals being broad, of a rich purple colour, and the lip very large and of a deeper shade. Cattleya intricata is a natural hybrid between C. amethystina and Lælia elegans, with the sepals and petals of good substance and spotted with a few small crimson spots, the lip being purple-crimson. On a fine batch of Vanda teres I noticed over fifty flowers fully expanded, and a lovely variety. About thirty specimens of Miltonia vexillaria, all in full flower, make a grand display. Some good examples of Dendrobium suavissimum with thirty spikes of its beautiful yellow flowers with a dark velvety blotch in the lip, also claim attention.

In the East India house there are several beautiful Aerides, including, A. Fieldingii with spikes 2 ft. long, A Larpentæ, very handsome; A. expansum Leonis, a fine specimen with ten growths, each with eight to ten pairs of leaves and seven spikes; A. Lobbii, a nice specimen with one spike over 3 ft. long; A. Lawrenceiana with a grand spike of forty-two flowers; and A. odoratum majus, a fine specimen well flowered.

In the Cypripedium house there are some very fine plants, including a C. Parishii, with two spikes, one bearing nine and the other eight flowers, and a very good variety; several specimens of C. Curtisii, with very large dark flowers; and a fine batch of the lovely C. Veitchianum, Dr. Dimidoff's variety, consisting of nine specimens in flower of this lovely variety; C. superciliare grandis, a very beautiful form with ten flowers; C. ciliolare, C. Hookeræ, C. Exul, C. Volontianum, C. albo purpureum, C. tonsum, C. Lawrencianum, with twenty flowers; C. barbatum superbum, with thirty-three flowers, and a fine dark variety, with many other fine things. Great praise is due to Mr. Howard for the manner in which he has grown the Cattleyas and Lælias at The Barons this year.—*H. A. T.*

Gleanings from the World of Science.

Cause of the colouration of fruits.—*L'Illustration Horticole* says that this cause resides in the colouring matter found in the leaves, and which passes into the fruit. To prove it, Vine branches bearing berries have been defoliated when the fruit was almost ripe. After that operation the berries remained green. If, in place of detaching the leaves, one presses the petioles to oppose the passage of the colouring matter, it remains in the leaves which become reddish, so that the berry, also ripe, retains its green colour. That matter, composed of crystallised tannic salts, modifies and completes itself in the skin of the fruit.

Japan Lacquer.—This is the product of the tree Rhus vernicifera, the milky juice of which is utilised for making the beautiful articles, both useful and ornamental, which are known in this country as Japan Lacquer ware. Some trees, according to *L'Illustration Horticole*, were planted in the Botanic Garden at Frankfort by Professor Rheim, in 1885, and already some of them are seven yards high, from which it is permitted to conclude that the culture of the tree for lacquer could be established and spread in central Europe. Chemical analyses hardly establish a difference between the juice furnished by trees which have been developed at Frankfort and that brought from Japan.

The Centigrade Thermometer.—At the Horticultural Congress of Antwerp in 1885, M. Rodigas proposed that the centigrade thermometer, which alone can be adopted in discussions and scientific works whatever they may be, should be employed exclusively in horticultural publications. That proposition, says *L'Illustration Horticole*, was admitted by the Congress, which expressed a desire to that effect. That has not hindered the publishers, even those who were present at the meeting, from continuing the antique usage of the Réaumur and Fahrenheit thermometers. The Government of Germany is substituting the centigrade thermometer for that of Réaumur. That example will certainly be followed elsewhere. It is also high time that a similar substitution of the centigrade for Fahrenheit's thermometer were made in this country, for the latter is a very stupid instrument and based upon erroneous ideas.

Black Aphis of Peaches.—A recently-discovered species of Aphis, now named A. persicæ-niger, has been spreading rapidly and doing much damage in Peach orchards in some of the states of America. The insect is small, brownish-black, and appears in such numbers on leaves, twigs, and roots, that it dwarfs the tree and often causes the death of it. Vigorous measures have to be adopted to effect its extermination on the exposed parts of the tree, while the roots are more difficult to deal with effectually. Kerosine emulsion or a strong decoction of tobacco have been used as insecticides. The authorities of the entomological division of the Cornell University Agricultural Experiment Station give the undermentioned receipt for making the emulsion in *Bulletin* 49. Dissolve half a pound of hard or soft soap in one gallon of boiling water; while still hot add two gallons of kerosene, and agitate the whole mass with a syringe for five minutes till it assumes a creamy colour adhering to the sides of the vessel. This, when cold, will assume a semi-solid form and may be kept for some time. If wanted immediately add nine or ten gallons of rain water to each gallon of the emulsion and spray the affected trees with it till they are quite wet. The tobacco solution is made by steeping five pounds of tobacco stems in three gallons of water for three hours, strain and add four more gallons of water to it, and then use it as a spray.

THE CHRYSANTHEMUM IN NEW SOUTH WALES.

LAST year I sent you a brief record of our doings in regard to this flower, and probably you will find room for a similar notice with respect to the current "mum" season in this far-off land. I must tell you, in the first place, that we have added just one more society to the rather lengthy roll of associations devoted to the "mum." We have made a fair commencement, have a few earnest members of the right sort, have held several interesting exhibitions, and are now just preparing to enter our shell prior to commencing hostilites for another year. Downright earnest work in connection with the Chrysanthemum does not commence until the planting season is upon us, in October next, so you will see our efforts are not so continuous as in the old country, six months sufficing to produce really excellent exhibition flowers.

Affairs in connection with the Horticultural Society of N.S.W. are still in a state of uncertainty, and as a result the usual Chrysanthemum exhibition was not held. The Australian Chrysanthemum Society, a copy of the rules of which I enclose, did propose stepping into the breach, in fact the schedule was prepared and the hall taken in which we purposed holding the show, but a few days prior to the dates fixed so many financial institutions were engaged putting up their shutters for a time "pending reconstruction," that the committee thought it wise not to proceed further with the undertaking. By abandoning the proposed big effort and proceeding on more modest lines, a very good display was made, at a reduction in cost throughout. At this some really grand blooms were shown, Mr. R. Forsyth, as usual, leading the way, but he was run decidedly close by your old correspondent "G.H.K."

Some fine blooms were also staged by one of our most enthusiastic amateurs, Mr. Alf. Lee (who is at present in England), grand blooms of Louis Bœhmer and President Harrison being in the latter gentleman's collection. To the Western Suburbs Horticultural Society, however, belongs the honour of having brought together the finest display this season of the Chrysanthemum. At their show, held in the School of Arts, Ashfield, April 20th and 21st, a really excellent display was seen, some grand flowers being shown by Mr. Kerslake ("G. H. K."), gardener to Von der Heyde. In fact Mr. Kerslake had it nearly all his own way, scoring in the Searle Challenge Cup for twelve Japs. distinct; in the twelve incurved distinct, champion Jap., and champion incurved, besides running off with first in the plant classes. On the whole this excellent grower of the "mum" put up, and deservedly, a very fine record, not only in well-known established varieties, but also treating the visitors to a peep at some very fine seedlings recently raised by him, many of which will yet make a name for themselves, I feel convinced. Viviand Morel was the premier Jap. in the exhibition. A really fine plant of Louis Bœhmer carrying many flowers was staged by an amateur, Mr. J. Warrington, and worthily obtained honours. With a basket of bronze Chrysanthemums, Mr. C. Bennett obtained premier honours in the "mum" arranged class.

The country societies appear to be getting fully alive to the importance of the Chrysanthemum as a show flower, and have had some very creditable fixtures. Not only are they alive to the importance of the flower, but many of them are sparing no expense in order to obtain a thoroughly unbiased opinion as to the relative merits of the competing stands. Several experienced growers whom I know have made lengthy journeys into the country in order to sit in the capacity of judges at these inland exhibitions. I myself found time to accept two invitations of this kind, going on April 28th to Mudgee, a town of some 3,000 inhabitants, distant about 135 miles west of Sydney. Here, although the flowers were not so large as we see them in the metropolitan districts, I found them marvellously well coloured. Old Grandiflorum was the premier Jap. in the show. On several stands were some really grand blooms of Mrs. Alpheus Hardy, and one, the finest flower, being shown by a lady, Mrs. Harvey Nickoll, a very successful prize-taker throughout the show.

A coach builder, Mr. Deane, had amongst a collection of plants a specimen of Mrs. Alpheus Hardy, carrying upwards of seventy blooms. Some really beautiful Roses were on view, the lovely Marie Van Houtte and Maréchal Niel had to decide in the class for the premier bloom, so perfectly developed and spotless were they. The fruit classes were limited, but the exhibits were excellent in quality. While strolling round the town I ran against two fine specimens of Aloysia citriodora, with stems 24 in. in circumference. They were planted in front of a cottage residence and well they looked, being perfect in vigour and health.

On May 3rd, I had an appointment in a similar capacity at Hay, a town with a population a little in excess of Mudgee, viz, about 3,500. It is situated on the 145th degree of longitude, on the banks of the Murrumbidgee River, and exactly 460 miles from Sydney. It is a pretty little town, possessing a splendid winter climate—in fact, in this respect it would be hard to beat. Here Fortune's old yellow Grandiflorum again came to the front, shown by a Mr. Gathric. The colour of the Chrysanthemums were very good, though size was lacking. Although so far inland, the Hay growers possessed a fair sprinkling of modern varieties. Wm. Tricker, The Kingston, Sunset, Louis Bœhmer (specimen plant), Mrs. Alpheus Hardy, and others being found on various stands. The one thing wanting at Hay appears to be rain, of which the inhabitants get but a very meagre supply—about 6 inches a year I am told is the average. The soil is good enough to grow every thing if irrigated. A cluster of Quinces, taken from a branch on a tree in a cottage garden here, five in all, weighed exactly 8 lbs.

In the same garden were found some enormous Figs, and the growth on the Peaches and Citrus family appeared to me really wonderful. In one corner I noticed a good collection of Coleus, and a fine plant of Amorphophallus campanulatus, perhaps a curious mixture of vegetable life, but there all the same. The Hay growers deserve every credit for the effort made. They appear determined, notwithstanding their difficulties to excel. A journey of 920 miles by rail is not an every day occurance, even on behalf of this noble flower. The Hay "mum" growers unhesitatingly encountered without flinching this rather costly experiment—the railway fare alone is five pounds—and appeared well satisfied withal. They were determined that local prejudices should not influence the verdict in any case. They did not, and every exhibitor appeared content, while I enjoyed my run into the Riverina district very much indeed.—*J. H. H., "Cranbrook," N.S.W., 13th May*, 1893.

PTERIS CRETICA MAYI.

THERE are several forms of Pteris cretica in gardens both green, crested, and variegated. P. c. albolineata has long been in cultivation, and is now well known in gardens. It has a silvery band along the centre of each pinna. There are two forms in gardens with a silvery band of this nature, and in addition they are more or less decidedly crested or tasselled at the tip of each pinna. P. c. Mayi is the best of the two, and the other one is not now making much headway in gardens. The fronds have a close, compact and gracefully drooping habit, and when well grown are very elegant. The silvery band along the centre is very broad and clearly defined, more particularly when the plant has been grown in a moist, tolerably warm atmosphere. Under very cool conditions the variegation is to a great extent lost. The habit of the plant and the character of the variegation may be seen by reference to the illustration, for which we are indebted to Mr. H. B. May, of Dyson's Lane Nurseries, Upper Edmonton, who raised the plant from spores some years ago. It is very handsome and effective when of fair size.

PTERIS CRETICA MAYI.

PTERIS CRETICA NOBILIS.

OF the green, crested forms of P. cretica, that under notice is undoubtedly the most distinct, effective and useful for decorative purposes. The fronds are erect, branched, and the branches again multifid, giving the whole plant a most singular effect when we bear in mind the drooping habit of the typical P. cretica. A plant can be produced in a 48-size pot that is a decidedly handsome object, and for decorative purposes is invaluable. It was raised from spores by Mr. H. B. May, Upper Edmonton, to whom we are indebted for the present opportunity of illustrating it; and if evidence were needed of the favour with which it has been received by the public it is only necessary to refer to its widespread culture both in this country and on the Continent. It had no long made its appearance before the public

before it was looked upon as a new and distinct acquisition which could be put to a great variety of uses, both in market, public and private establishments. Mr. May raises spores of many kinds by the thousand, and when anything distinct turns up he is not slow in dectecting it and propagating it.

THE OLDFIELD NURSERIES, ALTRINCHAM.

The principal nursery establishment of Messrs. William Clibran & Son, for they have a branch at Llandudno Junction in North Wales, is situated in a pleasantly-wooded suburb of the Cheshire town of Altrincham, and about fifteen minutes' walk from the railway station. The firm has altogether something over one hundred acres under nursery cultivation, and some three to four acres of glass accommodation, the business they carry on being a steadily increasing general nursery trade, to which a rapidly extending seed business has been added during the last few years. The nursery contains an infinite variety of both hardy and exotic subjects, and all the more popular tribes of plants are cultivated in large numbers.

Pteris cretica nobilis.

A hurried walk through the houses a few days ago—the excessive heat making a leisurely inspection almost unendurable—brought under our notice a large collection of stove and greenhouse plants, and some good novelties with which we were not previously very familiar. The first of these is the new Urceocharis Clibrani, a most interesting plant, insomuch as it is a bigeneric hybrid, being the result of a cross between Eucharis grandiflora and the drooping golden flowered Urceolina aurea. It has a fine free habit of growth like the Eucharis, and is a remarkably free bloomer, the white flowers being produced in umbels of eight to ten each on stout scapes. The pure white blossoms, intermediate in form between both parents, are erect like the Eucharis until they become past their best, when they partake of the drooping character of the Urceolina. It is a grand acquisition to our stoves, and, as it cannot be increased by any means at a very great rate, is bound to be a good selling plant for a long time to come.

Another useful novelty is a new sweet-scented Passion Flower, which has been obtained by crossing P. Watsoniana and P. violacea, and which is seemingly most closely allied to the former parent. It bears the name of Oldfield Gem, and the ample, deeply three-lobed leaves are deep green above and slightly shaded with violet beneath. The sepals are lilac shaded with violet on the inner face and edges, and the petals are wholly of that colour. The coronna is a very conspicuous feature of the flower, consisting of deep violet and short inner rays with long outer ones of the same hue, barred with white in the middle. A showy and fragrant climber, all the more valuable for the latter pronounced characteristic.

Caladiums are also extensively and well grown by the Messrs. Clibran, and a considerable quantity of seedlings of their own raising bear witness to the success of their venture in this direction. The general collection is both large and well-selected, and especially good and distinct are those of their own seedlings being sent out this year, viz., Duchess of Portland, Duke of Portland, and Duke of Devonshire. Stephanotis and Allamandas are represented in goodly numbers and in fine growth; and among greenhouse plants we noted a larger stock than we have seen for some time of Plumbago capensis and its variety alba, which meets with a ready sale. Other special lines in the glass department are the fine-leaved Begonias, a fine lot; tuberous Begonias, with some 25,000 planted out; the grand winter-flowering Clematis indivisa and C. indivisa lobata, a fine stock; Ferns by the thousands, both stove and greenhouse, and basket Ferns a specialty; Palms in great quantities; greenhouse Rhododendrons, and Camellias in great variety. Show and decorative Pelargoniums, especially the latter section, made a very gay display; and the extensive collection of Zonals, all the best in cultivation, was exceedingly well worth looking through. An excellent strain of herbaceous Calceolarias also claimed attention, and a fine lot of erect-flowering Gloxinias was equally attractive. Tea and Noisette Roses are a big feature, the fine healthy stock consisting of some ten thousand plants, a thousand of which are climbers and the remainder dwarfs.

Clematises and pot Ivies are represented by about three thousand plants of each, and a big stock of the new Broom, Cytisus Scoparius Andreanus, testified to the rapidly growing popularity of that pretty shrub. Bedding plants represent a very large spring trade, and of Dahlias alone the firm does between thirty and forty thousand of store roots and spring-struck plants.

Hardy herbaceous plants are represented in endless variety, and at the time of our visit the Pyrethrums and single and double Pæonies were a blaze of bloom in all directions. The Pyrethrums alone are grown by thousands and all the best varieties that can be obtained are represented in the collection. The hardy trees and shrubs are of a well diversified character, but, as might be expected, those things that have been found to do best in the vitiated climate of the Manchester district are grown in the largest numbers. Thus Rhododendrons, Hollies, and Aucubas are found to be the most reliable evergreens, and Weigelias and Elders the best deciduous shrubs, while of deciduous trees the Ash, Thorns, Service trees and the large leaved Poplars find most favour.

SALESMEN AND THEIR RESPONSIBILITIES.

There can be no question but that the case relating to rotten Tomatos sold in Covent Garden Market and resulting in a conviction of the vending salesman, reported in your columns, last week, must have some effect on all of the same class of trader or middleman, in the direction of rendering them careful as to the condition of the goods they offer for sale. We have now sanitary regulations which render the sale of anything classed as food criminal if it be knowingly offered when in a decayed or unfit condition. That is a regulation which applies equally to fruit, or vegetables, or meat, or any other article of food, and it is a regulation that, so far as the health of the people is concerned, is of the highest importance.

Whilst the present hot weather prevails and cholera may at any moment seek to obtain a landing on our shores, it is of the first consequence for the preservation of the national health that all food in whatsoever form should be of the purest and soundest. So far as Tomatos are concerned, for instance, we can conceive of no greater misfortune to the large trade now so deeply concerned in their culture than any report of any epidemic, or even of temporary illness, arising from the consumption of decayed fruits. The result would be such a scare or condition of alarm as to check the consumption of Tomatos enormously.

There can be absolutely no need for the putting of these fruits on to the market in any other than a sound, fresh, wholesome state, for they will keep well fully some ten or fourteen days after being gathered, hence few fruits are safer for consumption. We rejoice in the conviction recorded, because it will serve to show in other directions that the London market is not to be regarded as a sink into which all other towns' impurities may be recklessly flung.—*Solanum.*

PEACH GROWING OUT OF DOORS.

For some years I, with my gardener, have taken great interest in Peach culture out of doors, and I think with some success, as the following will show. I may say that I have excellent brick walls from 7 ft. to 10 ft. high round my three small gardens giving various aspects. The soil is light on gravel, but has for many years been kept in good heart by regularly manuring for vegetables and all kinds of fruits. For some years we were content with the old and good sorts of Peaches, but six years ago I had planted on a south-west aspect an Amsden June Peach and two Early Gross Mignonnonès, all of which gave satisfaction. But Messrs. Rivers having recommended me to try their Alexander, they sent me in October, 1890, half a dozen three-year-old trees of this sort, two of which I had planted, one on a west wall and the other on a south-west wall, and the result has been most satisfactory in every way, as the following will show. I may say that I let a friend or two have the other four trees, and they are much pleased with them.

In 1891 we allowed them (as they grew well) to bear a dozen fruits, all of which came to perfection from the 7th to the 20th of July. Last year the crop was about two dozen, but the fruit did not ripen before the 14th to the end of July, the season having been later. This year there are six dozen fruits on the two trees, which are promising to be very fine. They are now ripening on, and this day, June 20th, the gardener brought in one of a fair size, well.

bloomed, ripe, and of rich flavour. This was off the tree on the west wall. I expect the whole of the crop on both trees will be fit for table by the end of this month. This, I trust, will prove the value of Alexander.

I must say a word of praise for my old friend Amsden June, which, although not quite so early as the Alexander, is a very fine sort, as it has for years given us large, handsome and ripe fruit by the 20th of July; but its fault is that it is a slight cling stone, the other being a free stone. They are both robust growers. The third I mention, although a delicate grower, and does not make much wood, comes in well early in August and should be grown. I shall not now say a word about the later sorts, as their qualities are well known. In conclusion, we are particular in syringing the trees before the buds begin to swell early in the spring, with warm water, in which is put a good quantity of sulphur and soft soap, and as the leaves begin to show, follow this up, but wash it off later on with pure water. This we find keeps the trees free from blight, and should any appear and curl up the leaves, we pick off those so affected and destroy them.—*E. D. S., Hants.*

PANSIES AND VIOLAS AT YORK.

At the Great York Horticultural Fête held last week the prizes offered for Pansies brought together a great many leading cultivators in the North, and a quantity of good blooms. In the open class for forty-eight Pansies Mr. A. Bailey, Jun., Sunderland, was first; Mr. J. Smellie, Glasgow, second; Messrs. Paul & Co., Bridge of Weir, third. In Mr. Bailey's lot were fine blooms of Beauty (certificated), Mrs. D. Johnstone, Maggie A. Scott, Mrs. R. Laird, Neptune, Edith T. Crossley, Mrs. Gardiner, John Allen, Mrs. M. Cuthbertson, Mrs. A. Irvine, James J. Irvine, Mrs. R. Niven, White Queen, Thos. Hastie, Edward Polland, Tamworth Yellow, Dr. Bostock, Tom Travis, Minnie Scott, George Anderson, Thos. Kay (a very fine white), James Campbell, C. H. Johnson, and Mrs. Abercombe. In Mr. Smellie's stand were very fine blooms of Jeannie P. Tait, seedling, an improved Maggie A. Scott, Lady Duff (a fine new variety), John Allen, James Campbell, Alexander Smellie, very fine, Lord Hamilton, Mrs. R. Niven, Tamworth Yellow, Mrs. D. Johnstone, Mr. J. Bolton, Mrs. Train, Andrew Gray, James Simkins, and Mrs. A. Irvine. Mr. Lister and Mr. M. Campbell also exhibited in this class. For twenty-four fancies, open, Mr. Bailey was again first; Mr. A. Lister, Rothesay, second; and Mr. J. Smellie, third. Four other lots were staged. For twenty-four show Pansies, first, Mr. Smellie; second, Mr. Lister; third, Mr. M. Campbell, Blantyre. For twenty-four fancies, amateurs, first, Mr. R. Mann, Shadwell, Leeds; second, Mr. W. Archer, Sunderland; third, Mr. C. Mitchell, Leeds.

In the class for twelve show Pansies, amateurs, there were ten exhibitors. First, Mr. Thornton; second, Mr. Shepherd; third, Messrs. Hall & Hatton. For twenty-four fancy Pansies, dissimilar, for amateur growers south of the Tweed, there were eleven exhibitors. Mr. Mann was first; Mr. Thornton, second, and Mr. W. Archer, third. It will be thus seen that a large number of Pansies were staged in the competing classes, and many others not for competition, and it was refreshing to old Pansy men to see so many of the show varieties staged. The following other kinds were noticeable in stands as fine exhibition flowers:—Jeannie P. Tait, already mentioned, is a great improvement on Maggie A. Scott and Niel Gillies. H. P. Smith is of Mrs. Train style, with finer blotch and lively light purple top petals. Lady Duff resembles Mrs. Henderson somewhat, but is richer in colour with fine solid blotch and fine form. Maggie McPhail, fine; Alexander Smellie has a dense solid blotch with clear white margin, extra fine. Mrs. R. Thompson, a white ground flower with very fine blotch and of the first quality. Miss Paterson, new, is in the style of Archie Buchanan and is bright and fine, with fine solid blotch. James Carrier, distinct and fine; Mrs. Grossart, fine, and Thomas Gardiner, a grand flower for quality. Mrs. R. Nevin was also fine, and Mrs. Wm. Watson, extra fine. These were in Mr. Smellie's stands.

In Mr. Campbell's stands were very fine blooms of William Caldwell, Helen Christie, Mrs. J. McConnell, Mrs. Hugh Weir, Wm. Adam, Mrs. C. L. Carnegie, and Mrs. Atkinson; and in Messrs. Paul & Co.'s stand were fine blooms of Arthur Eaton, Col. Coats, a light flower with superb blotch and of the finest quality; Mrs. John Bolton, and two rich shaded crimson seedling selfs of fine quality.

In Mr. Lister's stand were fine blooms of Alice Bolton, a yellow ground flower of the finest quality and grand blotch; G. P. Addie, Mrs. M. Cuthbertson, very fine and rich in colour, with solid clean cut blotch; Celtic Gem, a yellow self with large blotch; Lady of the Lake, James Campbell, Miss Faulds, Mrs. Thomson, Blooming Heather, Helen Christie, Mrs. A. Irvine, a fine white self; Mrs. John Young, very similar to Mrs. A. Irvine, and a fine flower of the most perfect form; and Mrs. J. Smith, a fine seedling. The only seedlings which received Certificates (three blooms to be staged) were Beauty and Duke of York from Mr. Bailey, Sunderland, and Mrs. Hy. Clark, exhibited by Messrs. Clark & Son, Rodley, Leeds.

In the open class for twenty-four sprays or bunches of Violas, Mr. Smellie, Glasgow, was first with a fine lot, amongst them, Dorothy Tennant, H. M. Stanley, a seedling named Cherry Park, very like Annie King; a seedling named Mahogany, bronzy-crimson, veined with lemon, bright, distinct, and fine, and to which a Certificate was awarded; Accushla, white, edged with blue; Patty Smith, and White Duchess, a sport from Duchess of Fife, only white with the Duchess belting. Second, Messrs. Paul & Son, third, Mr. D. Hutchinson, Kirby Moorside.

Several honorary exhibits of Violas and Pansies were staged. There was a large quantity by Messrs. James Cocker & Sons, Aberdeen, to which a Silver Medal was awarded. Ninety bunches of Violas, and a quantity of the rarer herbaceous blooms were with them, a very fine display altogether. Mr. John Forbes, Hawick, also had a large display of Violas, Pansies, and herbaceous blooms; and other growers also. In some of these collections were varieties of very questionable merit and what may be termed bastard Pansies, and a great deal of "educating" has yet to be done as to what really are of the new type of our bedding Violas, and there is also a tendency to introduce very inferior varieties to a great extent. It would be a blessing if we could have a jury of selected Viola and Pansy experts before which all seedlings should be sent for recognition and the stamp of merit. In the Old National Floricultural Society's days we had such a tribunal. We sadly want it now.—*W. D.*

WAKEFIELD PAXTON SOCIETY.

The annual wild flower exhibition of this society took place on Saturday last. It was feared at one time that owing to the continued drought a very meagre display would be the result. However, all doubts were dispelled on entering the meeting room about 8 o'clock, when it was seen that a most beautiful and varied collection graced the table. Ferns were rather scarce, but aquatic plants, flowers, and grasses were in abundance, including some varieties of Orchids from Berkshire, for not only had the lanes of Yorkshire yielded their floral tributes, but friends in other counties had forwarded contributions. The secretaries worked with praiseworthy zeal, and with assistance from several of the members soon labelled every specimen with in many cases, both common and botanical name.

Mr. Crowther, of the Leeds Museum, had promised to address the meeting on the subject, but at the last moment was obliged to send notice that unforeseen circumstances had arisen which rendered his presence in Leeds imperative. The Chairman (Mr. Tunnicliffe), in expressing the regret they felt at Mr. Crowther's absence, felt sure that they could not do better than call on Mr. Burton to treat them with a little from his store of knowledge of the wild beauties of Nature. Mr. Burton dwelt at some length upon the delight and profit man can derive from the study of Nature in living plant form, and how he had proved the soothing influence on a troubled mind effected by the close observance of these floral wonders that were free to one and all. Mr. Parkin followed, and in the course of his remarks made mention of those herbs used medicinally, and also the different localities and spots favoured by the different species. Messrs. Maher, Eastwood, Goodyear, and Gregory also took part in the most interesting discussion which followed. Those members who had so diligently employed themselves in bringing the collection together were accorded a hearty vote of thanks.

THE FASHIONABLE FLOWER.

The craze is spreading. That ugly hybrid of a white flower and chemicals known as "Oscar's green buttonhole" is no more to be found, and even the blush-pink Malmaison Carnation has fallen from its high estate as the favourite of the British *jeunesse doree*. Instead of it, if your yearnings go towards being "in the fashion," you wear a stiff little bunch of Cornflowers on your manly breast. And even though the particular shade of blue of the Centaurea Cyanus does not "pair" well with your black coat, that need not interfere with your patronage of the flower. You may even wear it with your black evening garb. It really is quite the proper thing, and it is not at all unlikely that your hostess, when you condescend to dine out or grace her late "At Home" with your presence, may pay you the subtle compliment of adorning her dinner-table or her reception-rooms with the little flower which you and the like of you have brought to honour.

Don't you remember how well they looked the other evening, the blue flowers among the trembling grasses, in fan-shaped vases of olive-green glass? And on that mantlepiece, in front of which you stood in what you (perhaps rightly) considered so nonchalant and graceful an attitude, in the beautiful Empire mirror were reflected your blue flowers rising out of Venetian vases of such exquisite colouring that, had you not been so fervently occupied with other matters, you would have thought the nymphs of the Adriatic had fashioned them of sea-water at the hour when the autumn sun sets in rosy and golden glow beyond the Lido.

Your chosen flower, youth of the "buttonhole" of blue-bottles, is very humble. Perchance you have seen it among the ripening corn, mixing with "cheap" red Poppies, with reckless ground-Convolvulus, and other vulgar weeds. But be not, therefore, dismayed, for it has as interesting a history, and as ancient, as the Rose itself, which the angel brought down from Paradise. Let me enlighten you just a little, and when next it happens to you that you search vainly for a subject of conversation with your fair neighbour at the dinner-table or in the drawing-room, you might find grace in her eyes if you conversed pleasantly and naturally on the meaning of the centaury. You *may* call it by that name: it sounds rather well; and if you do so you can casually drop the remark that it is curiously interesting to think that this name has its origin in the fact of Chiron, the centaur, discovering the medical properties of the plant when, as Pliny tells us, had been wounded by a poisoned arrow.

If you prefer (or, if your fair neighbour prefers) easy grace to scholarliness, you will please to call the Cornflower Blue-bottle, Blue-blow, Bluet, or even Cornflower. All these names are correct, and there is a flavour of the field about them which, under circumstances, is as acceptable as, under similar conditions, the faint smell of the stables about female apparel is said to be in France.—*Westminster Gazette.*

GARDENING MISCELLANY.

ROSE PRINZESSIN LUISA V. SACHSEN.

A coloured illustration of this new Tea Rose is given in the third number of the *Rosen Zeitung* for the present year. Growers in this country might object to the German name and its length; but that objection could be overruled by rendering the name in English as Princess Louise of Saxony It might be described as a yellow Rose heavily shaded with orange, or—salmon orange on the outer face of the petals, recalling the colour as seen in William Allan Richardson or Ma Capucin, especially in the bud stage The fully expanded flower has numerous petals filling up the centre, and the young leaves are much tinted with red, as in Princess Beatrice and several others. It was raised by Robert Zömich. An older variety, sent out by Bonnaire in 1887, is also figured in a separate plate of the same journal as the above. The flower is pale yellow, more or less tinted with pink, especially on the edges and outer face of the petals, and both in this respect and in the form of the blooms the variety recalls that of Marie Van Houtte.

EARLY STRAWBERRIES.

In The Gardening World of the 17th inst., (p. 663), Mr. Cockerell says he gathered Laxton's Noble Strawberry on June 7th, at Wirksworth, and it may interest him and others in the same county to know that Mr. McVinish, gardener to N. C. Curzon, Esq, gathered Noble at Lockington Hall, Derby, on May 29th, and has been gathering fine fruits for the table every day since. Mr. McVinish was an old foreman of Mr. J. W. Bayne's when gardener to Lord Belper at Kingston Hall, and he told the writer, when he saw the plants on Saturday last, that they were only planted in August of last year. They were perfect pictures as I saw them, the fruits lying on each side of the rows like ropes of crimson. Garibaldi (Vicomtesse Héricart de Thury) came in next, and they are also very fine. Mr. McVinish is a credit to his profession, as the garden he manages is to him. His Grapes alone are worth a journey to see, as well as the Peaches and Tomatos.—*Derby.*

GERANIUM PRATENSE VARIETIES.

A handful of flowering shoots of this old-fashioned British Geranium has been sent us by Dr. Stuart, Hillside, Chirnside, N.B., who is trying to improve, or at least to induce, a greater amount of variation in the colour of the flowers. The latter are already of wonderful size, and if Dr. Stuart can improve upon that, horticulture will be under an obligation to him, as it already is for the new race of rayless Violas, both large-flowered and miniature, which he has placed at its disposal. The flowers he sends are those already in cultivation, such as purple-blue, white, silvery-grey, and flaked with blue on a white ground. There is also an old garden variety with perfectly double flowers, later in coming into bloom than the single kinds and more durable. The sender of the above has therefore something to work upon, and the species has given evidence of its power to vary. Hybridising it with other species might produce results which we as yet fail to discern.

A COLOUR CHART.

We have received a Luminous Colour Chart, prepared and sent out by Mr. J. H. Fletcher, Gresham Chambers, Nottingham. The principal feature of it is twelve circular patches of colour arranged in a circle in such a way that each faces its proper opponent with which it may be associated to produce the truest harmonies of contrast. The chart gives instructions for the colouring of these twelve circles which are obtained by mixing carmine, cobalt, gamboge, orange, vermilion, and emerald green with one another in such proportions as to give the remaining hues. In the centre of the large circle is a square showing three primary colours, three secondaries obtained by the mixing of the primaries, and three tertiaries derived from the blending of the secondaries in certain clearly defined ways. The chart would appear to have been primarily meant for the guidance of artists, but gardeners with the exercise of a little judgment could put it to a practical use in the arrangement of their bedding plants, so as to produce the best effects by contrasting those hues which harmonise with one another. Those who take an interest in colour and desire to pursue the subject further are advised to read the eighth chapter of Prof. Ruskin's "Laws of Fésole."

SILENE MARITIMA FLORE PLENO.

The ordinary single flowered form of this British wilding is very pretty and ornamental, continuing to throw up flowers for a long time if grown in moderately rich soil with a sufficiency of moisture. The double form has very large flowers, with numerous petals that spread out in the same manner as those of the more double Pinks with crowded petals. They are white, as in the single kind, but are more durable and the plant is more vigorous in growth and continues to throw up flower stems more or less all the season. The ledges of rockwork are the best places for it, because the flowers are too heavy to support themselves, while staking would make them ungainly. On the other hand when near the edges of the stone-built pockets of the rockery, the flowers hang over naturally, while they are kept off the ground where they would get splashed in case of rain. The plant is easily increased by division, by suckers, or by cuttings of the young and flowerless shoots which, as a rule, are not difficult to obtain from the base of the plant.

LATHYRUS SATIVUS.

This is the Chickling Vetch when in its typical or wild form with white flowers. The latter are produced singly on the stalks and are relatively small compared with those of the Sweet Pea. The leaflets are linear-oblong, light glaucous green, and very thin in texture. A variety is now being cultivated, under the name of Lord Anson's Pea, which has clear sky blue flowers. The colour is, however, very evanescent, and fades in twenty-four hours, or less, to a dirty pale buff or mauve, and already a variety has been shown with flowers of that hue, but they are certainly very inferior to those of Lord Anson's Pea and not likely to make headway with the flower-loving public. The blue one may be described as attractive and pretty, although not effective, and we hope to see some improvement effected in it by hybridisation either as the pollen or seed parent, or by selection if that is capable of giving rise to anything of value from a horticultural point of view. Like many other annuals of the Pea tribe, the stems vary in height according to soil and season, but 3 ft. may be considered the general average.

LATHYRUS TINGITANUS.

In some rare instances we have have seen L. tuberosus grown under the name of L. tingitanus, but the former is a perennial while the latter is an annual. It flowers in June and July if sown in spring in the open ground, but if sown in small pots stood in an unheated frame, and planted out in spring as soon as the weather is favourable, it will flower in May as it has been doing this year. The flowers are borne in pairs or trebles on long stalks and are as large as those of L. odoratus, the Sweet Pea, while their colour is very rich. The upper petal is of a dark purple, shaded with crimson when they first expand, fading slightly with age, and the wings are of a dark red. The plant seeds freely, but frequently, only one pod is produced on each flower stalk, which may be looked upon as a short raceme consisting of two flowers. The lower one is the first to expand and by the time the upper one is in full bloom the first has been fertilised and no doubt appropriates the nourishment which should go to sustain the upper one, which blooms and then drops off after a time as the pod of the first swells up. The upper is in bloom before the glory of the first has faded.

SAXIFRAGA ANDREWSI AND S. GUTHRIEANA.

For many years past these two hybrid Saxifrages have been looked upon as synomymous and stated by some authorities to be a hybrid between S. Geum and S. Aizoon. Others consider that S. Guthrieana is similar to or identical with S. Andrewsi. Now, there are two distinct forms in gardens, and there is no difficulty is distinguishing one from another. S. Andrewsi has lanceolate-oblong, serrate, light green leaves, narrowed to a blunt point, and of a thick and somewhat rigid texture. On the other hand S. Guthrieana has spathulate leaves which are broad and rounded at the point, tapering gradually to the base, crenate, and of a rich dark green. Now, S. Andrewsi would seem to be a hybrid between S. umbrosa and some of the S. Aizoon group, while S. Guthrieana has more evident affinity with S. Geum and S. Aizoon or some of the same group. The flowers of S. Andrewsi are panicled and spotted with red on a white ground on the lower two-thirds of the length of the petals.

VARIABILITY OF NEPENTHES MASTERSIANA.

There are two distinct varieties of this in cultivation, as far as the colour of the pitchers is concerned, besides the dimorphism which occurs in the form of the same according to the stages of growth in the plant. The pale green variety is known in some collections as N. Mastersiana, while that with the dark brownish red pitchers is termed N. M. rubra. In other collections the dark one enjoys the title of N. Mastersiana. Now both forms may, and do, occur on the same plant according to the conditions of culture. We have seen a plant bearing green pitchers only, and the upper ones had the long tapering base which often occurs on stems that are allowed to run up. The same plant in the collection of John McMeekin, Esq., Falkland Park, South Norwood Hill, had the top taken off and rooted separately. The old plant, when stimulated into growth, produced light and dark pitchers, while the rooted top gave rise to pitchers 12 in. long, suffused and splashed with red on a pale green ground, and handsome in appearance from their great size. Other species and garden hybrids vary considerably according to treatment.

A CAUTION TO CHRYSANTHEMUM GROWERS FOR EXHIBITION.

Will you allow me to call the attention of those interested to the fact that bones are being sold which if used for crocking pots will go putrid in a short time and entirely ruin the plants? I should advise all growers to turn out some of their plants to see the condition they are in, for if transferred into clean pots with fresh drainage within a fortnight, not much harm will have been done, but in a month the bones I have been using go into a wet, putrid mass of living filth. Those who have not yet done their final potting should test the bones before use.—*P. Waterer, Fawkham, Kent.*

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

Dendrobiums.—We do not grow many species of this splendid genus, therefore have no house specially set apart for them. Those that find a place here are D. Wardianum in good numbers, D. Brymerianum, D. fimbriatum Oculatum, D. nobile, etc., and all are grown in the Cattleya House, where they do well, although they do not make bulbs as long as they do when grown under more favourable circumstances, as regards moisture and heat. Owing to the somewhat dry atmosphere red spider is very troublesome, and unless kept under will cause the foliage to go off and the bulbs to be small. A sponge and a little soft soapy water will do for these pests. The plants are stood at the warmest end where they can be syringed frequently, and once a week ours are dipped in manure water, which helps them greatly to mature their bulbs, confined as they are in small pots.

Stanhopeas.—Growers who do not possess Orchids in quantity are almost sure to have Stanhopea tigrina, and a fine old Orchid it is, although too strongly scented to suit the taste of many. The best plants I have seen are grown in a vinery, where they are kept summer and winter. Here they may be said to be treated precisely the same as the Vines, started with them, made their growth with them, and rested with them. During the early stages of their growth they receive the benefit of the top dressing, which is put on the inside border, or from the manure water from the stable, which is poured on the floors. The plants in question are grown in baskets two feet square, which are completely filled with large bulbs and large healthy foliage, from the base of which are produced a quantity of spikes during the season. Acting on the advice of a traveller, the gardener removed them into a stove, where they did well for a time, but eventually lost their former vigour. Was it caused by the loss of the ammonia in the air, or by being kept in a high teperature, and in a growing state during the whole year? Perhaps from both.

Odontoglossum Rossii Majus.—This species is now starting into growth, but as ours were all repotted last season we shall (owing to the exceptionally dry and hot weather) only re-surface them with live sphagnum moss, too much water at the roots for a while will be injurious. Keep them plump by frequently spraying them overhead.

Odontoglossums of all kinds should be treated in the same way if they are to be kept in good health. At the same time we do not care for ours to be always in a soddened state at the roots, but this will hardly be the case during summer, with plenty of air on night and day.—*C.*

Lælia Oweniæ.

This is considered to be a natural hybrid between Lælia Perrinii and L. elegans, both of which grow wild in the environs of Rio de Janeiro, Brazil, and was first flowered in the collection of G. D. Owen, Esq., of Selwood, Rotherham, Yorkshire, after whose wife it is named. The sepals and elliptic petals are dark carmine-purple passing into magenta towards the base. The lamina and side lobes of the lip are even darker, with a band of the same rich colour extending to the base of the tube, the rest of which is white. A coloured plate of it, bearing half a dozen flowers on a raceme, is given in *Lindenia, pl.*

374. A smaller woodcut alongside of the coloured one represents the habit of the plant which has cylindrical pseudobulbs slightly thickened upwards and terminated by a pair of oblong leaves. The variety has been compared to L. elegans Broomeana recently figured in *Lindenia*.

Odontoglossum Andersonianum Falkland Park var.

At first sight this reminds one of some of the forms O. crispum guttatum, on account of the heavy blotches on the sepals and petals, but the form of the lip and the wings refer the variety to O. crispum Andersonianum. The sepals are lanceolate and white, with several heavy chestnut-brown blotches running into one anothor. The petals are broader and more revolute at the tips, with a large lobed blotch above the middle, and several smaller ones towards the base. The lip is also white with a large dark brown blotch in front of the crest. The front lobes of the latter are white, and the smaller, hinder ones are yellow. Those who are in the habit of giving pedigrees, or of describing parentage, would say it was a cross between O. crispum Andersonianum and O. c. guttatum. It is certainly very pretty, and we noted a strong piece of it carrying a raceme of twelve flowers in the collection of John McMeekin, Esq., Falkland Park, South Norwood Hill. There are several very fine varieties of the typical O. crispum with round flowers, and some of them very finely marked or spotted in the same collection.

Cattleyas from Broomfield.

The Cattleyas in season at present are C. Mossiæ and C. Mendelii. A fine and by no means too common a variety of each of the above has been sent us by M. Wells, Esq., Broomfield, Sale. The flower of C. Mossiæ Wageneri is distinctly fragrant and very choice in every way. All parts are pure white with exception of the large, orange yellow blotch on the disc, extending from thence to the very base of the tube, and showing itself on the lower side of the tube externally as well as on the outer face of the lateral lobes. The blooms of C. Mendelii are smaller than those of C. Mossiæ, and so is that of C. Mendelii Morganiæ, as might be expected. Here again, all parts of the flower are white with exception of the lip which has a purple blotch near the apex, a pale yellow, almost washed out disc, and striped with pale purple in the tube. This variety is also somewhat fragrant, and well worthy of cultivation.

Oncidium curtum.

Some fine varieties of this and allied species have been flowering freely in the collection of John McMeekin, Esq., Falkland Park, South Norwood Hill. The large and richly coloured flowers of O. curtum have chocolate brown sepals, marked with transverse yellow lines. The petals are broader, oblong, marginate, often lobed or crenate, and dark chocolate, margined with yellow, The large, fan-shaped lamina of the lip is similarly coloured with a central yellow disc. The crest is a curious looking organ of several prominent teeth, heavily warted between, and all of a buff orange colour. The species is a native of the Organ Mountains in Brazil, and is one of the choicer forms of Oncidium amongst the numerous members of that genus.

Lælia purpurata alba.

The sepals and petals of this variety are white, and so is the tube of the lip with exception of the usual purple striæ, which are here very slender. The lamina of the lip, however, is deep crimson purple, with a large, pale purple blotch at the apex. There are four large flowers on a spike of a plant in the collection at Falkland Park, South Norwood Hill.

SOCIETIES.

Royal Horticultural, *June 20th.*—The principal features of the meeting on Tuesday last were Roses, Orchids, Begonias, stove and greenhouse stuff, and herbaceous plants, more particularly Delphiniums. A fairly extensive group of Orchids was exhibited by Messrs. B. S. Williams & Son, Upper Holloway, and included floriferous pieces of Epidendrum vitellinum majus, Cattleyas, Odontoglossum hastilabium, O. luteo-purpureum, Dendrobinm Dearei, Oncidium macranthum, and others. A Silver Flora Medal was awarded the group. A Silver Banksian Medal was awarded to Messrs. H. Low & Co., Clapton, for a well-flowered group of Cattleya Mossiæ and C. Mendelii in variety, C. gigas Sanderiana, Vandas, Phalænopses, Cypripedium bellatulum, and others. Messrs. W. L. Lewis & Co., Southgate, had likewise a group of Orchids of smaller extent, well intermixed with Palms and Ferns, Cattleyas and Oncidiums, including a fine flower of the hybrid Lælia eximini. A Bronze Banksian Medal was awarded the group. An interesting and showy group of Orchids was exhibited by Messrs. F. Sander & Co., St. Albans, who had nice pieces of Cattleya Warscewiczii Sanderæ, C. W. Sanderiana, and C. W. purpurea, all of rich colours, likewise Pescatorea Klabochorum, Sobralia zantholeuca, and others. Some fine blooms of Lælio-Cattleya Arnoldiana, Cattleya Mendelii delicata, Lælio-Cattleya Phœbe, and others were shown by M. Wells, Esq. (gardener, Mr. R. Hinde), Broomfield, Sale. Lælio-Cattleya Arnoldiana was also shown by G. W. Law Schofield, Esq., New Hall Hey, near Manchester. A fine variety of Aerides virens was brought up from the Royal Botanic Gardens, Glasnevin. Some Cypripediums were shown by Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne. A new Odontoglossum named O. peruvicuse was exhibited by Messrs. Charlesworth, Shuttleworth & Co., Heaton, Bradford, who also showed Gramangis Ellisii. Odontoglossum Wilckeanum superbum and a species of Cattleya were exhibited by Thos. Statter, Esq., Stand Hall, Manchester. A small but interesting group, including Phaius Humblotii, Hexisia bidentata, and Lælia crispilabia, was exhibited by Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking.

A Silver Banksian Medal was awarded to Messrs. E. D. Shuttleworth & Co. for a group of Lilium auratum, L. Harrisi, Hydrangea paniculata grandiflora, Caladiums, Ferns, and Palms, etc. A group of tuberous Begonias, some of which were certificated, were exhibited by Messrs. J. Laing & Sons, Forest Hill. Several of them were notable for their handsome foliage. A pure white Gloxinia was that named Princess May. A yellow ground Picotee, named Duchess of Teck, was shown by Mr. G. Fry, Lewisham, as well as blooms of several others. Roses and Cannas in variety were shown by J. C. Tasker, Esq. (gardener, Mr. P. Perry), Middleton Hall, Brentwood. A Silver Banksian Medal was awarded to Messrs. Barr & Son, Covent Garden, for a collection of herbaceous plants, consisting of single and double Delphiniums in great variety, Lilies, Irises, Eryngiums, Alstroemerias, and others. A Silver Banksian Medal was likewise awarded to Messrs. E. D. Shuttleworth & Co. for a collection of Delphiniums, Lilies, Gladioli, Gaillardias, and other herbaceous plants as well as cut flowers of Roses. Some tuberous Begonias were shown by G. A. Farini, Esq., Perry Vale, Forest Hill. Some stands of the Roses, Clio, and Spenser were exhibited by Messrs. Paul & Son, Waltham Cross. A Silver Flora Medal was awarded to Mr. C. Turner, Slough, for a group of Malmaison and other Carnations in fine condition, as well as some grand flowering plants of the new Polyantha Rose, Turner's Crimson Rambler. Some half-a dozen blocks of ice, enclosing New Zealand flowers were exhibited by E. Herbert Fison, Esq., Stoke House, Ipswich. The Bottle Brushes, or Callistemon, Leptospermum scoparium, L. ericoides Statices, the flower spikes of Dracæna, and others retained their fresh condition and colour admirably. Some stands of Carnations, wintered and flowered in the open, were shown by Mr. Ed. C. Goble, Ryde. A flowering piece of Aristolochia gigas Sturtevantii, and the new Maranta Leoniæ were exhibited by Messrs. F. Sander & Co. Some stands of cut Roses were shown by Messrs. Paul & Son, Cheshunt, for which a Silver Banksian Medal was awarded. A Bronze Banksian Medal was accorded C. J. Grahame, Esq, Coombe Road, Croydon, for some boxes of Roses shown with stems and foliage. Andromeda speciosa cassinafolia, a fine piece of Notospartium Carmichæliæ, and Escallonia philippiana were exhibited by Messrs. J. Veitch & Sons, Chelsea.

At a meeting of the Fruit and Vegetable Committee some heavily fruited stems of Tomatos, now ripening in the open air, were shown by Dr. Kirby (gardener, Mr. Webster), Kelsey Park, Beckenham. A Cultural Commendation was accorded to J. Watson, Esq. (gardener, Mr. A. Gaut), Berwick Gardens, Shrewsbury, for some good fruit of Musa Cavendishi. Six grand Queen Pineapples were exhibited by Mr. R. Parker, Impney Gardens, Droitwich, who was accorded a Silver Banksian Medal. Some Peaches were shown by Messrs. T. Rivers & Son, Sawbridgeworth. A Silver Banksian Medal was accorded to Mr. Owen Thomas, the Royal Gardens, Windsor, for a collection of Strawberries and Cherries, neatly set up in small punnets. Twelve varieties of Cherries were shown by Messrs. J. Veitch & Sons for which a Cultural Commendation was awarded. Some fine Strawberries were staged by Mr. Wm. Allan, Gunton Park, Norwich. A Silver Banksian Medal was accorded to Mr. E. Beckett, Aldenham House, Elstree, for six fine samples of the Queen Pineapple. Melons were shown by R. Burrell, Esq. (gardener, Mr. A. Bishop), Bury St. Edmunds; by Mr. H. S. Easty, Great Cornard, Sudbury; by Mr. Chas. Brooks, Red Rice, Andover; and by Lord Howard of Glossop (gardener Mr. B. Ashton), Glossop Hall, Derbyshire. A white-berried seedling Grape was show by Mr. J. Douglas, Great Gearies, Ilford.

NATIONAL ROSE SOCIETY.

The first exhibition of the National Rose Society this season was held in the Drill Hall, Westminster, on the 20th inst., in connection with the meeting of the Royal Horticultural Society of that date. Prizes were offered in eleven classes for Tea and Noisette Roses. The first six classes were reserved for amateurs only, the remaining five being open. The Roses in many cases were of a high order of merit, while in certain other exhibits, although large, the blooms were thin in substance, owing to the continued dry weather, and opened widely before the day was over. The first honour for twenty-four single trusses, not less than twelve varieties, was taken by S. P. Budd, Esq. (gardener, Mr. J. Bradbury), 8, Gay Street, Bath. Some of his finer blooms were La Boule d'Or, Comtesse de Nadaillac, Souvenir de Thérèse Levet, Souv. d'Elise Vardon, Catherine Mermet, and Madame Cusin. R. L. Knight, Esq., Bobbing, Sittingbourne, took the second place with fine blooms of Ernest Metz, Anne Olivier, Madame Cusin, Souvenir d'Elise Vardon, and Catherine Mermet. The third award went to H. V. Machin, Esq., Gateford Hill, Worksop, whose exhibit was likewise good. For twelve trusses, the Rev. A. Foster-Melliar, Sproughton Rectory, Ipswich, took the first award, showing fine blooms of Souvenir d'Elise Vardon, Ernest Metz, Comtesse de Nadaillac, Souvenir de Thérèse Levet, Catherine Mermet, and Marie van Houtte. The first variety named was the best Rose amongst the amateur's exhibits, and he received the National Rose Society's Silver Medal for it. E. B. Lindsell, Esq., Bearton, Hitchin, was second in this class, showing beautiful blooms of The Bride, Anna Olivier, Niphetos, and Caroline Kuster. Osmond G. Orpen, Esq., West Bergholt, Colchester, was third in this class, showing fairly well. C. J. Grahame, Esq., Coombe Road, Croydon, had the best six single trusses, with fine blooms of Ethel Brownlow, Comtesse de Nadaillac, &c. He was followed by Rivers H. Langton, Esq., Raymead, Hendon, who had some fine flowers. W. D. Freshfield, Esq. (gardener, Mr. S. J. Crofts), The Wilderness, Reigate, took the third award. The Rev. A. Foster-Melliar, took the first award for six single trusses of any one variety, and showed magnificent blooms of Souvenir d'Elise Vardon. Ed. Mawley, Esq., Rosebank, Berkhamstead, took the second place with Innocente Pirola; and Dr. King, Grayton Rectory, Blisworth, was third with Caroline Kuster. The best six trusses of three each were those of E. B. Lindsell, Esq. He was followed by the Rev. R. Burnside, Birch Vicarage, Hereford. H. V. Machin, Esq., was third. There were eight entries in this class, making the competition pretty keen. There was a class for a decorative arrangement of Teas and Noisettes, in vases, baskets, &c., open to any member of the family of a Fellow of the Royal Horticultural Society, or member of the National Rose Society. The first prize was awarded to a bouquet, drooping on one side, and elevated upon a stand, and exhibited by Mrs. Osmond G. Orpen. Miss Agnes T. Bloxam, Eltham Court, Eltham, took the second prize with a basket of Roses. Mrs. Edw. Mawley was third with her Roses in an ornamental bowl and vase.

The first award for twenty-four single trusses in the open classes was accorded to Mr. Frank Cant, Braiswick, Colchester, who had fine samples of The

Bride, Ernest Metz, Souvenir d'Elise Vardon, J. B. Varonne, Ethel Brownlow, Madame de Watteville, Souvenir de S. A. Prince, etc. Mr. B. R. Cant, Colchester, took the second award with fine specimens of Maréchal Niel, Souvenir d'Un Ami, Madame de Watteville, Ernest Metz, and others. Messrs. D. Prior & Son, Myland Nurseries, Colchester, were third, showing some fine blooms. Mr. F. Cant had the best twelve trusses, three of each, showing fine samples of Ernest Metz, Catherine Mermet, Innocente Pirola, Souvenir d'Elise Vardon, etc. Messrs. D. Prior & Son were second in this case, with good flowers of Catherine Mermet, Maréchal Niel, Madame Cusin, etc. Mr. G. Mount, Canterbury, took the third award with finely coloured but rather small blooms. For eighteen bunches, distinct, three trusses in each, Messrs. Paul & Son, Cheshunt, took the leading award with some nice buds. Mr. G. Mount had many larger blooms in his stands, but not so attractive, and was placed second. The prizes offered for twelve blooms of Maréchal Niel brought out five exhibits, in several of which the Roses were of wonderful size, but opened rather widely towards afternoon. The leading award was taken by Messrs. D. Prior & Son; Mr. Osmond G. Orpen was second; and Alex. H. Gray, Esq., Beaulieu, Newbridge, Bath, was third. All the three exhibits were fine. Mr. Frank Cant had the best twelve single trusses of any Tea or Noisette, otherwise than Maréchal Niel, and exhibited Souvenir d'Elise Vardon. Messrs. D. Prior & Son, were second with large blooms of Niphetos, but they opened very widely by afternoon. Mr. B. R. Cant took the third position with a stand of Comtesse de Nadaillac. There were six entries in this class, and the varieties shown were mostly, if not all, different from one another.

WHAT TO DO IN THE GARDEN.

Pinks.—Take cuttings of Pinks at once, for unless they are taken off in good time they cannot be expected to make good plants for next year's flowering. If a large number is required it is a good plan to put some fermenting manure in the bottom of a frame, and after treading it, cover with a layer of soil in which to insert the pipings.

Hollyhocks.—As soon as short side shoots can be obtained, they may be taken off and cut up like vine eyes with one bud to each, and inserted in sandy soil in boxes. The latter need not be kept in a frame provided a shady position under a tree or elsewhere can be secured for them. Keep them watered till the bud appears above soil, showing that the cuttings have rooted. When they have made a few leaves they may be potted up singly or planted out.

Vines.—The thinning of the latest kinds should now be completed. The ends of the rods should be allowed to ramble freely so as to encourage root action. In the case of Madersfield Court the lateral shoots should be allowed to grow beyond the bunches so as to draw off superfluous moisture and prevent cracking. A plentiful supply of moisture should be kept up at the roots, otherwise, if allowed to get dry and then a supply given, cracking is almost sure to follow.

Tomatos.—The chief matter to be attended to is the removal of all side shoots as soon as they make their appearance. Pot plants will require feeding as soon as a bunch or two of fruits are set and commenced to swell. The same applies to plants in the open air. Some growers advise pinching out the leading shoots above the bunches, but this is altogether unnecessary, provided the plants have a bunch or two of fruit, as that will keep them steady and also slow in growth.

Melons.—Whenever the roots of young plants commence to show themselves in abundance outside of the mounds of soil, a fresh surfacing of rich loam and manure will help them greatly. Give abundant supplies of water especially where the plants are grown in shallow beds over hotwater pipes. Attend regularly to stopping and tying, as well as to feeding with liquid manure where the fruits are swelling. Syringe them freely to keep the foliage in a healthy condition.

Cucumbers.—Plants in bearing will require copious supplies of water at the roots as well as plenty of syringing to keep down insects which are proving very troublesome in this dry weather. Remove all fruits as soon as fit for use and stand them in cups of water, which will encourage the development of those left.

QUESTIONS AND ANSWERS.

Rose Leaves Injured.—*D. M.*: The Rose leaves you send are injured by the larvæ or caterpillars of small moths belonging to the Tortricina and Tineina. As they live concealed between the folds of rolled up leaves it is impossible to apply remedies on a large scale that would be efficient. Of course you could dust the bushes with Hellebore powder, or spray them with Paris Green at the rate of one ounce of the latter to fifteen gallons of water, keeping the mixture well stirred all the time. Some of the caterpillars would be killed in this way by their eating the poisoned leaves. The most effectual remedy, however, is hand-picking, opening the rolled leaves to get at the larvæ. This should be done earlier in the season before they have time to do so much injury. Make a commencement soon after the bushes come into leaf. By removing 3 or 4 in. of the surface soil round the plants in autumn and replacing it with fresh material you would destroy a large number of the pupæ. Burn the soil as removed or bury it deeply to prevent the perfect insects from reaching the surface in spring.

Hedgerows of Elms.—*Quiet Village*: You will probably find what you require at or around the village of Bookham, Surrey, on the London and South-Western Railway from Waterloo to Guildford *via* Epsom. It is within thirty miles of London. There are many such features as you desire in that locality, and in the adjoining village of Effingham. Good accommodation can be found at "Merryland's" Temperance Hotel, close to Bookham Station, and on the margin of the finely wooded common.

Insects on Camellias.—*R. M.*: Your plants are infested with Mealy Bug (Coccus adonidum). Dissolve some soft soap in a quantity of hot water, then add a little tobacco juice, and stir well with the syringe till the soap is thoroughly dissolved and the tobacco mixed with it. Then fill up the pail with cold water and give your plants a forcible syringing. Lay them on their sides so that you may get at the stems, the under side of the leaves, and the forks of the stems where the insects conceal themselves. Take the plants outside the house to do this, to prevent the live insects from crawling on to the same or other plants again.

Insects on Dahlias.—*R. M.*: The green insects concealed amongst the white froth on your plants are Frog Hoppers (Aphrophora spumaria). By syringing them forcibly with clean water so as to wash away the white froth the insects will be exposed to the drying influence of the sun, which will dry up and kill many of them. This should be done during the day when the sun shines. Another remedy is to dissolve one ounce of soft soap in a gallon of water, adding a table-spoonful of nicotine or tobacco juice. Syringe your plants with this and then wash them with clean water after an hour or two.

Pots on Dahlia Stakes.—*R.M.*: The object of putting small pots on the top of Dahlia stakes is to catch the earwigs which often do the plants great damage during July, August and September, more particularly in dry seasons like the present, and in dry situations near walls and fences where those insects can find secure and safe concealment. If your plants are infested by them you can detect it by the leaves presenting a torn and ragged appearance. If so, place a little dry moss in the bottom of small pots, place them on your Dahlia stakes, and examine them every morning for the earwigs, which should be killed.

Plants for Name.—*R. M.*: Sometimes flowers are quite sufficient, but in most cases the plants can be more readily and safely determined by sending shoots bearing flowers and leaves. If there are several kinds or forms of leaves on the plant, it would be a safe plan to send a leaf of each of the more distinct forms. A little practice would soon enable you to determine what to send. You will be safe always to send flowers and leaves, and in some cases fruit would also be an advantage. When sending plants to be named put them in a box packed with a little damp moss; never pack them with cotton wool.

Book on the Narcissus.—*Constant Reader*: The best book on the subject is "The Narcissus" by Mr. F. W. Burbidge, M.A., and published by Messrs. Reeve & Co., Henrietta Street, Covent Garden London. Price 32s.

Layering Malmaison Carnations.—*H. F. R.*: When Malmaison Carnations are grown in pots they are generally propagated by cuttings in spring so as to get good plants before the following winter; but as a matter of fact they are propagated at various times according to convenience or requirements, say after they have done flowering. If you have them in the open ground, then you may layer them about the end of July. In making the tongue, pass your knife outward from the mother plant as in your sketch at B, so that the tongue may belong to the crown you wish to layer, not the to mother plant as at A. Roots will be produced by the descending sap at B, and when the shoot is severed from the mother plant the young roots will be attached to it. The correct way of spelling the word is Melittis, as you have it.

Growing Melons.—*W. W. B.*: The object in stopping the main shoots of Melons is to make them throw out side shoots, which bear the flowers and ultimately the fruit. The main shoot should be allowed to grow till it has occupied the whole length of the available space, or has gone as far as you want it. Then stop it, and when the lateral shoots have grown to some length they will flower. Fertilise the flowers to the number of four or eight on a plant, if you have so many. Take the stamens of the male blossoms, and after removing the corolla, place them into the flowers that will bear the fruit and leave them there. Fertilise as many as you want in one day, otherwise the early set fruits will rob the latter ones of nourishment and keep them small. There was a book published on the Melon and Cucumber, but it has long been out of print. There is a good, though not lengthy, article on the Melon in the "Epitome of Gardening," by Moore and Masters, published by Adam and Charles Black, Edinburgh. Price about 5s.

Communications Received.—W. P.—F. W. M. C.—Miss H.—J. C. & S.—E. D. S.—W. T.—E. M. —W. H.

TRADE CATALOGUE RECEIVED.

Hert & Wulle, Naples, Italy.—Flower-bulbs Roots, and Terrestrial Orchids.

LONDON SEED TRADE.

June 20th, 1893.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a moderate enquiry for Mustard and Rape at unchanged rates. Some speculative trade is being done in Trifolium incarnatum at very high figures. Country dealers hold aloof expecting prices will recede before sowing demand sets in, as owing to dry weather this article is marketed this season considerably in advance of the usual sowing time.

COVENT GARDEN MARKET.

June 21st, 1893.

Fruit.—Average Wholesale Prices.

	s. d	s. d.		s. d.	s. d
Tasmanian Apples per case	5 0	10 0	Melons ... . each	1 6	2 6
Grapes, per lb.	1 0	2 6	Strawberries, per lb.	0 6	1 0
Peaches ... per dozen	3 0	8 0	Pine apples. —St. Michael's, each	2 6	6 0
Red Currants, ½ sieve	2 0	3 0	Black Currants, ½ sve	4 6	4 9
Gooseberries, ½ sieve	1 3	1 9			

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
Asparagus per buudle	1 6	5 0	Horse Radish, bundle	2 0	4 0
ArtichokesGlobe doz.	3 0	6 0	Lettuces ...per dozen	1 6	2 0
Beans, French, perlb.	1 6	2 0	Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per hunch	0 4	0 6
Cabbages ... per doz.	1 6	2 6	Parsley ... per hunch	0 6	
Carrots ... per hunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng.dz.	3 0	5 0	Seakale .....per bkt	0 0	0 0
Celery.....per bundle	2 6		Smallsalading,punnet	0 4	
Cucumbers .....each	0 4	0 8	Spinach ... per strike	1 6	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 9	1 0
Herbs .....per bunch	0 2	0 6	Turnips ..... per hun.	0 6	

Cut Flowers.—Average Wholesale Prices.

	s. d.	s d		s. d.	s. d
Arum Lilies, 12 hlms.	2 0	4 0	Pelargoniums, 12 sps.	0 6	0 9
Bouvardias, per hun.	0 6	1 0	— scarlet.....12 hchs.	3 0	6 c
Carnations...per doz.	1 0	3 0	Pinks, doz. bunches...	1 0	3 0
doz. hunches.....	4 0	8 0	Pyrethrum doz. bun.	1 6	4 0
Cornflowers, dz. bun.	1 6	3 0	Primula, double, hun.	0 6	1 0
Eucharis ...per doz.	3 0	6 0	Red Roses, doz. bhs.	3 0	8 0
Gardenias 12 blooms	1 0	2 6	Roses, yellow, dozen	2 0	4 0
Gladiolus,White,dzhn	4 0	9 0	— Red..... doz. hlms.	2 0	3 0
Heliotropes,12 sprays	0 6	0 9	— Saffrano...per doz.	1 6	2 0
Iris, var.,doz.hunches	6 0	12 0	— Tea ..... per dozen	0 6	2 0
Lilium Harrisii, doz. blooms	2 6	5 0	Spiræas, doz. bunchs.	3 0	6 0
MaidenhairFern,12bs.	4 0	6 0	Stephanotis,dz.sprays	1 6	2 6
Marguerites, 12 hun.	2 0	4 0	Sweet Peas, doz. hhs.	4 0	8 0
Mignonette... 12 hun.	2 0	4 c	Sweet Sutton,dz.hhs.	3 0	6 0
Orchid Bloom in var. per bloom, from	0 3	1 0	Tuberoses, per doz	0 6	1 0

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s d.
Cyperus .....per doz.	4 0	12 0	Liliums, various, per doz.	12 0	24 0
Cineraria ...per doz.	6 0	9 0	Lobelia .....per doz.	3 0	6 0
Dracæna term., doz.	18 0	36 0	Marguerites, perdoz.	6 0	12 0
Dracæna viridis,doz.	9 0	18 0	Nasturtiums, per doz.	3 0	4 0
Erica, various, doz.	12 0	24 0	Mignonette, per doz.	4 0	8 0
Evergreens,invar.doz	6 0	24 0	Palms in variety,each	2 6	10 0
Ferns, invar.,per doz.	4 0	18 0	Palms, Specimen ...	15 0	63 0
Ferns, small, per 100	6 0	10 0	Pelargoniums ... doz.	9 0	15 0
Foliage Plants, doz.	12 0	60 0	— scarlet.....per doz.	4 0	9 0
Fuchsia .....per doz.	6 0	12 0	Saxafrage...per doz.	12 0	18 0
Genista .....per doz.	9 0	12 0	Spirea, per doz.	6 0	12 0
Hydrangea, per doz.	9 0	18 0			
Ivy Geraniums...doz.	4 0	6 0			

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FLOWER SHOWS, 1893.

Revised to date.

JUNE.

26.—Canterbury Rose Show.
26.—Hitchin Rose Show.
27.—Maidstone Rose Show.
27.—Sutton Rose Show.
28.—Richmond (Surrey) Flower Show.
28.—Earl's Court Rose Show.
29.—Eltham Rose Show.
29.—Newport Rose Show.
29.—Windsor Rose Show.

JULY.

1.—National Rose Show at the Crystal Palace.
1.—Chingford Flower Show.
4.—Bagshot Rose Show.
4.—Canterbury Rose Show.
4.—Diss Rose Show.
4.—Gloucester Rose Show.
4.—Bagshot Rose Show.
5.—Ealing Flower Show.
5.—Royal Botanic Society Evening Fête.
5.—Croydon Rose Show.
5.—Dursley Rose Show.
5.—Farnham Rose Show.
5.—Hereford Rose Show.
5, 6.—Ipswich and East of England Horticultural Society.
5, 6.—Lee, Blackheath, and Lewisham Horticultural Society.
6.—Bath Rose and Begonia Show.
6.—Royal Horticultural Society of Ireland.
6.—Farningham Rose Show.
6.—Norwich Rose Show.
6.—Rose Show at Old Trafford.
7.—Ulverston Rose Show.
8.—Reigate Rose Show.
8.—Wakefield Rose Show.
11.—R.H.S., Chiswick.
11.—Wolverhampton Rose Show.
12,13.—Royal Caledonian Horticultural Society.
12.—Tunbridge Wells Show.
13.—National Rose Show at Worksop.
13.—Woodbridge Flower Show.
13.—Boston Flower Show.
14.—Helensburgh Rose Show.
15.—New Brighton Rose Show.
18.—Eye Flower Show.
18.—Oxford Union Carnation and Picotee Show.
19.—Carnation and Picotee Show at the Clifton Zoological Gardens.
20.—Ludlow Flower Show.
20.—Bedford Rose Show.
20.—High Barnet Flower Show.
20, 21, 22.—Newcastle-upon-Tyne Summer Show.
20.—Trentham Flower Show.
25. R.H.S., Drill Hall.
25.—Tibshelf Rose Show.
26, 27.—Carnation Show at Earl's Court.
26,27—Liverpool Horticultural Associations's Annual Show.
27.—Sleaford Flower Show.
27.—Southwell Rose Show.
27.—Halifax Rose Show.
29.—Bedale Rose Show.
29.—Wakefield Cottagers' Window Garden Competition.

AUGUST.

2.—Great Saughall Flower Show.
3.—North Petherton Flower Show.
5.—Midland Counties Carnation Show at Birmingham.
5, 7.—Southampton Floral Fête.
7.—Battersea Summer Show.
7.—Beddington, Carshalton, and Wallington Flower Show.
7.—Duffield Flower Show.
7.—St. Neots Amateur and Cottage Horticultural Society.
7.—Mansfield Flower Show.
8.—R.H.S., Drill Hall.
9, 10.—Flower Show at Earl's Court.
10.—Margam Cottagers' Show.
10.—Maidenhead Flower Show.
10.—Taunton Flower Show.
12.—Ovenden Flower Show.
15,16.—Cardiff Flower Show.
16.—Bishop's Stortford Flower Show.
16—Eling (Hants) Flower Show.
16.—Reading Flower Show.
16.—Kingswood St. George Flower Show.
16, 17.—Bilston Flower Show.
17.—Parsonstown (King's Co.) Horticultural Society's Show.
18.—Devon and Exeter Horticultural Society.
18, 19.—National Co-operative Flower Show at the Crystal Palace.
22.—West Malvern and Mathon Flower Show,
23, 24.—Shrewsbury Summer Show.
23, 24.—Gladioli Show at Earl's Court.
25.—Royal Horticultural Society of Ireland.
29,30,31.—R.H.S., Agricultural Hall.
30, 31.—Bath Autumn Show.
31.—Thame Flower Show.

SEPTEMBER.

1,2.—National Dahlia Society's Show at the Crystal Palace.
2.—Bridge of Allan Flower Show.
5, 6.—Brighton Autumn Show.
6,7,8.—National Chrysanthemum Society at the Aquarium.
8.—Bute Rose Show at Rothesay.
12,26.—R.H.S., Drill Hall.
13,14.—Royal Caledonian Horticultural.
13, 14.—Dahlia Show at Earl's Court.
27.—N.C.S. Floral Committee.
27 28, 29.—Hardy Fruit Show at Earl's Court.
27, 28.—County of Gloucester & Cheltenham R.H.S.

OCTOBER.

10,24.—R.H.S., Drill Hall.
11,12,13.—National Chrysanthemum Society at the Aquarium.
25.—N.C.S. Floral Committee.
28,29.—Havant Chrysanthemum Show.

NOVEMBER.

1,2.—Kent County Chrysanthemum Show.
1,2.—Battersea Chrysanthemum Show.
1,2.—Barnstaple Chrysanthemum Show.
1, 2.—Steyning Chrysanthemum Show.
2,3.—Forest Gate and Stratford Chrysanthemum Show.
2,3.—Ascot Chrysanthemum Show.
2,3.—Highgate Chrysanthemum Show.
2,3,4.—Cornwall Chrysanthemum Show.
3,4.—Grimsby Chrysanthemum Show.
6.—St. Neots Chrysanthemum Show.
7,8,9.—National Chrysanthemum Society at the Aquarium.
7,8.—Eastbourne Chrysanthemum Show.
7, 8.—Brighton Chrysanthemum Show.
7,8.—Kingston Chrysanthemum Show.
7,8.—Sevenoaks Chrysanthemum Show.
8.—Evesham Chrysanthemum Show.
8.—N.C.S. Floral Committee.
8, 9.—Bath Chrysanthemum Show.
8,9.—Barnsley Chrysanthemum Show.
8, 9.—Brixton, Streatham, etc., Chrysanthemum Show.
8,9.—Bournemouth Chrysanthemum Show.
8,9.—Bath Chrysanthemum Show.
8, 9.—Dalston Chrysanthemum Show.
8 9.—Guildford Chrysanthemum Show.
8, 9.—Northamptonshire Chrysanthemum Society.
10.—Exeter Chrysanthemum Show
10.—Windsor Chrysanthemum Show.
10,11.—Derby Chrysathemum Show.
10,11.—Bradford Chrysanthemum Show.
11.—Bacup Chrysanthemum Show.
11.—Batley Chrysanthemum Show.
14, 15.—Ipswich and East of England Chrysanthemum Show.
14, 15.—Plymouth Chrysanthemum Show.
14,15.—Croydon Chrysanthemum Show.
14,15.—Hartlepool Chrysanthemum Show.
14,15.—Cardiff Chrysanthemum Show.
14,28.—R.H.S., Drill Hall.
15.—Ealing Chrysanthemum Show.
15.—Reading Chrysanthemum Show.
15,16.—Birmingham Chrysanthemum Show.
15,16.—Bristol Chrysanthemum Show.
15,16.—Cranbrook Chrysanthemum Show.
15,16.—Great Yarmouth Chrysanthemum Show.
15,16.—York Chrysanthemum Show.
15, 16, 17.—Hereford Fruit and Chrysanthemum Show.
16, 17, 18.—Edinburgh Chrysanthemum Show.
16, 17.—Royal Horticultural Society of Ireland.
17.—Crediton Chrysanthemum Show.
21,22.—Manchester Chrysanthemum Show.
22.—Beverley Chrysanthemum Show.
22,23.—Dundee Chrysanthemum Show.
23,24.—Norwich Chrysanthemum Show.
24,25.—Eccles Chrysanthemum Show.

DECEMBER.

5,6,7.—National Chrysanthemum Show at the Aquarium.
12.—R.H.S., Drill Hall.

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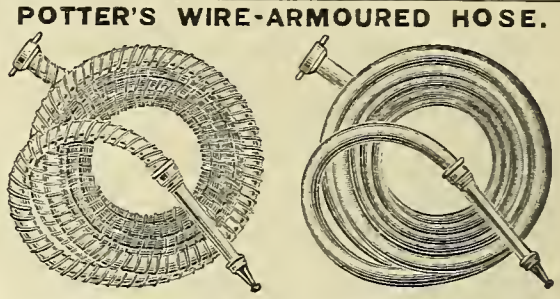

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18	Greenhouse Ferns, assorted and named...	2 9
12	Greenhouse Ferns, 6 var., including Maiden-hair	1 9
12	Maiden-hair Ferns, 12 var., most lovely kinds...	5 0
6	Maiden-hair Ferns, 4 distinct var., named	2 0
3	Adiantum Farleyense, most handsome Maiden-hair	2 6
3	Greenhouse Asparagus plants, strong, well rooted	1 9
3	Lygodium scandens, the pretty climbing Fern	1 9
6	Greenhouse Selaginellas or Mosses, including golden	1 6
12	Assorted Ferns for cool greenhouse without heat	2 6
6	Large choice greenhouse Ferns, A. Farleyense tenerum, amabile, &c., 1 ft. high.	3 0
6	Fuchsias, 6 varieties, named	1 6
1	Tacsonia, 1 Hoya, 1 Solanum jasminoides	2 0
6	Primula obconica, always in flower, strong	2 0
6	Ivy Geraniums, 6 var.	1 6
6	Foliage Begonias (B. Rex), handsome leaves	2 0
3	Passion Flowers, 3 varieties, named	1 6
3	Double White Primulas	1 6
6	Cyclamen persicum, good strain	1 9
3	Hydrangeas Dr. Hogg	1 9
6	Heliotropes, 6 varieties	2 3

ENGLISH'S HARDY PLANTS.

6	Delphiniums, mixed colours, light and dark	1 9
6	Perennial mauve Michaelmas Daisy	2 0
6	Lavender or Southernwood, strong plants	1 6
6	Christmas Roses	2 6
12	Hollyhocks, mixed, from double flowers	1 6
12	Sweetbriars, strong plants	2 3
20	Canterbury Bells. Aquilegias, or Campanulas	1 9
3	Large-flowering Clematis, purple, etc., named	2 6
6	Mrs. Sinkins, new white Pink (12 for 1s. 10d.)	1 4
12	Irish Ivies, strong plants, 2 ft. to 3 ft. high	1 9
6	Named perennial Phlox, 6 var.	1 6
6	Perennial Michaelmas Daisies, white, very large	2 0
12	Iceland Poppies, pretty perennials	2 0
6	Helianthus (Perennial Sunflowers)	2 0
12	Pansies and Violas, best named kinds	1 9
6	Lobelia cardinalis, intense red flowers, perennial	2 0
3	Scarlet Salvias, very free flowering	1 3
6	Tritoma Uvaria (Red-hot Poker)	2 0
6	Nicotiana affinis (sweet-scented Tobacco plant)	2 0
100	assorted hardy perennial plants, named	5 0
12	Carnations, from double flowers	2 0
40	Wallflowers, blood-red, yellow, etc.	2 0
12	Wallflowers, Double German, mixed	1 6
6	Double Scarlet Geums	1 6
6	Carnations, Crimson Clove, Purity, Gloire de Nancy, etc., named	3 0
12	Perennial Gaillardias	2 0
12	Auriculas, fine plants...	1 6
6	Roses in pots, 6 varieties, named	8 6
6	Hardy Primulas, Sieboldi, casbmeriana, etc.	1 6
6	Tiger Lilies (12 for 3s.)	1 0
12	White Gladioli, The Bride	2 9

CHEAP HARDY CLIMBERS.

AMPELOPSIS VEITCHI (small-leaved V. Creeper) Hederacea sempervirens ... JASMINES, white and yellow ... HONEYSUCKLES, Dutch, Scarlet Trumpet, variegated and evergreen ... CLEMATIS FLAMMULA and MONTANA .. IVIES, Irish, 4 to 5 ft. IVIES, variegated Gold and Silver. CLIMBING ROSES. ... — Any 6 for 2s. 6d. Any 12 for 4s. 6d

ENGLISH'S ROSES.

6 Choice Tea and Noisette Roses, 4s. 6d.; 12 distinct, 8s.
6 Hybrid Perpetual and Bourbons, 3s.; 12 distinct, 5s. 6d.
6 Moss Roses, 6 varieties (12 for 7s. 6d.), 4s.
3 Handsome Japanese Roses, 2s. 6d.
EXTRAORDINARY PLANTS of Maréchal Niel, Climbing Devoniensis, and W. A. Richardson, 3 to 5 ft. high, 1s. 6d. each; 6, 6s. 6d.; 12s. per dozen.
STANDARD ROSES, very fine, 15s. doz.; 6 for 8s.

PALMS.—Best varieties, named, 6 for 2s. 6d., 4s. doz.; larger plants, 4 to 6 leaves, 1s. each, 3, 2s. 6d.; a few larger, 2s. 6d each, 3 for 6s. Kentias, 3 for 2s. 6d.; arger, 3 for 4s. 6d., carriag paid.

A lovely wreath or cross of natural flowers, 7s. 6d., 10s. 6d., 15s

Any 11s. worth may be selected from this advt. for 10s.; any 23s. worth for 20s All plants are carriage paid. Catalogue gratis.

H. ENGLISH, Clevedon and Clapton Nurseries, Clevedon.

This Advertisement will appear in the first issue of each month. Please keep for future reference.

GREAT
ORCHID SALE,
JULY 7th, 1893,
AT
Messrs. PROTHEROE & MORRIS',
67 & 68, CHEAPSIDE, LONDON, E.C.

The largest and most valuable lot of imported and established Orchids ever offered by auction.

DENDROBIUM PHALÆNOPSIS SCHRODERIANUM,
The King of the Dendrobes.

EULOPHIELLA ELISABETHÆ.

Mr. R. A. ROLFE, of the **Royal Gardens, Kew**, the author of Eulophiella Elisabethæ, has examined our plants and certified them true.

We have acquired from M. Hamelin every plant of this sensational Orchid, with the whole of the orders received by him, and no plants have been disposed of except by ourselves.

The plants are in the finest possible condition, and are breaking freely.

THE SALE WILL ALSO INCLUDE:—
Habenaria gigantea var. Sumatrana.
Phajus species with Lælia like flowers.
Cypripedium Nicholsonianum, new (provisionally named).
Oncidium Sanderianum, new (provisionally named).
Cattleya from beyond Bolivar.
Cypripedium insigne Sanderæ.
(Unapproached and unapproachable).
Cattleya Mendelii Bluntii, the finest known form.
,, labiata alba, guaranteed.
,, speciosissima alba, guaranteed.
,, Aclandiæ alba, guaranteed.
And numerous other new Orchids. Every plant offered is guaranteed true to name and description.

By Order of
F. SANDER & CO.,
ST. ALBANS.

TO SPARE,
1,000 Strong Plants of Chrysanthemums,
in 5 inch pots, best varieties of recent introduction. 10s. per dozen, package free.
H. J. JONES,
Ryecroft Nursery, Hither Green, Lewisham, S.E.

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GRAND CARNATIONS.
THE FINEST GROWN
All Classes, 10/6 per dozen.

Mr. Dodwell's List of Specialties is now ready. Send Stamp and get copy.

THE COTTAGE, STANLEY ROAD, OXFORD

FERNS A SPECIALITY.
A magnificent stock of all kinds of Ferns. Abridged Catalogue of 1,400 varieties free on application.
Illustrated Catalogue of Ferns (No. 22)
The most beautiful and complete ever published, 2/- *post free.*
It contains **150 Illustrations**, and an immense amount of interesting and instructive matter of great value to all Fern cultivators.
W. & J. BIRKENHEAD, F.R.H.S.,
Fern Nurseries, Sale, near Manchester.

STUART & MEIN'S
No. 1 CABBAGE,
The earliest and finest type of Spring Cabbage in cultivation, coming into use in April and May. The hearts are large and solid, and of the finest flavour. Our seed of this famous cabbage being the true stock, and as many inferior varieties are substituted for it, we stongly advise all to send to us direct for their supply.
As a further inducement we offer £8 in Cash Prizes for the three best Cabbages grown from seed procured direct from us.
Full particulars will be supplied with each packet of seed sent out. 1s. per packet. Post free, 1s. 6d. per ounce.
STUART & MEIN,
KELSO, SCOTLAND.
Established upwards of Half a Century.

STRAWBERRIES.
WM CUTBUSH & SON are now layering in small pots for forcing all the best varieties, from young thriving plants.
List including several Novelties Post Free upon application.
EARLY ORDERS SPECIALLY REQUESTED TO SECURE GOOD EARLY PLANTS.
HIGHGATE NURSERIES, LONDON, N., and BARNET NURSERIES, HERTS.

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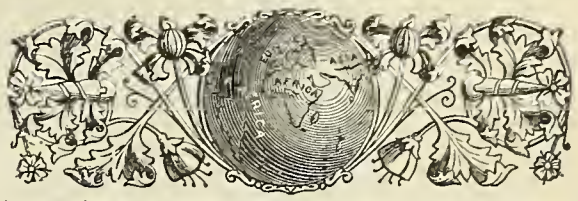


"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, July 4th.—Sale of Orchids at Protheroe & Morris' Rooms.
Diss Rose Show.
Gloucester Rose Show.
Canterbury Rose Show.
Bagshot Rose Show.

WEDNESDAY, July 5th.—Royal Botanic Society's Evening Fête.
Ealing Flower Show.
Croydon Flower Show.
Dursley Rose Show.
Farnham Rose Show.
Hereford Rose Show.
Ipswich Flower Show (2 days).
Lee, Blackheath, and Lewisham Flower Show (2 days).

THURSDAY, July 6th.—Norwich Rose Show.
Bath Rose and Begonia Show.
Royal Horticultural Society of Ireland, Summer Show.
Farningham Flower Show.
Rose Show at Old Trafford.

FRIDAY, July 7th.—Sale of New Orchids at Protheroe & Morris' Rooms.
Ulverston Rose Show.

SATURDAY, July 8th.—Reigate Rose Show.
Wakefield Rose Show.

The Gardening World.
Edited by BRIAN WYNNE, F.R.H.S.
SATURDAY, JULY 1st, 1893.

OUR GARDEN LILIES.—A very significant query was put to us the other day concerning Lilies, and it is one to which it is very difficult to furnish a satisfactory reply. The question was—"How is it that we seldom see permanent clumps of Lilies, even of the hardiest varieties, now, whilst some years since they were common?" To that question we take it the general reply will be that, in common with so many other hardy plants, Lilies have become amenable to some form of debility or fungoid diseases, and that so far these prove to be more potent in destruction than care and cultivation are restorative.

It seems to be but a few years since that Lilium candidum, our hardiest of Lilies, was found universally in gardens, and in robust health. Now, whilst there are still plenty of this Lily, it is rare to find it in health, but most commonly devoid of foliage, suffering from a fungus. The next most plentiful of Lilies in gardens were, or perhaps still are, Thunbergianum and croceum, and these are perhaps less than any others affected by disease. Still their years may be numbered. The old and beautiful Martagon Lilies now are too rarely found, and as for Lilium auratum, which for some years after its introduction did so well in gardens, it now too often disappears after its first blooming, leaving only a label to mark its grave. Where, too, are the lovely speciosum Lilies, certainly never of the hardiest, but still at one time much grown in pots and con-

stituted objects of pride in many gardens? These are rapidly disappearing, and the longiflorums and other popular forcing varieties do not seem to have replaced them in gardens to any great extent.

Have we now become so dependent upon Lily importations that we have no encouragement to grow roots at home, or are we unable to do so with any success because of the potency of diseases? Here is a question that merits full consideration. Possibly Mr. G. F. Wilson and others who have been great Lily growers in the past can throw some light on the problem.

New Chrysanthemums.—Mr. C. Harman Payne gave last week in the columns of our contemporary, *The Garden*, a list of 103 new, or at least newly named, varieties of American Chrysanthemums, a few of which we know, but of the bulk little or nothing has previously been heard on this side of the Atlantic. Now it has been said, still with only partial truth, that the production of the best seedlings has been transferred from France to America. Still, we have France as well as our home raisers in the field, and America has not yet given a beat or an equal to Viviand Morel. But there is the almost appaling fact presented to Chrysanthemum growers that from 200 to 300 seedlings, furnished with names too, are being put into commerce yearly, and if in the abundance there should also be bewilderment, who can wonder?

Of course, no one is compelled to purchase all or any until they know something more about them than what they can make out of raisers' descriptions, unless it be the unfortunate "up to date" nurseryman who makes the Chrysanthemum a specialty, and who knowing the amateur's desire always to possess the best, has to purchase largely of the so-called novelties in order himself to sort the sheep from the goats, for true it is they do not find that guide to the very best which is so much desired in the awards made by foreign certificating bodies. If anything should tend to make Certificating Committees pause it is this terribly exuberant production of new flowers which should at least compel them to set up such high standards of merit that the poor grower, failing to find any reliable guide elsewhere, should at least be able to trust to committees' awards, and thus ensure securing the best without having to buy so much rubbish as well.

We ask in this case the exercise of immense self-denial on the part of committees. We should like to see new flowers receiving only a tentative Award of Merit the first year, and a higher award, say a First-class Certificate, if found worthy the second year. But the standard of merit must be raised very high, that is absolutely essential. Last year, out of a myriad of excellent novelties, there was not one that took an exceptionally high place. We don't want to encourage a deluge of common-places, we want only exceptional merit.

The Potato Crop.—Whilst our Potato crop, like all other vegetation, has been materially affected by the drought, there is no doubt but that on the whole it looks very well, and should there be no appreciable addition to the showers which have fallen within the last few days, there should all the same be a very good crop of tubers, if relatively rather small. Really the showers which have fallen are in danger of doing more harm than good to Potatos. A thorough ground rain, that saturated the soil some nine to ten inches deep, would serve roots and tubers alike, with the result that growth would be even and general. Mere surface showers, however, do but help to induce eye or bud growth on the part of the tubers, with the undesirable result that protuberation follows, and the crop is appreciably injured in the production of both old and young tubers, neither of which are at all satisfactory.

Of course any remedy for this unfortunate product is quite beyond the power of the grower. Nature is master of the situation, and the Potatos have no other course for it but to follow its lead. However, we will not anticipate too much of harm in that way yet. There is time for a great deal to happen, but the weather of the next week or two will determine much for for good or ill to our Potato crops. It is hardly possible that under any conditions we shall entirely escape the usual attacks of disease. They always come, but are harmful or otherwise just as the weather is cold and wet, or warm and dry.

If we listen to the prophets, we shall be assured that such an abnormally hot, dry summer will be succeeded by a cold, wet autumn to furnish that compensation which Nature almost always provides. However, that compensation may not be provided until the winter. Let us hope it may be so. A cold, cheerless, wet autumn would prove to be as great a misfortune as a hot, dry summer, possibly greater, for it would disastrously affect very many things, and carry the harm done over into future years. Especially do we hope our Potatos may escape any greater harm than has so far come to them.

The Horticultural Examinations.—We have been surprised to observe how very little of beating the big drum there has been this year over the Examinations in Horticulture promoted by the Royal Horticultural Society. Last year the few examinations conducted in the county of Surrey led to much felicitation. This year, with the whole kingdom as the examining area, the quietude observed has been really remarkable. Now these examinations are of the greatest value and usefulness to horticulture or they are worth nothing. It is our belief that they can be made capable of serving a most important purpose, and therefore we looked for the results of the recent experiment with great interest.

For the moment a bare list of honours only has been published by the Society, and we suppose we must wait for details until months hence, when all interest in the subject has passed away. So far we have learned nothing as to the locale of any of the candidates or of their vocation. All we can learn from the lists, published in another column, is that out of seventy-six candidates in the higher grade, sixty-two received awards of merit; and of 128 in the second grade sixty only received awards. In the first group six obtained first-class certificates, having 200 marks and over. Twenty had second-class certificates, having from 150 to 200 marks; and thirty-six had third-class certificates, with marks varying from 100 to 150. In the lower grade, first-class honours, with the same ratio of marks, are given to six candidates, second-class honours to sixteen, and third-class honours to thirty-eight. The proportion of good passes is very low, considering the nature of the questions set.

Very much interest would attach to the publication of the occupation, age, and residence of each candidate. Some few are females, and these, doubtless, are school teachers, to whom certificates of this kind may be of value in their vocations. Still, we had hoped that, instead of merely a couple of hundred of candidates, a very moderate proportion only of whom we fear were young gardeners, there would have been at least a thousand. Perhaps the result is as good as can be expected for the first year, but if these examinations are ever to become instrumental in giving to gardening a higher status, they must not only be shared in by large numbers of persons, but the proportion of marks awarded must also be raised to a much higher average.

The Royal Wedding.—We understand that all departments in Messrs. Sutton & Son's establishment at Reading will be closed on the 6th inst., in celebration of the Royal Wedding. The Messrs. Sutton also intend to make the event memorable in their house by presenting all their employés on the 5th inst. with an extra week's pay.

The Royal Wedding Bouquets.—We hear that Messrs. Wills & Segar have received the Royal command to supply the wedding bouquets on the occasion of the marriage of H.R.H. the Duke of York and H.S.H. Princess Mary of Teck. The same firm will also decorate the Royal table for the wedding breakfast at Buckingham Palace.

The Newcastle Summer Flower Show will be held on July 20th, 21st, and 22nd, in conjunction with the great show of the Northumberland Agricultural Society, and with the attractions doubled, we have no doubt it will be a success.

Mr. Angus McLeod, for seven years previous to last November gardener to the Marquis of Headfort, at Headfort House, Kells, co. Meath, has been engaged as gardener and farm manager to G. G. McEntagart, Esq., Highfield Manor, Rathfarnham, co. Dublin.

Mr. John Charles Bowring, Forest Farm, Windsor, died on the 20th ult., aged 72. The deceased gentleman, who had been ill for a long time, was the son of Sir John Bowring, sometime H.M.'s Plenipotentiary in China. He was for many years an ardent amateur cultivator of Orchids, and Cattleya Bowringiana will worthily perpetuate his memory among Orchid lovers.

Orchids in America.—An American exchange of June 8th reports that one of Messrs. Pitcher & Manda's Orchid collectors, from whom nothing had been heard for about five months, and who had almost been given up as lost, recently turned up with seventy-seven cases of a new species of Cattleya, said to bloom in December.

The Royal Agricultural Society's Show at Chester was an unqualified success despite the severity of the depression from which agriculture is unfortunately undergoing with other industries. The number of visitors who paid at the gates for admission on the six days the show-yard was open was 116,374, and the amount taken in cash, £9,353 16s. 6d.

Circumventing the Post Office.—One of the pet grumbles of Mr. Henniker Heaton has always been the high charge of 2d. for registering letters in addition to the 1d. for postage. But no remonstrances have induced the authorities to reduce the charge. He has just heard, however, of a method of getting letters conveyed with special care for the payment of 2d. only. A clerical correspondent of his has observed that if you do not stamp your letter at all, the Post Office will take the greatest care to deliver it at its destination in order that the necessary 2d. for the unstamped letter may be exacted. By enclosing two stamps you reimburse your correspondent; you save yourself a penny for postage, and you may be sure the Post Office will not lose sight of your letter.

Mr. James Littlejohn, a well known American Rose grower, died at Chatham, New Jersey, on June 6th, in his 76th year. Mr. Littlejohn commenced business as a florist in Chatham in 1872, and was a very successful Rose grower. He was born in 1818, near the town of Crieff, in Scotland. At the age of 16 he entered the gardening business as an apprentice, at Blair Drummond, in Perthshire, and afterwards worked as journeyman at Hampton Court, Kew Gardens, and other places, until 1848, when he went to America.

Early Apricots in Devonshire.—"Devoniensis" writes:—"The first proofs of an abnormal season were given by flowers and vegetables showing a phenomenal precocity. Then came bush fruit and

the ground game of Strawberries. Now comes wall fruit. On the 23rd of June, from an open unprotected high wall facing west, Mr. Peter Veitch, in his own garden adjoining his nurseries at Exeter, picked several very fine fruit of the Royal Apricot. They were of a good size, highly coloured for the sort, and perfectly ripe and juicy. We need to go a long way back for a parallel record—picking Apricots from an open wall before midsummer day."

Fruit Trees true to Name.—The importance to buyer and seller of nurserymen keeping their stocks true to name is well illustrated by the following case, quoted from an American exchange:—"Some two years ago the Park Nursery Company, of Pasadena, Southern California, sold to J. C. Sherer some 250 Peach trees, said to be of the yellow-fleshed varieties. After the same had been planted in orchard form and come into bearing they turned out to be of the white, free stone varieties, the fruit of which is not in general demand, and consequently has no commercial value. Mr. Sherer sued the nursery company for damage, including the loss of two years' time, cost of cultivation, interest of capital invested, and first cost of trees, and got judgment for $350. In rendering a decision the judge ruled 'that the sale of nursery stock, billed as of any particular variety is a practical guarantee that the stock is to be as represented; and, further, that the measure of damages now, two years after the setting of the orchard, is the difference in value of the trees now on the land and that of trees of the varieties the nursery company represented the stock sold to the plaintiff to be.' In other words the somewhat hackneyed guarantee that plants 'are true to name' must be lived up to. The decision generally meets with favour alike among nurserymen, dealers, and planters."

A Gardeners' Party at Shipley Hall.—The first excursion of the season of the members of the Nottingham Horticultural and Botanic Society, was made on the 15th ult., the venue being Shipley Hall, near Derby. "One of the company" writes: "A perfect June day, a happy company of two hundred gardeners and garden lovers, headed by the genial president of the society, the Sheriff of Nottingham, Mr. Joseph Bright, a hearty welcome from Mr. Elphinstone, and courteous attentions from him and all his staff; unlimited freedom of observation over the whole place; a good commissariat; lovely views of the beautiful undulating well-wooded Derbyshire scenery and ornamental water, and safe conduct there and back by the Great Northern Railway—when all these points are taken into consideration, it will be no matter of surprise that the Shipley Hall excursion was a real success. The thanks of the excursionists are due to Mr. J. M. Stewart, the secretary of the society, and the committee who organised the outing. And, as the Sheriff in a neat little speech at the end of the refreshment episode said, they were due also most sincerely to Mr. E. M. Mundy and his gardener for the generous way they had thrown open the place and treated them that day. As to the gardens, they are in perfect keeping, and notable for many, many, good things." The beautiful fernery and the Orchid houses especially proved a great source of attraction and admiration.

The Fernery at Shipley Hall.

The Weather in Cornwall.—Rain has come at last, and although not continuous, in sufficient quantities to already alter the appearance of vegetation. One thing is certain, although the rain has not penetrated to any great depth, it has arrived only just in time to save the root and Brocoli crops from becoming entirely useless, and much of the fruit from falling or perishing. This is felt, perhaps, more in the Scilly Islands than elsewhere in England. To give an idea of the condition of things on these Islands it is only necessary to say that the rainfall registered since February, at the meteorological station, is for March, 73-100 of an inch; April, 23-100; May, 61-100, and for June, to the time of writing, 1 100 of an inch.

Despatch of Flowers and a Railway Company's Responsibilities.—It is rather an expensive, but nevertheless a necessary, lesson for the railway companies to learn that they cannot be too careful in the early despatch and delivery of such perishable goods as flowers and fruits. A case was brought before the County Court Judge at Bideford, on Saturday, in which the South-Western Railway Co. were sued by Mr. George Little for the recovery of £2 1s. 6d., the value of a quantity of Daffodils, Primroses, and other flowers sent to Covent Garden on the afternoon preceding Good Friday and not delivered until Saturday, when they were rejected as useless. Mr. A. Mallard, of Covent Garden, stated that the flowers should have arrived on the Friday morning when there was a good market. After twenty-four hours Daffodils were of no marketable value. Judgment was given for plaintiff with costs.

PLANTS RECENTLY CERTIFICATED.

THE undermentioned plants received Certificates at the meeting of the Royal Horticultural Society held on the 20th ult.:—

CRINUM POWELLI ALBUM.—The value of C. Powelli as a hardy outdoor bulb has been known for years. The pure white variety under notice will no doubt prove equally serviceable for the same purpose, and the purity of the large flowers will add to its value. The flowers are somewhat funnel-shaped, but irregular and drooping upon one side. The tube is 3 in. to 4 in. long and pale green. The outer segments are lanceolate, the inner ones elliptic, and there is a slight shade of green in the throat, while the anthers are cream-coloured. First-class Certificate. Exhibited by Mr. F. W. Moore, curator of the Royal Botanic Gardens, Glasnevin.

CALOCHORTUS VENUSTUS VESTA.—The inner petals of this variety are broad, creamy white, and yellow on the basal hairy portion; a heavy crimson brown band runs across them near the middle, with a narrower line lower down, and a blotch at the top of the claw. Award of Merit. Exhibited by Mr. C. G. Van Tubergen, Junr., Haarlem.

CALOCHORTUS VENUSTUS OCULATUS.—The sepals or outer segments are small, lanceolate, and yellow, with a black eye spot near the base. The inner segments are white with a yellow basal portion covered with rosy and brown hairs, and they are further rendered conspicuous by a large black blotch surrounded with yellow. Award of Merit. Exhibited by G. F. Wilson, Esq., F.R.S., and Mr. C. G. Van Tubergen, Junr.

CALOCHORTUS VENUSTUS ROSEUS.—The three small outer segments are yellow with a black blotch. The inner ones are rosy-purple, soon fading on the upper face; they are deep brownish-purple at the base with an orange hairy blotch on the middle of the bearded base and a dark crimson brown one at the top of the same. Award of Merit. Exhibited by Mr. C. G. Van Tubergen, Junr., and G. F. Wilson, Esq., F.R.S.

CARNATION HAYES SCARLET.—The flowers of this variety are large and of a brilliant scarlet, but not fragrant. The petals are broad and entire or slightly toothed at the apex. The leaves are moderately broad and glaucous. The variety is suitable for border cultivation. Award of Merit. Exhibited by Martin R. Smith, Esq., Hayes Common (Mr. Blick, gardener).

CARNATION KING ARTHUR.—In this case the large flowers are of a deep scarlet red, but otherwise comparable to those of the former. Award of Merit. Exhibited by Martin R. Smith, Esq.

BEGONIA COUNTESS OF CRAVEN.—The flowers of this tuberous sort are of great size, fully double and pure white. The petals are broad, rounded, arranged around a single centre and flat at first but slightly wavy as they get older. The leaves are half cordate and of a deep green. Award of Merit. Exhibited by Messrs. John Laing & Sons.

BEGONIA JOHN FRASER.—The leaves of this variety are half cordate, shallowly lobed all along the sides, and toothed. The double flowers are of large size, of the Hollyhock type, and of an intense crimson-scarlet. The outer sepals are broad and flat, while those next to them ultimately become so; the centre, however, is occupied with numerous wavy segments that are incurved in the early stages, giving the flower a peculiar and distinct appearance. Award of Merit. Exhibited by Messrs. John Laing & Sons.

GLOXINIA PRINCESS MAY.—The flowers of this variety are erect, funnel-shaped, five-lobed, and pure white, with exception of a faint primrose tint in the throat. Award of Merit. Exhibited by Messrs. J. Laing & Sons.

ROSE ALISTER STELLA GREY.—This is a climbing Rose after the style of W. Allan Richardson, but much paler in colour. The outer petals are creamy, and the inner ones of a soft creamy-salmon or Apricot colour. In size and numbers the flowers may be compared to those of the variety above named. Award of Merit. Exhibited by A. H. Grey, Esq., Beaulieu, Newbridge, Bath.

ROSE MERRIE ENGLAND.—This is a new striped Rose of the Gloria Mundi type, often, but erroneously, named York and Lancaster, and belongs to Rosa gallica. It is an improvement upon that variety however, fuller in the centre, and more shapely, shaded and striped with rose and carmine in the centre, and fading on the outer petals to a soft rosy-purple. In the bud state it is also compact and shapely. The flowers are fragrant, a fact which adds considerably to its value. Award of Merit. Exhibited by Messrs. Harkness & Sons.

ROSE MRS. HARKNESS.—The flowers of this hybrid perpetual variety are large, rather open in the centre when fully expanded, and rose-coloured, fading to pink flesh, and ultimately almost to white on the outer petals. The leaves have very broad, ovate leaflets. It is a delicately coloured and deliciously fragrant Rose. Award of Merit. Exhibited by Messrs. Harkness & Sons.

HELIAMPHORA NUTANS.—This is one of the carnivorous plants, and comes from the swamps of Roraiwa, British Guiana, where it represents the Sarracenias (to which it is allied) of the North American swamps. They leaves or pitchers of the plant shown by Messrs. J. Veitch & Sons, Chelsea, were 3 in. to 5 in. long, obliquely funnel shaped and open at the mouth, without any lid, and terminating in a cuspidate tip. They were sharply keeled along the inner, or what might be termed the upper, side, pale green and more or less suffused or tinted with bronzy-red, particularly in the case of the younger ones. It is certainly a rare plant in this country and most interesting. Botanical Certificate.

LILIUM BOLANDERI.—The leaves of this Lily are lanceolate, scattered, and of a very dark sub-glaucous green, resembling those of some of the Fritillaries, particularly in their earlier stages. The flowers are produced in a terminal slightly branching raceme, bearing from four to ten blooms, according to the strength of the bulb and stem, which grows about 2 ft. to 2½ ft. in height. They have a bell-shaped tube, and the lamina is sharply revolute above the middle. The segments are crimson-scarlet, and the throat is orange-yellow, blotched with dark crimson. The plant is allied to L. maritimum, but has differently coloured leaves, and much larger, more richly coloured flowers. A First-class Certificate was awarded it when exhibited by Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, at Earl's Court, on the 14th and 15th ult.

THE undermentioned subjects were certificated by the Royal Botanic Society, Regent's Park, on the 21st ult.:—

BEGONIA SIR JOHN LENNARD.—The leaves of this tuberous variety are moderate in size, half cordate, and deep green. The flowers are large, double, rosy-scarlet, and, owing to the wavy character of the segments, they resemble the flowers of a Hollyhock, the guards of which are not very evident however. All the parts are ranged round a single centre. Floricultural Certificate.

BEGONIA COUNTESS OF CRAVEN.—For description of this huge white variety see above. Floricultural Certificate. Both were shown by Messrs. J. Laing & Sons, Forest Hill.

CALADIUM LYMINGTON.—The shield-shaped or sub-cordate leaves of this variety are of a deep green with broad silvery bands running along the mid-rib, and along the course of the curved lateral veins. In addition to this the interspaces are mottled with small silvery specks. Botanical Certificate.

CALADIUM JOHN LAING.—In this case the leaves are cordate with somewhat diverging lobes. The central portion is bronzy-red with the primary and secondary veins of a rich carmine and the rest of a light green. Botanical Certificate.

BEGONIA W. PHELPS.—In this we have a tuberous variety with moderate-sized half-cordate, dark olive green leaves. The stems are stout, as are the stalks of the flowers, which carry the great double blossoms erect. The sepals are soft, rosy-scarlet, broad, rounded, and loosely arranged round a single centre. Floricultural Certificate. Both this and the two Begonias were exhibited by Mr. J. R. Box, Nurserymen, Croydon.

Dr. Nansen's Expedition into Northern Latitudes.—It was necessary that all the provisions taken for this expedition should keep good for at least seven years, and be of the very highest quality of their kind. We understand that Messrs. Cadbury, of Bournville, have supplied about 1,500 lbs. weight of their cocoa essence and chocolate in hermetically sealed tins.

FLORICULTURE.

Rayless Violas.

A VERY attractive bouquet of seedling Violas of the rayless type was sent us last by Dr. Stuart, Hillside, Chirnside, N.B. Having been collected from this year's seedlings, none of them have been named. It is pretty evident that the entire absence of rays will limit the amount of variation to some extent, but we are far from supposing that the race has yet reached its limits. The flowers sent us exhibited several shades of blue, yellow, and white. The yellows exhibited the greatest number of shades of colour combined in various ways, but we were most attracted by a small yellow self belonging to the miniature type, with a deep golden-yellow lip so amalgamated with the eye that the latter had no separate existence as far as colour was concerned. Amongst the larger yellow varieties were several pale yellow, primrose and sulphur yellow varieties of the Sylvia type, the lip of which was perhaps in all cases the darkest in colour, the top ones the palest and the other two intermediate in hue. Some white ones were very pure, with a small golden-yellow eye, and were evidently derived from Violetta through some intermediate seedlings.

The blue varieties are gradually being intensified, and we were particularly taken with a large variety in the style of Blue Gown, but darker, and lightly shaded with purple on the upper petals. Another series of flowers was similarly coloured, but the flowers were of medium size and might be classed with the miniature type. Some of them had a creamy blotch extending down from the small yellow eye, while in others the eye itself extended into a yellow blotch shading into creamy-white. Some of them had pale lilac or lavender flowers with the golden blotch of Violetta on the lip, while in others the golden-yellow eye was reduced to small dimensions, as seen in Countess of Hopetoun. Some were clouded or marbled with blue on a white ground as seen in Border Witch.

Of course it would be superflous to give names to all of the above, as that would be reducing the nomenclature to a state of confusion, and few would be able to distinguish the varieties except by their labels. We trust, however, to the successful raiser to make a judicious selection of those that are well defined from one another and can not only be readily distinguished when seen side by side, but which the connoisseur at least can carry in his mind's eye and recognise them when seen in other collections as well as his own. Although generally spoken of as rayless Violas, it must still be evident that rays are not entirely absent from the blue varieties, although they are very slender. Pure white, creamy, primrose, and yellow varieties do not present the same difficulty. The faint lines in the blue ones are evidently derived from the old Viola cornuta Perfection, which is a more legitimate parent for bedding Violas than the Pansy pure and simple and which has been too freely utilised by many raisers.

Another point we should refer to is the shape of the flowers. With regard to the Pansy, the ideal of the florist has been to produce flowers as round as a crown piece. We should not like to see the same ideal extended to Violas. The flowers of Lavender King, Blue Gown, and some of the seedlings above noted, approach that form, but the most of them are either oblong or obovate, or roundly obovate, and which we consider exceedingly becoming. Nature never meant them to be round, and so long as we aim at getting broad, overlapping petals and solid-looking flowers, we may rest satisfied that we have aided rather than perverted Nature. Occasionally we see a human face as round as a full moon, but who would like to see the whole race improved (?) or reduced to that type?

Inula glandulosa.—THIS plant being in flower may be said to be a month at least in advance of its time, for it usually flowers in July and August. It is likewise rather dwarfer than usual, and must, as a matter of course, pass out of flower at an earlier period than it would do under ordinary circumstances. The stems should be about 2 ft. high, and they terminate in a single head about 3 in. in diamater, with numerously arranged golden yellow florets. The latter are long and slender, and at once impress the beholder with the importance of the plant. It is certainly one of the best, if not the best Inula in cultivation, from a decorative point of view. A good proof of this lies in the fact of its rapid spread in gardens, but particularly market gardens, within the last few years. It was originally introduced from the Caucasus in 1804, but seems to have been lost until re-introduced quite recently.

THE VEGETABLE GARDEN.

Watering Vegetables.

WATERING must still receive constant attention, notwitbstanding that we have had a little rain, which, with the aid of a few dull days, has done some good; but as it has only moistened about an inch of the surface soil, the rough wind since is fast drying tbe ground. One is apt to stop watering when a little rain falls and the weather is dull, but that is tbe time when a good soaking artifically does the most good, and there does not appear to be any prospect just yet of any large quantity of rain falling. A large sowing of late Carrots has with me nearly all been killed wben about an inch high througb the dryness of the soil and the great beat of the sun. Peas of the later sowing are not growing to any great length, altbough they have been well watered and mulched.—*G. H. S.*

Tomatos out of doors.

TOMATO plants out of doors, whether against walls or in the open, sbould be kept regularly pincbed to one stem, and securely staked or nailed as the case may be. If in a dry place give water, and a top-dressing. I have a nice crop on some plants planted against a west wall in April, and tbe first fruits are just beginning to colour.—*G. H. S.*

General Work.

KEEP the hoe going among all growing crops; it is a great belp tbis dry weather, as even if there are no weeds to kill it keeps the soil in a far better condition for the plants. Get out as many winter Greens as possible, and water the plants well as they are planted. Plant out late Celery as soon as large enougb. Clear away early Peas and get the ground dug ready for late Broccoli or Coleworts. Wbere Carrots have missed or gone off, sow again, as there is plenty of time to grow useful roots yet. Keep Vegetable Marrows well watered, or the fruits will not set. Cucumbers in the frames or house require constant attention as to stopping and regulating tbe growths. Strawberry layering can be got on with; place the pots as much together as possible to make the watering easier.—*G. H. S.*

A Good Winter Green.

ONE of the best winter Greens that I know of is Carter's Phœnix Kale. It is very hardy, and will grow under the shade of trees as well as in the open. It passed through 25° of frost last year, and we were cutting from it something like three months. It is one of the best Kales grown, and the flavour is everything that is required.—*Thos. Cockerill, The Gate House, Wirksworth.*

Pea American Wonder Re-selected.

WE gathered our first dish of Carter's Re-selected American Wonder on the 17th of June. I think it a great improvement on the old stock. It is a much heavier cropper, and has larger pods, eight or nine Peas in a pod of superior flavour. Several gardeners who have seen it remarked that they never saw such a crop before.—*T. Cockerill, The Gate House, Wirksworth.*

Vegetables for Cottagers.

IN an instructive practical lecture on the cultivation of allotments and cottage gardens, recently delivered at Wickham Market, Mr. Andrews, gardener at Ashe High House, recommended his bearers to commence preparing the ground for Onions in October by manuring and ridging the soil so as to well expose it to winter frosts. This would tend to rid tbe soil of grubs and pulverise the land. To further eradicate the noisome maggot sprinkle well witb soot, lime, or wood ashes. The best variety for the cottager to grow was the Giant Rocca sown in July, or the Giant Zittau or Brown Globe for spring sowing. Sutton's Giant Lettuce sown in February was tbe best, and for Celery Major Clarke's Solid Red or the Standard Bearer. It was a mistake to use deep trenches, as the plants had then only the poor subsoil to thrive upon. In regard to Cabbages be said it was a mistake to sow all the seed at once. Make two or three sowings so as to have a succession. For Carrots he would recommend Sutton's New Red Intermediate or Daniel's Scarlet. To prevent the wireworm winter cultivation was necessary. Leeks were easy to grow and should find a place in every cottage garden; the best varieties were the Giant or the Lyon. In planting Potatos it was better to wait till the first week in April before doing so. Tben if the Potatos were exposed beforehand, bardened, and commenced sprouting, a crop would be ready to lift in six weeks. The succession should be Early Kidney, Early Rose, Snowdrop, and Magnum Bonum. He concluded with some practical remarks on the cultivation of Horse Radish and Tomatos.

Gleanings from the World of Science.

Movements of Water in Plants.—A weekly paper mostly devoted to scientific subjects, in an article entitled "How Plants are Fed," says that it has been definitely ascertained that the current of water to supply the evaporation that takes place from the leaves of trees moves chiefly "in the cavities of the elements of the wood." In the first place we suppose the writer means transpiration, which is quite a different process from evaporation pure and simple. Then we do not believe that the sap travels through the cavities of the fibres and ducts of the wood, because it has been determined by tbe highest authorities on the physiology of plant life that the cavities of both these elements are filled with air chiefly wben the trees are losing moisture rapidly during the day under the influence of sunlight. This theory then breaks down, because tbe trees continue to transpire while the cavities of the wood fibres and ducts are devoid of water. On the contrary, it has been proved by competent authorities, and is now matter of common knowledge, tbat the water of the transpiration current travels in the lignified walls of the wood fibres and ducts, not in their cavities.

The Height to which Water may be Carried.—The case of the giant Eucalyptus trees in Australia is brought forward as an instance of the height to wbich water may be carried by the stems and trees. Some of them grow from 200 ft. to 470 ft. in height. The theories of capillary attraction and atmospheric pressure may well be laid aside in accounting for this phenomenon. We must not forget, however, that root pressure is a great factor, and that the organic acids and acid salts which saturate the walls of the roots, also saturate the younger cells of the wood in other parts of the tree. Whenever the latter lose moisture by transpiration from the leaves, they are ready again to make up for the loss by absorbing moisture from the cells immediately below them. Each separate cell must exercise some holding power upon the water which it possesses. Water at a beight of 400 ft. is not so heavy, so to speak, as the same quantity at sea level. One might well conceive that each separate cell or its walls in the upper part of the tree having some holding power upon water would also assist in its being raised to a higher level. In the case of the living protoplasm itself, we know that it has a considerable holding power upon the water which it can appropriate, and retains it till it filters out under considerable pressure. This tension holds good at the tops of the highest trees. Nor must it be forgotten that we are dealing to a considerable extent with living, not dead, matter in speaking of the ascent of sap.

The Bleeding of Trees.—The case of the Sugar Maple is brought forward by the same journal as an instance of two different kinds of bleedings. The trees are tapped, it is said, at a time when the ground is still frozen, and the roots cannot therefore absorb. If they did not just then absorb the sap with which the trunk and branches are saturated, they did so at some previous time. We can only conceive of roots ceasing to absorb when all the tissues, including the interior of the cavities of the wood fibres, ducts and vessels, are saturated to repletion after the leaves have fallen, or the ground is frozen to the depths of the lowest roots. In our climate, certainly, anyone may satisfy himself that roots are active at various times during our winter. In the case of the Sugar Maple it is not merely water which is forced out at the openings made in the tree, but carbo-hydrates, chiefly sugar, as well as ash materials. Before the trees were tapped these matters existed in the trees, holding the cells of the same in a state of tension. All this was the result of root pressure; and in spring it is true tbis becomes more active.

Bleeding of Grass.—Our contemporary states that the skin of the leaves of grass is nearly always ruptured, and as a consequence, little drops of water exude there at nightfall, when the air is chilled and evaporation is diminished, while the roots in the still warm soil are actively absorbing moisture from it. If the skin of the leaves of grass is ruptured as so stated, tben the handiworks of Nature are very imperfect. On the contrary, there are natural openings at the tips of grass leaves, and at the edges of other leaves, and of definite shape, according to the species, to permit of the excess of moisture, pumped into the tissues by root-pressure during tbe night when transpiration has ceased, to escape. These water pores, as they are termed, are in close connection with water glands situated close by, but in the interior of the tissues. Those glands are situated at the ends of the vessels of the vascular tissue of the leaves. When transpiration ceases in the absence of sunlight, the tissues of plants get gorged with water, and then the neighbouring vessels get filled with sap by infiltration under pressure, through the weaker and thin portions of their walls. In this way the sap finds its way to tbe water pores during the nigbt. This same thing happens in winter, when the trees are leafless. The tissues get gorged, and if the stem is cut, bleeding ensues. No bleeding would occur if the leaves were transpiring, for tbere would be no sap in the vessels to cause it.

SOCIETIES.

Royal Botanic, *June 21st.*—This was the occasion of the Children's Floral Parade, which was commenced a few years ago as a tentative experiment, but has now become an annual fixture. The occasion was favoured by cool but dry weather, and as tbe Duke and Duchess of Teck with Princess May had promised to attend, and the Duchess to distribute the prizes to the successful children, something like 7,000 to 8,000 people visited the gardens to witness the spectacle. The latter was considered to be a decided success over previous attempts. From a horticultural point of view it was not an ordinary flower show, nor intended to be one, but a number of well-known exhibitors came forward to grace the occasion, and arranged their exhibits on the sloping grass terraces protected by the large marquee where the summer flower shows are held.

One of the four central banks in this marquee was occupied by a fine group of Palms, Dracænas, and Ferns, enlivened by Crotons, variegated Dracænas, Caladiums, Orchids, and a selection of the newer and finer types of tuberous Begonias in various shades of crimson, scarlet, rose-pink, salmon, orange-yellow, and white; the Countess of Craven was a fine type of the latter. Sir John Lennard was a handsome rosy-scarlet sort. Messrs. John Laing & Sons were the exhibitors of this group, and were accorded a small Silver-gilt Medal. Opposite to this was an attractive group of Caladiums, small in leaf, but very diversified in colour and pleasing. The front of the group was set off with a broad band of double flowers of Begonia, done up in trusses with Fern fronds. This was exhibited by Mr. John R. Box, Croydon, who was accorded a large Silver Medal. A similar award was made to Mr. R. Scott, gardener to Miss Foster, The Holme, Regent's Park, for a large group of Palms, Ferns, Caladiums, and Dracænas, enlivened with flowering plants. A Silver Medal was accorded to Mr. J. R. Chard, Stoke Newington, for some elegant floral decorations, the flowers used being Iceland Poppies, pink Cornflowers, pink Sweet Peas, yellow Aquilegias, etc. A similar award was made to Mr. C. Turner, Slough, for a group of blush and pink Malmaison Carnations and Turner's Crimson Rambler Rose, all set amongst Ferns. One of the central banks was occupied with Roses in pots, and also cut blooms shown by Messrs. Wm. Paul & Son, Waltham Cross. Baskets of W. Allen Richardson, Spenser, and L'Ideal were very attractive, and the exhibit secured a small Silver-gilt Medal. A Silver Medal was accorded to Mr. Frank Cant, Braiswick, Colchester, for a fine display of cut Roses in boxes, including stands entirely filled with one sort in each of Souvenir d'Elise Vardon, Ernest Metz, Marie Baumaunn, and Victor Hugo. Mr. Geo. Mount, Canterbury, had a similar award for Roses arranged in the same way, including a box of Teas in the bud state, as well as handsome blooms of Madame Cusin, The Bride, Souvenir d'Un Ami, Souvenir d'Elise Vardon, Innocente Pirola, and others in splendid condition. A large Bronze Medal was awarded to Mr. H. O. Garford, Stoke Newington, for window boxes filled with various Pelargoniums, Antirrhinums, Tradescantia, variegated Maize, etc., arranged in attractive fashion.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.

The 54th anniversary festival of this institution was held at the Hotel Metropole on June 22nd, Baron Schroder presiding over a numerous company, among those present being Lord Teynham, Sir Trevor Lawrence, Bart., Mr. H. J. Veitch, Mr. N. N. Sherwood, Mr. John Lee, Mr. H. J. Adams, Mr. T. F. Peacock, Mr. N. Cohen, Mr. T. J. Braikenridge, Mr. P. Crowley, Rev. W. Wilks, Mr. David Allister, Mr. W. J. Nutting, Mr. John Laing, Mr. H. Williams, Mr. A.W. G. Weeks, Mr. G. Monro, Mr. W. Y. Baker, Mr. Lynch White, Mr. T. Manning, Mr. A. Dickson, Mr. J. Webber, Mr. Peter Kay, Mr. H. B. May, Mr. W. Iceton, Mr. H. J. Cutbush, Mr. C. E. Osman, Mr. William Bull, Mr. Arnold Moss, Mr. W. L. Corry, Mr. Rochford, Mr. Sweet, Mr. A. Turner, Mr. Barron, Mr. P. Barr, Mr. Walker, Dr. Gorton Mr. Melady, Mr. H. J. Wimsett, and a good number of gardeners. In honour of the chairman's well-known love for Orchids, the tables were charmingly decorated by Miss Hudson with Orchid blooms, contributed by friends of the institution.

The usual loyal toasts having been duly honoured, Baron Schroder—in proposing the toast of the evening, "Continued success and prosperity to the Gardeners' Royal Benevolent Institution,"—said, when he was first asked to preside on this occasion he had felt disposed to decline the honour because, although he took the greatest interest in the Institution, he might not be able to express all that he felt, and on that account the institution might not derive all the benefits usually anticipated from the presence of an eloquent chairman. However, he felt sure they would take the will for the deed, and he felt encouraged in accepting the invitation by the reflection that all who loved flowers and fruits, as well as those who cultivated them for their delectation, were as well able to bear testimony to the value of the institution as he himself. In this country they had innumerable hospitals and charitable institutions kindred to their own, but he thought the claims of the aged gardeners upon their bounty would be universally regarded as pre-eminent, and certainly no other institution spoke so much to their hearts as did the Gardeners' Royal Benevolent Institution. Than the flowers — which their gardeners grew with so much skill and patient care, and often at the risk of their health—there was nothing so soothing to the hard worked city man. Flowers surrounded them from their birth to their death: they had flowers at their christenings and their bridals and oving friends surrounded their bodies with flowers when taking them to their last home. Even the boys at school delighted in the possession of a choice flower as a button-hole, and the girls, before arriving at the dignity of diamonds and other precious stones, were content with an orchid spray, while nothing delighted them at the altar so much as orange blossoms. Surely then all who delighted in flowers ought to do everything in their power to alleviate the sufferings and relieve the wants of necessitous gardeners in their declining days. No society did this so well as the Gardeners' Royal Benevolent Institution, and every flower lover ought to be grateful to the institution that affords them an opportunity of helping in so good a cause. The institution was founded in 1838, and two years afterwards there were two pensioners and one hundred subscribers. Now they had 150 pensioners and 1,300 subscribers. That evening he hoped they would show to the world that they were not only good gardeners but true philanthropists, and he had the more confidence in appealing to their generosity in that they spent no money in bricks and mortar—all that the committee received, beyond the necessary expenses of management which, were kept as low as possible, going to the relief of those for whose benefit the institution was founded. In reading through the recently revised rules of the institution, he had been specially struck with the new rule 10 which he thought an admirable innovation, inasmuch as that, in crediting applicants for the pensions with votes in proportion to the number of years they may have been subscribers, they were helping those who helped themselves, and that was the spirit of true philanthropy. The Baron then made an earnest appeal for subscriptions, and for himself remarked that, though no doubt later in the evening some kind words would be said of him, he would much prefer to hear that the subscription list was a larger one than that of last year.

Mr. H. J. Veitch, the treasurer, in replying to the toast, warmly thanked the Baron on behalf of the institution for his presence that evening and for his most sympathetic speech, than which he had never heard one which brought the claims of the institution more closely to their hearts. Though they were granting pensions to 150 old gardeners or their widows at an annual cost of £2,700, their annual average income from subscriptions was only about £2,000, and there were still many most urgent cases awaiting their help.

Mr. Arnold Moss proposed "The Royal Horticultural, Royal Botanic, and kindred societies of London and the United Kingdom," to which Sir Trevor Lawrence, Bart., responded. The Rev. W. Wilks proposed "The Stewards and Officers," which was suitably acknowledged by Mr. N. N. Sherwood, both gentlemen bearing testimony to the conspicuous courtesy and ability with which Mr. G. J. Ingram discharged the duties of secretary. Mr. Ingram then announced that the subscription list amounted to £1,500, Baron and Baroness Schroder contributing £105; Messrs. Rothschild & Son, £105; Messrs. Hurst & Son, £100; Mr. George Monro, £91 18s.; Mr. Henry Williams, £40; Mr. R. Tait, £26 1s.; Messrs. J. Veitch & Sons, £21; Mr. William Bull, £13 8s.; Mr. W. H. Protheroe, £12 1s.; Sir Trevor Lawrence, Bart., 10gs.; G. F. Wilson, Esq., F.R.S., 10gs.; T. B. Haywood, Esq., 10gs.; Messrs. Hugh Low & Co., 10gs.; Mr. W. Y. Baker, 8gs.; Mr. W. B. Latham, £7, etc.

Mr. A. W. G. Weeks in graceful terms proposed "Our Chairman," to which the Baron, replied and the proceedings terminated.

GOVERNMENT GARDENERS.

The London season has been at its height for the last week or two, and society's public parks and gardens have, says the *Pall Mall Gazette*, put on their full fresh greenery. But while we benefit by and enjoy these beautious trees and flowers and lawns, few of us ever stop to think by whom and at whose expense all this work is so charmingly done. It would almost seem the effect of some unseen agency, for we rarely see hoe or rake or spade being plied as we take our walks abroad. Perhaps some short account of the management of these gardens and parks may be interesting at this flowery season, if we deal only with those frequented by the many-headed multitude that forms the part and parcel of the London season. All the Royal parks and gardens are nominally under a special department of Government. Ancient functionaries called "Rangers" are supposed to control them and by-law them. But so far as the gardening of them is concerned they are under the Office of Works, a department of administration which has to do chiefly with the building, repairing, cleaning, and furnishing of Government offices. The society parks and gardens for the beautification of which the Office of Works is responsible are Regent's Park, Hyde Park, Kensington Gardens, the Green Park, St. Jame's Park, the Treasury Garden, Parliament Square, and the Speaker's Garden. Nearly 300 men are employed on this work. Regent's Park has a superintendent and a staff of men for itself. The rest are under another superintendent and staff. Under each superintendent we find a foreman, or foremen, and under-foremen. In Regent's Park the gardeners grow and rear all they need for the beds there. The head nursery quarters for the other places is at Kensington Gardens.

Flowers and plants, like music, have power to soothe the savage breast, and they exercise upon us the same tendering and mellowing influence as the society of children. Who has not noticed that gardeners are, as a rule, kindly, gentle men? But while we in the heat and hurry of the town enjoy these verdant and floral oases of the metropolis, we are apt to forget the lot of the busy toilers who so sweetly soothe our senses. The gardeners of the Government at present begin their work at six o'clock in the morning, and it is a quarter to six in the evening before they hang up the shovel and the hoe. They have a long day of it, for they are allowed only half an hour for breakfast and an hour for dinner: so they do more than a ten-hour day's work. To get to his work in time a man may have to rise at half-past four. He cannot afford to live in the near neighbourhood of society's park. Before he gets home to his supper it is past seven o'clock, so that for sleep and recreation he is limited to about eight hours. If he were well paid for it he need not perhaps grumble, but the wages of the Government gardener are considerably below those of his class. Considering the hundreds of thousands of people to whom the toil of these early-risers gives so much pleasure, something should be done to see that there is no sacrifice made on the altar of public selfishness. It is much to be feared that red-tapeism has got rather a strong hold of the gardeners of the Government, and these horny-handed sons of toil are not practised in the use of either voice or pen.

During a large part of the winter here in London, especially in foggy weather, no gardener can possibly see to work before half-past seven o'clock, and yet the Government gardeners have to lounge about in the cold for a full hour before that, all owing to the thoughtlessness of officialism. That might well be remedied. The men are also supposed to get a half-holiday on Saturday. That is, they leave off work three and a half hours earlier. But, alas, the clumsy arrangement for paying wages makes it generally after four o'clock before any freedom is got. Does it not seem somewhat absurd to make a man walk a couple of miles from his usual place of work to get his pay, and then to find that he must wait his turn in a crowd? Surely that might remedied. On Sunday mornings so many men hav to turn out betimes to gather up paper, straw, orange skins, and the general evidence of the people, before the public come out to enjoy their inheritance. Only twice a year are the beds cleared and fresh plants put in—in October for the spring, and in April or May for the summer, but the work is beautifully done, and the flowers have been carefully grown and reared and selected. There is every reason why we should be proud of our public parks and gardens, and in the same degree there is every reason why we should be grateful to our gardeners, and give them some adequate place in the province of human pleasure and enjoyment.

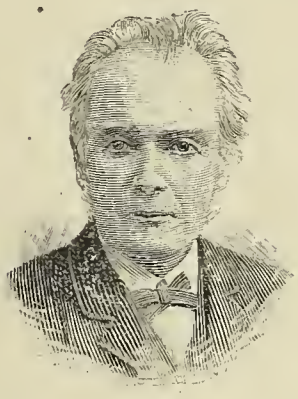
RANSOMES' POTATO PLANTER.

The Royal Agricultural Society last week awarded five Silver Medals for new implements exhibited at the Chester Show, and one of them was awarded to a new double-row Potato planter, manufactured by Messrs Ransomes, Sims & Jefferies (Limited), of Ipswich. The principle of this machine is the same as that of the one they showed at Warwick last year; but it has been altered in many respects and greatly improved in several of the most important parts. The Potato sets to be planted are put into a large double hopper. At each side of this hopper are fixed conical discs, which turn with the road wheels. There discs form the two sides of the hopper and are provided with ten cups, which pick up the Potatos as they revolve. At the back of each cup a lever is fixed, with a projecting needle and a spring. At the right time, in turns, these levers are liberated, and the springs force the needles into the Potatos in the cups. They are then carried round with the discs, and when near the ground the needles are withdrawn and the Potatos drop quietly on to the ground at regular intervals of 13 in. apart, or wider if required. Potatos in the North of England are usually planted on the manure placed between the ridges specially prepared. In this case the machine is fitted with a pole and with a pair of press wheels, which, running on the manure, prepares a place for the seed. When the planting is on the flat, as is the case in other parts of the country, the machine is fitted with small ridging ploughs in front, making furrows for the Potatos to drop in. The width of these furrows can be varied, to plant 24 to 30 in. apart. About seven to eight acres of Potatos can be planted in a day, and at a much more uniform depth than by hand. It has been found by actual experience that 95 per cent., or even more, of the Potatos are correctly planted. The machine was tried on Wednesday on Mr. Taylor's farm, Hoole Hall, near the show-ground, and the trial was so thoroughly satisfactory that the judges awarded it the Society's Silver Medal. Messrs. Ransomes also showed their new Potato digger, fitted with small plough breasts instead of prongs for throwing out the Potatos from the rows. It is this year fitted with a new patent revolving screen, driven by the road wheels, which separates the Potatos more perfectly from the soil and leaves them in a line, thereby effecting a great saving in the labour of picking.—*Bell's Messenger.*

EMINENT VIOLA GROWERS AND RAISERS.

By the courtesy of Messrs. Dobbie & Co., of Rothesay, we are permitted to re-print in our columns the following brief biographical notices and accompanying portraits of half a dozen of the leading Viola growers and raisers of the day, which they recently published in a useful little *brochure* on "Violas and Viola Culture," which many of our readers may not yet have seen.

Mr. William Dean, Birmingham.—Mr. Dean, more than any other man, has, by his able and incessant advocacy of the merits of the Viola in the columns of the horticultural Press, secured for it the position it now holds in public favour in England, and we are only giving honour to whom honour is due by placing his portrait first. Mr. Dean has, during all his life, been a warm admirer of Pansies and Violas, and his is an experience that dates back for well-nigh half a century. He has somewhere said that his enthusiasm for the Viola was first



Mr. William Dean.

kindled by seeing in the possession of his old friend, John Wills, some very fine Violas of the V. cornuta type. Mr. Dean has also a reputation as a raiser, and we cannot refrain from mentioning his "Bridesmaid," which is one of the loveliest Violas we have ever grown. He is well-known as one of the best horticultural judges in the Midland Counties of England.

Mr. John Baxter.

Mr. John Baxter, Daldowie, Broomhouse.—To this worthy and capable gardener is due much credit for his work in connection with Violas. He has been a grower since 1859, and has been a true pioneer in all that appertains to the effective and artistic exhibition of our favourites, while his reputation as a raiser rests on such triumphs as "York and Lancaster," "Gipsy Queen," "Bluecloud," "Ada Adair," &c. Mr. Baxter has hitherto always taken the first prize for seedling Violas, open to all, at the Scottish Pansy Society's annual meeting in Edinburgh. Perhaps his greatest recent success was coming out first at the Great International Exhibition in Glasgow, for twenty-four bunches of Violas, open to the United Kingdom.

Mr. James Grieve, Edinburgh.—This gentleman, who is manager to the well-known and old-established firm of Messrs. Dicksons & Co., Edinburgh, has been a keen florist all his life. In 1862 he started to cross Viola lutea of the Pentland Hills and the ordinary show Pansy. In 1863 he operated in a similar way with V. amœna and V. cornuta, and has, we are sure, found an ample reward for all his labours in being able to raise and introduce from time to time such grand varieties as "Hollyrood," "Bullion," "Virginalis," "Grievei," "H. M. Stanley," "Dorothy Tennant," and "Merchiston Castle." Wherever florists do congregate in Scotland, Mr. Grieve is present; and over the world he has a reputation associated not only with Violas, but with many good things in other departments of horticulture.

Mr. James Grieve.

Dr. Stuart, Chirnside, Berwickshire.—We think it would be a good thing if Dr. Stuart's name could in some way be permanently associated with the new and remarkable race of Violas which he has raised and introduced. The doctor is a devoted lover of hardy flowers, and it was only after a long series of painstaking experiments that he arrived at "Violetta." This is a charming miniature Viola, very hardy—almost truly perennial. The blossoms, which are nearly pure white, are raised above the dark green foliage on short, stiff footstalks. The perfume is very sweet, resembling that of V. odorata. Dr. Stuart has also introduced several other varieties of a larger flowered character, but all of dwarf tufted habit. "Sylvia," a cream-coloured variety, is the best of them, and it is so good that little room is left for improvement. Dr. Stuart's work markes an epoch in Viola culture.

Dr. Stuart.

Mr. George M'Leod, Chingford.—The popular secretary of the London Pansy and Violet Society, deserves recognition for his work in connection with the Viola. He has demonstrated during the last few years that Violas can be grown as well in the neighbourhood of London as anywhere else, and has thus done much to remove a prejudice that existed against them. Mr. M'Leod is, like many more of his countrymen who have gone south and forgotten the way back again, "a successful Scot resident in London." All his spare time is devoted to floriculture. He was one of the founders of the National Amateur Gardeners' Association—a wonderfully successful institution. Even with very limited facilities Mr. M'Leod has succeeded in growing some splendid flowers, and we are certain that, as a raiser of new varieties, he has a great future before him.

Mr. Gegrge M'Leod.

Mr. William Cuthbertson, Rothesay, is the member of the firm of Dobbie & Co., who has taken special charge of the Viola. About ten years ago he became convinced of the undoubted merits of the flower, and also that there was a grand opening in the country for some one to take it up, and, as it were, re-introduce it. The firm seized the opportunity, and their collections of Violas have been features at very many of the important London and other shows ever since. The success which has followed the step is the best proof that it was a wise and timeous one.

Mr. William Cuthbertson.

GILBERT WHITE.

On Saturday last the Selborne Society, in commemoration of the centenary of the death of Gilbert White, the author of "The Natural History and Antiquities of Selborne," paid a visit to the village of Selborne, Hants, where the naturalist was born, where he laboured, and where he died in 1793. Luncheon for the party was laid in a large marquee, and Lord Selborne, who presided, in proposing the toast of "The Memory of Gilbert White," said that the writings of Gilbert White had qualities which were not always met with in scientific or literary works. He desired first of all to speak of the character of the man, and then of his famous book. Until lately they had had no means of knowing the character of Gilbert White save through his book. Gilbert White, they had discovered, was a man of excellent abilities and of wide classical attainments. He was conversant with the best literature of Greece and Rome, and also with the best English literature. In his letters he often referred to Chaucer and "Piers Plowman," with which Englishmen to-day were not always well acquainted. White was an observer of nature, and had prepared himself for the task of observation by the best mental culture. No one could read his book without noticing his remarkable faculty of observation, his constant aim at truth and accuracy, and his frequent flashes of humour. Nor could anyone help being struck with the modest simplicity of his character. That simplicity lent a great charm to his book, and it even produced every now and then a sense of amusement. White's shrewdness of discernment was a most valuable gift, and one that he possessed in a signal degree. His

love of God's creation and of every branch of natural history was displayed very remarkably in his writings. He loved all God's creatures, but especially the birds. The picture they had of Gilbert White had been filled in by a mass of family correspondence that had recently come to light. Mr. Edmund White, who knew him very well, spoke of "his pure character and strict religious principles. Gilbert White had the power of attracting to himself all persons of every age, but peculiarly did he attract the young, who listened with great delight to his instructive tales." It was thought by some that Gilbert White did nothing but attend to and study birds, beasts, fishes, and insects, but that was a great mistake. The impression received from studying the records of White's life had been summed up in this fashion:—"His life may be truly said to have been passed in the constant and diligent fulfilment of the duties of his holy office, from the time of his taking holy orders in 1747 till his death in 1793." Gilbert White's book would be his memorial to the end of time.

THE HERBACEOUS BORDER.

Choice plants in flower.

CAMPANULA HENDERSONI.—In this we have a remarkable and ornamental hybrid produced between C. carpatica turbinata and C. pyramidalis. The progeny is not always identical, for we have seen plants that were smooth and shining as in the latter parent, and on the other hand with hairy stems and leaves, taking after the former parent. There is a large bed of the latter form in the nursery of Mr. T. S. Ware, Tottenham, and which is now in a floriferous condition. The flowers are almost those of C. pyramidalis and blue, while the leafy stems are only 12 in. to 15 in. high, bearing the flowers in a terminal leafy raceme. The leaves are ovate-cordate, and the upper ones lanceolate.

LILIUM BLOOMERIANUM MAGNIFICUM.—From ten to two dozen blooms of great size are produced on the stems, which generally bear about six whorls of lanceolate, dark shining green leaves. The recurved segments are crimson on the apical third of their length, while the rest is orange-yellow, heavily spotted with crimson. It is a magnificent Lily, about 4 ft. to 5 ft. high, notwithstanding the unusually dry summer.

LILIUM POMPONIUM.—The bright orange-red flowers of this species, although of moderate imensions compared with those of L. Bloomerianum, are nevertheless handsome. They are closely revolute like those of L. pyrenaicum, which is closely related to the present plant, although the colour is so different. The leaves in both cases are linear and very densely arranged upon the stems, and to all intents and purposes are closely identical. The stems vary from 18 in. to 3 ft. in height, but are only about half their usual height this season.

CAMPANULA ROTUNDIFOLIA HOSTII.—At first sight this plant is considerably different from the usual form of the wild plant of this country; but it differs chiefly by its larger size and greater vigour, with larger and more numerous lanceolate leaves upon the stem. The flowers are blue, but there is a variety named C. r. H. alba, with white flowers, and very choice.

ALSTRŒMERIA CHILENSIS.—The variation in colour of this species is considerable. The flowers are produced in a sort of corymb on stems about 12 in. to 18 in. high, and as almost every stem of any strength flowers, a bed of the plant presents a floriferous and gay aspect. The ground colour of the flower may be scarlet, rose, pink, pale or deep yellow, and the two upper segments, which stand away from the rest, are beautifully striped with crimson-scarlet. The leaves have been ripened off before their time by the great heat. The plant likes an open friable soil.

DELPHINIUM NUDICAULE.—The dwarf habit of this plant and its somewhat succulent nature require somewhat different and more careful treatment than the stronger growing species. Slugs are very fond of Delphiniums in the early spring, but particularly of D. nudicaule, which should be planted in friable well-drained soil, in a position where it would be more directly under the eye so that it could be looked after. Most of the above we noted the other day with Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

EXPERIENCES OF AN ORCHID COLLECTOR.

MR. IGNATZ FORSTERMAN, of Newtown, Long Island, U.S.A., spent six years of his life travelling through the districts of the East where Orchids grow in greatest abundance, and where the chances are most numerous for discovering plants which have been hitherto unknown to the world at large. No more enthusiastic horticulturist ever set out upon a campaign of this kind than Mr. Forsterman. He was born at the ancient City of Coblentz, on the River Rhine, and being rather frail in his youth the doctor prescribed out-door work, and thus he came to be regularly educated as a florist. He went to one of the many gardening schools which exist in Germany, and there he remained for three years, becoming meanwhile greatly interested in all forms of plant life. From there he went to a great establishment at Bingen on the Rhine, now the property of the Duke of Hesse, where his knowledge of botany was greatly extended and his enthusiasm immensely stimulated. Here he became very much interested in Orchids, but it was not until he went to the Botanical Gardens at Basel, Switzerland, that he caught the fever for exploring foreign fields for rare flowers. The inspector of these gardens had travelled in Brazil in search of flowers, and he related his experiences to Mr. Forsterman, and the latter then determined to improve his first opportunity to travel in Eastern lands.

HOW CYPRIPEDIUM SPICERIANUM WAS FOUND.

This opportunity came to him in the shape of a commission from the firm of Sander & Co., St. Albans, England, who desired him to proceed to Calcutta and find an Orchid which was very rare, but which was known to be growing somewhere in India. This was in the year 1881, and the name of the Orchid was Cypripedium Spicerianum. There were only three specimens of the plant outside India, and these were valued at $1,250 apiece. It scarcely needs to be stated that India is a very extensive country, because everybody knows it, but this fact must be borne in mind in order to fully comprehend the immensity of Mr. Forsterman's undertaking. Fortunately, he knew the name of the man who had sent the precious plants to England, and so when he reached Calcutta he applied to the Post Office Department for his address, but all information was refused, and the Orchid hunter spent weeks trying to find some traces of the whereabouts of the man whom he had come thousands of miles to find. One day Mr. Forsterman was walking the streets of Calcutta, anxiously turning over in his mind some new expedient for discovering the man he was after, when he accidentally caught sight of a sign which read "Tea Planters' Gazette." It so happened that the man who sent the rare Orchids to England was a tea planter, and so Mr. Forsterman reasoned that at the office of such a paper the man might be known. He reasoned correctly. But, alas, another difficulty immediately presented itself. There were two persons of the same name, and they were both tea planters. Mr. Forsterman again put his reasoning powers at work, and came to the conclusion that a flower so rare as the Orchid he was trying to find must of necessity come from the locality least known, and where there was the smallest number of inhabitants. Again the thinking apparatus, without which no Orchid hunter can be successful, stood him in good stead. He proceeded to the tea plantation of the man in the more secluded region of India, and there he found the flower he came so many miles to discover. The place was a very long distance from Calcutta. Mr. Forsterman travelled part of the way by rail and part by boat. When on the cars and certain rivers were reached, he was obliged to alight, go on board a steamboat, and take another train on the opposite bank of the river. The reason of this was that these streams widened in the rainy season until they were six miles across, and so bridges could not be built which would be of much service. When travelling by boat the motive power for propelling the craft was coolies on the shore with a stout rope, who pulled the boat along. By this primitive method of travelling Mr. Forsterman finally reached his destination.

The most difficult part of his task was now to be performed. The precise location of the plants was a profound secret. The forests of that country also abound with wild beasts of the most ferocious kinds. After much patient inquiry Mr. Forsterman succeeded in locating the precious plants, and he immediately proceeded to make up a party to go with him into the forests and secure them. There had to be men to carry the luggage, to build huts for temporary shelter, and still others who were familiar with the habits of wild beasts, and were prepared to defend the Orchid hunters against them. A fatal disaster befell a member of the party while on the way, which well might have discouraged a man of less sterner stuff than Mr. Forsterman. A man who was well in advance of the main party was attacked by a tiger and killed before his companions could come to his relief. Some soldiers who were posted near where the disaster occurred heard the cries of the man and shot the tiger. It was just between daylight and dark so that the soldiers did not penetrate further into the jungle at the time, but waited till morning. They then went to see the result of their marksmanship, and found that they had wounded the tiger so that he could not move from the spot, and he was feeding upon the dead man whom he had slain before the soldiers had fired upon him. They then despatched the brute, and he proved to be an old one. These are the sort, Mr. Forsterman says, which are man-eaters in India. The younger animals are able to kill deer and large game of that kind, but when a tiger begins to get old he becomes a man-eater. The natives who made up this party were very expert at building huts for shelter at night. In an hour's time they would construct a house which would be very serviceable indeed, being water-tight and a good protection against the prowling wild beasts which are the constant dread of those who are obliged to penetrate into the East India forests.

At last the long-sought Orchids were found in great profusion. Mr. Forsterman says that it is impossible to form any conception of the beauty of these plants when seen growing in the dense forests of India. In tropical countries it is an ordinary sight to see a tree adorned with multitudes of the most beautiful Orchids of a variety of colours, forms, and odours. To get a sight of this kind fully repaid Mr. Forsterman for all his many privations. There were a multitude of birds of brilliant plumage in the regions visited, and delicate ferns, one of which, Pteris Victoriæ, Mr. Forsterman introduced to the Western world, and specimens of which he now has growing in his greenhouses at Newtown. The Orchids which were procured on this first trip were taken down to the city of Calcutta and carefully packed and shipped to England, and the successful hunter was in due time gladdened by a cable message informing him that they had arrived at their destination in safety. After selecting a number of the choicest of the plants the rest were sold at auction and the sum of $16,000 was realised.

BORNEO AND THE HEAD HUNTERS.

After visiting various parts of India and meeting with much additional success, Mr. Forsterman went to the Island of Borneo, where Orchids grow in great luxuriance and wonderful abundance. This locality is the home of the barbarous Dyaks, who are also known as head hunters because of their propensity for cutting off the heads of their enemies, smoking them, and then hanging them up in their houses as ornaments. Some of the orgies which these people practice when the passion for human blood comes upon them are too terrible almost for belief. "I never had the slightest trouble with them," said Mr. Forsterman, in speaking of his experiences in Borneo. "I went into their houses, saw the heads hanging up in various places, and they were ghastly in appearance, I can assure you, but the Dyaks never gave me any trouble. Though these head hunters are almost in a savage state, they still stand in wholesome dread of the consequences of interfering with the white man. Once I was invited to one of their sacred dances and could not avoid going, though I would gladly have stayed away if possible. They mixed what was to me a most disgusting liquor made from rice, and dipped it out of a big cauldron standing in the middle of the house where the conclave was held. The Dyaks chewed a nut from a palm which grows in that country, and this left their lips stained in a manner surpassing the most inveterate tobacco chewer in this country. The small drinking vessel was for the entire company, which added to the disgusting character of the entertainment for me."—*Brooklyn Times.*

GARDENING MISCELLANY.

EARLY STRAWBERRIES.

I was much pleased to read in the Gardening World (p. 679) that Mr. McVinish, Lockington Hall, Derby, had been blessed with an early crop of Strawberries. My Strawberries started to colour in the second week in May, but on account of my employer being from home I did not gather until the 7th of June. My plants were planted in the last week in September, and the ground has carried a crop of winter Lettuce between the rows. Last year I was gathering Strawberries for nine weeks from James Veitch and President, but I am afraid we shall not have such a long season this year. We shall, however, have a much heavier crop of larger fruit. Crescent Seedling is a heavy cropper, fruit rather small, but excellent in flavour. Competitor bears fruit which is bright red, very large, and the flavour beautiful. The last and best of all is Waterloo. It is a handsome fruit, much larger with me than Noble, dark crimson, indeed nearly black, and very luscious. It would be very interesting to hear how Strawberries are doing in other parts of the country. Information as to the sorts that have done the best, and the treatment they have received, would be very useful.—*Thos. Cockerill, Wirksworth.*

ERYNGIUM GIGANTEUM.

To many people who are really fond of flowers, this plant would present little that is attractive, especially if compared with several other species in gardens, and which have steel-blue stems and bracts. E. giganteum does, however, appeal to a large number of human beings, if we are to judge from the quantities of it grown in some market gardens. The heart-shaped leaves are of a light green with grey or silvery veins. The latter are more prominently brought out in the bold, spiny bracts which surround the head; indeed the bracts are often wholly of a silvery-grey hue, and they seem to have been improved in this respect by the dry weather. The natural boldness and rigidity of all parts of the plant would stand out in bold relief to the slender gracefulness of other kinds when used in the cut state; and the fact that the bracts and heads retain their characters for a long time, whether in water or not, would tend in no small degree to popularize the plant for indoor decoration. The plant is only of biennial duration, and requires to be propagated by seeds, which it produces freely.

WAKEFIELD PAXTON SOCIETY.

The Strawberry was the subject of discussion at the meeting of this society, on Saturday last, the 24th ult. Mr. Whiteley was the chairman for the evening, and after the adoption of the minutes of the previous meeting, called upon Mr. Brown, of Hatfield Hall Gardens, to read a paper on that most luscious and interesting fruit, the Strawberry. He (Mr. Brown) needed very few words of introduction from him, he was so well known to them all as one who had worked hard in the interests of the society almost since its commencement, and had often entertained them, both at their ordinary meetings, as well as at their social gatherings. There was a good attendance of members, who showed marked appreciation of the way, both apt and practical, in which Mr. Brown dealt with his subject.

A somewhat animated discussion ensued, opened by Mr. A. Maker, and continued by Messrs. Pitts, Eastwood, and others. The variety Noble was much deprecated, and although this has been the most exceptional season on record in conducing to flavour in this popular fruit, many have again pronounced it as sadly lacking in quality. The older varieties, especially Vicomtesse Herécart de Thury, President, and Sir Joseph Paxton, far surpassed it in all round excellence. It is worthy of note that most beautiful samples have been gathered in the Wakefield district, any shortcomings in the average weight of the crops being fully balanced by wonderful size and flavour. This fact merits the attention of cottagers and others who are liable to pin their faith to bush fruits as the main source of preserves for their families. Strawberries have maintained themselves well in a most trying season. On the other hand, Currants have shrivelled and dropped off, and red spider and caterpillars have devastated the Gooseberry trees.

ROSE SHOW AT EARL'S COURT.

The second Rose show of the season at Earl's Court was held on the 28th ult., in the large tent. The cooler weather which we have been enjoying lately has acted beneficially upon the Roses, which were larger, brighter and fresher in colour, with exception of the Teas and Noisettes perhaps. The first award for forty-eight blooms of Roses was taken by Messrs. Harkness & Sons, Bedale, Yorks. In their stand were magnificent blooms of Gustave Piganean, Lady Mary Fitzwilliam, Marie Baumann, Horace Vernet, Thomas Mills, John S. Mill, Madame Gabriel Luizet, Charles Lefebvre, Duchess of Bedford, A. K. Williams, Xavier Olibo. The second award went to Mr. Frank Cant, Braiswick, Colchester, whose blooms were distinctly smaller but fresh. He had good blooms of Comte de Raimbaud, Suzanne Marie Rodocanachi, &c. Mr. B. R. Cant, Colchester, was the third prize winner in this class, but several weak blooms spoiled his stand. There were six entries in this class. In the class for twenty-four Roses, three of each, Messrs. Harkness & Sons, and Mr. Frank Cant were equal first, the former, having their exhibits in four boxes, making a grand display. The first award for twenty-four Roses, single blooms of each, was taken by Mr. G. W. Burch, Peterborough, who had some grand blooms of Her Majesty, Ulrich Brunner, Horace Vernet and others. The second award was taken by Mr. Frank Cant, whose blooms were smaller. Messrs. Perkins & Sons, Coventry, were third. The first honours for twenty-four Tea and Noisette Roses, were taken by Mr. B. R. Cant, who had fine blooms of Madame de Watteville, Ethel Brownlow, and Maréchal Niel, but many of them were past their best. Mr. F. Cant was second, and his flowers were much in the same condition. Mr. G. Mount, Canterbury, had the best eighteen Teas and Noisettes, with fine blooms of Innocente Pirola, The Bride, Madame Cusin, and others, the bulk of which were fairly fresh. Messrs. D. Prior & Son, Myland Nurseries, Colchester, took the second place; and Mr. G. W. Burch was third. The first prize for twelve trusses of any light Rose was taken by Messrs. Perkins & Sons, with Her Majesty, in magnificent condition. Messrs. Harkness & Sons, took the second place with Mrs. J. Laing; and Mr. B. R. Cant was third with Her Majesty. The latter had the best stand of any dark Rose, showing Alfred Colomb. Messrs. Harkness & Sons were second with Charles Lefebvre; and Mr. F. Cant was third. The prizes for eighteen bunches of garden Roses brought out a fine display of the old-fashioned kinds. Messrs. Paul & Son, Cheshunt, were first; Mr. C. Turner, Slough, was second, with a fine exhibit likewise; and Mr. G. Mount was third with smaller bunches. The first prize for twelve trusses of Tea or Noisette was taken by Henry V. Machin, Esq., Gateford Hill, Worksop, showing Souvenir de S. A. Prince. Messrs. D. Prior & Son were second with Maréchal Niel; and Mr. B. R. Cant was third.

In the amateurs' classes the first award for twenty-four hybrid perpetuals was taken by E. B. Lindsell, Esq., Bearton, Hitchin, who had a very even stand of blooms. The Rev. J. H. Pemberton, Haveringatte-Bower, was a good second. These two exhibitors had an equal first prize in the class for twelve Roses, three blooms of each. The Rev. Hugh A. Berners, Harkstead Rectory, Ipswich, had the best twelve blooms; J. Gurney Fowler, Esq., Glebelands, South Woodford, Essex, was second. The Rev. Hugh A. Berners had the best twelve Teas and Noisettes, which were fresh.

In the open classes the first prize for a group of Begonias arranged for effect was awarded to Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, who had a splendid group lightly arranged with Palms, Asparagus, and Maidenhair Ferns. The first prize for twelve bunches of Gloxinia blooms was taken by Mr. Thomas Bones, Heaton Gardens, Cheshunt. Mr. W. Howe, gardener to H. Tate, Esq., Streatham Common, was second with considerably inferior sorts.

The first prize for six dishes of fruit was taken by Mr. J. McIndoe, Hutton Hall, Guisborough, who had black and white Grapes, Peaches, Nectarines, Figs, and Clapp's Favourite Pear in fine condition. Mr. A. Ocock, gardener to Mrs. McIntosh, Haveringatte Park, Romford, was second; and Mr. Robins, gardener to Col. Lee, Hartwell House, Aylesbury, was third. Mr. Thos. Osman, The Gardens, Ottershaw Park, Chertsey, had the best black Grapes. Mr. J. Taverner, gardener to Sir A. K. Macdonald, Bart., Woolmer, Liphook, Hants, took second. Mr. J. McIndoe had the best white Grapes; and Mr. T Osman was second. Mr. H. Poulton, gardener to C. T. Cayley, Esq., took the first place for three Melons, showing Hero of Lockinge of large size. Mr. J. C. Mundell, Moor Park Gardens, Rickmansworth, was second; and Mr. S. Mortimer took the third award with fine-sized samples. Mr. Poulton and Mr. J. McIndoe was first and second respectively for one Melon. Mr. C. Stocking, gardener to Walpole Greenwell, Esq., Marden Park, Caterham Valley, had the best Peaches, and Mr. W. H. Divers was second. Mr. W. Robins had the best dish of Nectarines in Spencer. Mr. J. McIndoe was second for both a dish of Nectarines and one of Figs. Mr. W. Allan, gardener to Lord Suffield, Gunton Park, Norwich, was first for Figs. Mr. J. Gurney Fowler had the best two dishes of Cherries, and Mr. W. H. Divers took the second place. Mr. W. Allan again took first for three dishes of Strawberries, and Mr. W. H. Divers was second. The same order was maintained for one dish of Strawberries. On the whole the Strawberries were of handsome size, and elicited great admiration.

The ends of the tent as usual were occupied with miscellaneous exhibits. Messrs. Barr & Son, Covent Garden, had two banks of herbaceous cut flowers, including Lilies, Veronicas, Statices, Iceland Poppies, Delphiniums, Œnotheras, and others in considerable variety. A sloping bank of cut Roses was exhibited by Messrs. Wm. Paul & Son, Waltham Cross. Many of the Roses were set up in baskets, one kind occupying each. Conspicuous amongst them were Merville de Lyon, L'Ideal, Madame A. de Rougemont, Ulrich Brunner, Paul's Single White, and others. Six boxes of Strawberries in fine condition, including Gunton Park, Lord Suffield, and Empress of India, were exhibited by Mr. Wm. Allan, gardener to Lord Suffield, Gunton Park, Norwich. Four new varieties of Strawberries of large size were exhibited by Mr. Forman, 24 B, Newmarket, Louth Lincs. A collection of three dozen Melons of a useful size, and all of the true type of Hero of Lockinge, were exhibited by Mr. S. Mortimer, Rowledge, Farnham. Elevated behind them was a fine bank of cut branches of Stephanotis in a most floriferous condition, and allowed to fall down and become intermingled with the Melons. A Spiræa named Anthony Waterer was shown by Mr. A. Waterer, Knap Hill, Surrey. Large fruiting plants in pots and also cut branches of Tomatos were exhibited by Mr. T. Burridge, Norwood Lodge, Southall. A collection of Cherries, including Early Rivers, Montreuse de Mazel, White Bigarreau, May Duke, Semis de Burr, as well as Amsden June, and Alexander Peaches, the latter being the best, was exhibited by Messrs. T. Rivers & Son, Sawbridgeworth. They also had a new unnamed Peach, a fruit of which measured 12 in. round and weighed fifteen ounces. A group of the Old Clove Carnation set up with Ferns, Caladiums and other fine foliage plants was set up by Mr. J. Walborn, Cedars Nursery, West Kensington. Some heads of new Cauliflower were exhibited by Mr. Thomas Bones, Heaton Gardens, Cheshunt. Some baskets of Grapes, Tomatos and Cucumbers, were shown by Mr. G. Featherby, Gillingham, Kent. A collection of Tomatos was shown by Messrs. Fellowes & Ryder, Orpington, Kent. Arcadian decorations were exhibited by Mr. J. R. Chard, Stoke Newington. Peaches were shown by Mr. W. H. Divers, gardener to J. T. Hopwood, Esq., Ketton Hall, Stamford. In the main exhibition building a tastefully arranged table of plants was set up by Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, Sussex. Five velvet-covered stands were covered with sprays of Violas, Roses occupied the front, and bunches of herbaceous flowers were placed in suitable positions. A similar amount of space was occupied by Messrs. Jarman & Co., Chard, Somerset, with trophies of fruit and vegetables, intermixed with Sweet Peas, Carnations, and other flowers. Mr. W. Davies, gardener to W. T. Darnell, Esq., 99, Stamford Hill, had an attractive group of Cattleyas set up and intermingled with Palms, Ferns, Caladiums, and Crotons. Some of the Cattleyas were of a high standard of merit.

ORCHID NOTES AND GLEANINGS.

Hybrid Cypripedium from Pickering Lodge. We have been favoured by Mr. Holmes, gardener to George Hardy, Esq., Pickering Lodge, Timperley, with some flowers of a hybrid Cypripedium, which, under the name of C. Hardyanum, created some interest when shown in one of the hybrid Orchid classes at the late Manchester Show, inasmuch as the judges there passed it over on the ground that it was identical with the Messrs. Veitch's C. macrochilum, and reviewing the situation with the flowers now before us we can come to no other conclusion than that the judges were right. Mr. Hardy's hybrid is the result of a cross between C. Ainsworthii and C. caudatum, while C. macrochilum came from a cross between C. longifolium and Uropedium Lindeni, the latter being the pollen parent. Uropedium Lindeni is now considered by botanists to be merely a variety of Cypripedium caudatum with a flattened lip, and which does not seem to have a different effect on the progeny from that of C. caudatum. C. macrochilum received a First-class Certificate from the Royal Horticultural Society on the 11th August, 1891, and a fairly detailed description of it taken by us on that occasion does not show any difference between it and the flowers now sent us. C. Ainsworthii had for its parents C. longifolium Hartwegii and C. Sedeni, the latter being the pollen plant. It is rather striking that the results should have been so closely identical in both cases. But one of the parents of C. Ainsworthii was C. longifolum Hartwegii, so that Mr. Hardy's plant had the latter indirectly, and C. caudatum for its parents, while C. macrochilum had Uropedium Lindeni substituted for C. caudatum; but both of the latter have been shown to be botanically forms of the same species. Hence we are not so surprised at the results.

The undermentioned awards were made by the Orchid Committee of the Royal Horticultural Society at the meeting on the 20th ult.

Cattleya Warscewiczii Sanderæ.

Besides this Cattleya, which has been named after Mrs. Sander, there is another named C. W. Sanderiana, a larger flowered variety, and somewhat paler in colour. That under notice has warm rose sepals, netted with a darker hue. The petals are ovate, crisped, or wavy, and a shade or two darker than the petals, and likewise netted. The lip has an intense crimson-purple wavy lamina, with a paler blotch towards the apex. The eye spots in the throat are well defined, and yellow with white edges. The tube is arched and of a deep purple externally, with the usual lines internally. Award of Merit. It was exhibited by Messrs. F. Sander & Co., St. Albans.

Dendrochilum filiforme.

A small plant of this is a beautiful object when carrying a few racemes of its small but elegant flowers like filagree work. Individually they would not be much to look at, but their greenish-yellow hue with an orange column in the centre, and their arrangement in double rows on very slender almost thread like peduncles give them a fairy aspect. A specimen in a pot, and bearing sixty to ninety racemes, was exhibited by Messrs. F. Sander & Co. Botanical Certificate.

Epidendrum Forgetianum.

The habit and form of the pseudobulbs are similar to those of E. seligerum, E. replicatum, E. vitellinum, and others, but the colour of the flowers is different. The sepals are spathulate, concave near the tip, and of a dusky yellow, netted with deep brown. The petals are roundish and clawed, though otherwise similar. The three-lobed lip has a creamy-ridged middle lobe; and the lateral ones are rosy with deeper lines, and folded over the purple column. The flowers are slightly fragrant. The strap-shaped leaves are channeled, keeled, leathery, and borne in pairs upon the ovoid pseudobulbs. Botanical Certificate. It was shown by Messrs. F. Sander & Co.

Hexisia bidentata.

The specific name appears to refer to the leaves which are bidentate and borne in pairs on each joint of the curiously branching stem, which produces one to three somewhat fusiform joints at the top of each every year. Each joint terminates in a short raceme of one to four small or moderate sized scarlet flowers, with a shinning brown blotch on the lip. The sepals are lanceolate, the petals smaller, and the lip oblong. Botanical Certificate.

Lœlia crispilabia var.

The pseudobulbs of this are ovoid, and half an inch to one inch long, bearing one grooved leathery leaf and one to two-flowered terminal raceme, but probably more on a well grown plant. The sepals and petals are lanceolate, and soft rosy-purple, while the lip is deep orange yellow and three-lobed. The side lobes are flat and triangular, while the middle lobe is crisped and folded, as the name implies. The plant itself is a mere form of L. cinnabarina, but very distinct in colour. Botanical Certificate.

Luisia Amesiana.

There are about ten species of Luisia, but that under notice does not appear to have been in cultivation hitherto. The leaves are 4 in. to 5 in. long, and terete, like those of Vanda teres. The sepals are ovate, the petals oblong, and all yellow, suffused with reddish. The lip is the largest organ of the flower, with an oblong, bifid, yellow lamina, spotted and blotched with black; the side lobes are triangular, and the disc has a black blotch almost covering it. Botanical Certificate.

Luisia volucris.

The oblong-subulate sepals are grooved or incurved at the sides, and yellowish tinted with red. The petals are linear-oblong, straw-coloured at the base, and yellowish upwards. The ovate lip is recurved at the sides, and deep velvety-black or purple; its side lobes are reduced to small teeth. The disc of the column is edged with black. Botanical Certificate. This plant does not seem to have been hitherto cultivated. The above four, from Hexisia bidentata to Luisia volucris inclusive, were exhibited by Sir Trevor Lawrence, Bart., (grower, Mr. W. H. White) Burford Lodge, Dorking.

Odontoglossum peruviense.

The sepels and petals of this Odontoglot are lanceolate and deep chocolate brown, with yellow tips and narrow yellow edges. The oblong, cuspidate lip is similar in colour with an additional yellow disc, while the crest consists of two prominent lobes in front and four to six smaller ones behind, all of which are white. The wings of the column are toothed and spotted with brown on a yellow ground. On the whole the plant comes nearest to O. Lindleyanum mirandum, but is by no means identical as far as colour is concerned. Botanical Certificate. It was exhibited by Messrs. Charlesworth, Shuttleworth & Co., Heaton, Bradford.

Cattleya Mossiæ Fowleriana.

The sepals and petals of this beautiful Cattleya are white, the latter being ovate and crisped at the margin. The lip has a flesh-coloured tube externally, and a white lamina closely marbled with pale lilac. There is a pale yellow blotch in the throat, extending on to the inner face of the side lobes; and the tube internally is purple, lined and netted with white veins. A Botanical Certificate was awarded it by the Royal Botanic Society, on the 21st ult., when exhibited by J. Gurney Fowler, Esq., Glebeland, South Woodford, Essex.

JAPANESE PLANTS AT CHICAGO.

One of the most interesting features in the Horticultural Building at the World's Fair, is the miniature Japanese garden. This is composed almost entirely of dwarfed plants arranged in typical Japanese style. Near the centre is a pool of water crossed by a rustic bridge, and a winding path leads through the garden from one end to the other. Among the plants used there are forty varieties of Japanese Maples, showing a wonderful variety in form and colour of the foliage, and the gem of the collection is a plant in a 16-in. pot, upon which twenty-four varieties have been grafted. Then there are 200 varieties of Irises, 140 varieties of Pæonias, twenty varieties of Azaleas, eight varieties of Bamboo, and seven sorts of dwarfed Evergreens. Among the dwarfed Evergreens is a Thuja that is supposed to be at least 100 years old.

A strange form is a Pine in a pot which has been grown so that the roots have been made to do service as a stem, while the tree has been kept in the form of a mat at the junction with the roots. The mat of minute foliage carried aloft by the rough roots as stems make a curious object. Hanging from the bridge and other places are what seem to be roots twisted into wreaths and other curious forms, covered with handsome Fern foliage. These proved to be Aspleniums trained to grow on frames of water moss. One hanging near a rustic stone wheel was in the form of the hook used to fish out a lost bucket from a well. In the pool of water float a number of mossy blocks upon which are growing freely Lomaria japonica. The blocks, Mr. Izawa explained, were sections of the trunks of tree Ferns to which the Lomaria readily attaches itself, and which float readily.

Among the Bamboos was a very pretty variegated form of exceedingly dwarf growth—so dwarf that at first glance it would be taken for a variegated Grass. A striking feature is what might be called a microscopic garden in a miniature garden. It is a wooden float about 3 ft. by 4 ft. upon which are arranged the smallest plants in a garden similar in plan to the larger one. It is really too small even for a doll's garden and attracts great attention from visitors, most of the ladies pronouncing it "just too cute for anything." This exhibit is by the Japanese Government and is in charge of Mr. H. Izawa, who is not only an excellent gardener, but a very pleasant, intelligent gentleman, who has mastered the English language and is able to introduce all comers to his pets.—*American Florist.*

ROYAL HORTICULTURAL SOCIETY'S EXAMINATION IN HORTICULTURE.

CLASS LIST, 1893.

Higher Grade.

76 Candidates.

First Class (over 200 marks).

Dutton, F. V.	235	Nickolls, H.	200
Busby, W.	205	Smith, A. E.	200
Lewis, John	205	Dowse, J. D. S.	200

Second Class (Between 200 and 150 marks).

Gilmore, E. G.	190	Stokes, W. J.	165
Manning, A. J.	185	West, W.	165
Witts, Geo.	180	Dicken, C. J.	165
Morril, S.	175	Barrett, J.	160
Ames, H.	175	Byrne, M.	160
Pierce, A. N.	170	Fincham, H.	150
Emmott, J. T.	170	Rewcastle, J. H.	150
Butcher, G.	170	Mure, S. C.	150
Bishop, G. A.	170	Cæsar, E.	150
Blake, Winifred	165	Farris, E.	150

Third Class (Between 150 and 100 marks).

Tinley, G. F.	145	Eggleton, E. G.	120
Hutchings, C. F. F.	145	Yetman, S. E.	115
Gudgin, F.	145	Pascoe, W.	115
Ashdown, A.	145	Gullick, W. F.	115
Tufrail, F.	140	Waller, E.	115
Tabor, R. J.	140	Tagg, H. F.	110
Morton, J. H.	140	Sands, W. N.	110
Bridges, A. J.	140	Overy, Hy.	110
Parkin, J. H.	135	Clarke, Lilian E.	110
Gant, R. C.	135	Catt, A.	110
Wagstaff, W. T.	130	Chamberlain, W.	110
Humphries, F. W.	130	Philbrick, A. E.	105
Morrison, J.	130	Milne, W.	105
Somerville, D.	125	Elliott, E. J.	105
Rule, A. G.	125	Dangerfield, A. G.	105
Bailey, A. C.	125	Carter, J.	105
Young, T. A.	120	Saunders, G. R	100
Beech, Geo.	120	Douglas, W.	100

Lower Grade.

128 Candidates.

First Class (Over 200 marks).

Daine, H. S.	240	Lamb, Geo.	220
Goff, W. R.	225	Stroud, W.	205
Miles, J. J.	225	Waterson, G. R.	200

Second Class (Between 200 and 150 marks).

Watkins, W. E.	195	Morris, A. D.	155
Woodard, E. J.	190	Clague, D.	155
Dudley, A. H.	190	Drew, F. G.	155
Pine, C.	190	Barnett, C.	155
Berry, C. J.	185	Hogg, A. D.	155
Chopping, E.	180	Avins, C. W.	155
O'Connell, M. T.	175	Ismay, J. R.	150
Wall, Geo.	170	Bridges, H. P.	150

Third Class (Between 150 and 100 marks).

Weston, C.	145	Stephens, Annie G.	115
Melville, A.	140	Aitken, J. H.	115
Walker, W. S.	140	Matthews, J. A.	115
Oldham, Frances E.	135	McCreath, W.	115
Littlejohn, F. A.	135	Woodward, F. N.	115
Murrell, G. A.	135	Dancer, J. F.	110
Bartlett, A. C.	135	Foy, Edmund	110
Badcock, T. F.	130	Gardener, T.	110
Newman, J.	130	Bates, Hy.	105
Simpson, Jas.	130	Loe, W. E.	105
Gray, P. J.	125	Crossley, A.	105
Cooper, Frances M.	125	Blake, A.	105
Blomfield, J.	120	Burgess, W.	100
Davis, Jas.	120	Bygraves, W.	100
Farr, W.	120	Woolley, W. J.	100
Beale, G.	120	Osborn, A.	100
Gaskell, Gertrude	120	Hinton, G.	100
Stuart, G. M.	120	Hart, G.	100
Allen, Frank	115	Bridges, G. T.	100

MAXWELL T. MASTERS, } *Examiners.*
JAMES DOUGLAS, }

W. WILKS, *Sec. R.H.S.*

WHAT TO DO IN THE GARDEN.

Gardenias.—The earliest crop of bloom in the coming winter season will be obtained from established plants which have made their growth early and which have now ceased growing. In this case the plants should be placed in a cooler house to induce them to rest, so that when excited into growth by a brisk temperature later on they will develop their flowers and furnish the first supply.

Camellias.—More justice can be done to plants in pots by having them out of doors, where they can be kept cooler behind a wall or tall shrubs with a northern aspect. Stand them on a layer of ashes to prevent worms getting into the pots. If repotting is contemplated in the case of kinds that flowered in winter and are now showing their flower buds, it should be accomplished without further delay. A compost of good fibrous loam with a little well-rotted manure and some bits of charcoal would suit them admirably.

Stove Climbers.—The amount of water these require now is considerable, and it must be given in unstinted measure, whether the plants are grown in pots or planted out. Where they are grown in narrow borders the water would be most expeditiously applied with the hose. Liquid manure would prove of great advantage to those about to flower, or in the case of Allamandas and others while they continue to produce fresh bloom.

Atmospheric moisture in the stove.—The weather continues dry and hot, and while that is the case, damping down the floors and pathways must be attended to, or the plants will suffer and become a prey to insects of various kinds. Syringe the plants in the morning and afternoon, doing it heavily when closing the ventilators with the object of keeping insects in check. Give particular attention to the young trusses of flowers and the points of the shoots where mealy bug are apt to conceal themselves. Many of the climbers require particular attention in this respect.

Amaryllis.—No attempt should be made to dry off the bulbs so as to cause them to ripen prematurely. So long as they exhibit a vigorous and growing condition they should be encouraged by liberal supplies of water, and when they naturally show signs of going off water can then be gradually withheld and ultimately discontinued altogether.

Anthuriums.—When the spathes of the kinds grown for the sake of their flowers get so far past their best as to be worthless for decorative purposes, they should be cut off and the plants encouraged to grow so as to develop fresh crowns for next year's work. A brisk temperature and plenty of atmospheric moisture will soon make them active.

Ixoras.—When the Ixoras go out of bloom or the flowers have been cut, they should not be neglected, but on the contrary be treated as if their time had yet to come and assuredly many useful trusses will be obtained from them later on. In the case of large plants, well looked after they keep up a succession of bloom all through the summer months.

Valottas.—A few small batches of bulbs kept in houses at different temperatures will now afford a succession of bloom for the next two or three months. Whenever the flower scapes make their appearance, weak liquid manure given them twice a week will prove of great advantage, giving larger and more substantial flowers especially if they are kept near the glass.

Epiphyllums.—When these have matured their growths they would derive great benefit by being placed in a light airy house, where they could be exposed to air and sunlight to ripen the wood and enable them to flower well in winter.

Vines.—The vines from which the early crops have been cut will require attention in the way of watering whenever wanted, and frequent washings by means of the garden engine to keep them clean. This may be done chiefly late in the afternoon just when leaving off work so that the moisture will be longer before it gets dried up. No artificial heat will now be required if the wood is well coloured up and brown. If red spider makes its appearance during the present dry weather in the houses, paint the hot water pipes with sulphur, and warm up the pipes in the evening. The process may be repeated until the pest is thoroughly subdued. Muscats, the berries of which are swelling, will require plenty of heat and moisture. Close early in the afternoon so that the temperature may run up with sunheat; no harm will accrue if it runs up to 85° or 90° provided that all available surfaces are well damped down. In the case of Muscats approaching maturity, the house should be kept drier and the damping down done in the morning, so that the moisture may be completely evaporated before closing time. Leave some air on all night. Those that are swelling will take liberal supplies of tepid-liquid manure.

Peaches on the Open Wall.—Be constant in attention to the trees on open walls, reducing the number of shoots to those required to furnish the trees next year. Where one shoot overlies another, have the most useless one removed. Extension shoots should be laid in, and the fruits everywhere thoroughly exposed to light. Surface mulching may be resorted to where the trees are likely to suffer owing to dry weather. By loosening the surface before applying the mulch the moisture runs into the soil instead of off the surface. The water should be applied to the trees with some force by means of the hose or garden engine, in order to clean the foliage.

Cherries.—See to the netting of the late kinds before they get injured by birds. Before this the young shoots should be fastened to the wall, laying them in more thickly than is the case with other kinds.

Figs on Open Walls.—The object with Figs on walls should be to expose every branch as well as possible to sunlight, for by that means alone can well-ripened and good bearing wood be obtained. It is also hardier in winter when so treated. The object at present should be to remove all shoots not required for furnishing the wall next year. The gross ones from the base, and for which there is no room, should also be removed. Fasten the rest to the wall exposing the fruit as much as possible to sunshine.

Melons.—Some good fruits can be obtained from frames set on a bed of fermenting materials. Place some roughly-chopped fibrous loam mixed with about a third of well decayed cow manure in the centre of the lights and make the soil firm about the roots, after which give a watering to settle the soil. Ventilate early in the day and close the frames about three or four o'clock, or even earlier, according to the brightness and warmth of the sun or otherwise. Syringe freely on bright days, both in the morning and again at night when closing the frame.

Kitchen Garden.—Keep the hoe at work amongst all growing vegetables, to keep down weeds, but more particularly to break and loosen the surface so as to counteract the drought. Planting may be done by taking out shallow furrows with the hoe to get down to moist soil and afterwards watering the plants till established.

QUESTIONS AND ANSWERS.

NAMES OF PLANTS.—*X.*: 1, Lithospermum prostratum; 2, L. scoparium.—*H. Brown*: The White Beam, Pyrus aria. The Holly we do not recognise; materials insufficient. The Manna Ash is Fraxinus ornus.—*A. C.*: 1, Osmunda regalis; 2, Osmunda sp. but not in character. Please send a more perfect piece of both the barren and fertile frond.

PEACH LEAVES SPOTTED.—*A. Young*: The spotting is due to the action of the sun on spots of water, which converts them into burning glasses, so that holes are burnt through the leaves. Laurels are occasionally hurt in the same way, and the mischief generally occurs when the sun comes out strong after a shower of rain.

BEE ORCHID.—*S. C.*: Our native Bee Orchid or Bee Orchis, is Orchis apifera.

MALMAISON CARNATION SPORT.—*M. Dixon*: We have compared your sport from Souvenir de la Malmaison with the pink variety in commerce, and can see no difference between them. The plant already in cultivation, was, we believe, a sport also.

POTATOS FLOWERING.—*G. A.*: All varieties flower and bear "seed plums" more or less, according to the season, but some sorts are much more free in this respect than others. The sorts you name may be shy bloomers, but we are not able to say so as a fact.

MELONS CRACKING.—*P. M.*: Merely raising the fruits a few inches above the soil has nothing to do with their cracking, which must be attributed, we suspect, to an excess of moisture at the roots. They must be kept on the dry side while ripening off.

COMMUNICATIONS RECEIVED.—W. E.—G. C.—J. B.—A. V. M.—T. S S.—J. W.—Omega.—W. C.—W. & S.

TRADE CATALOGUE RECEIVED.

JOHN WHELDON & CO., 58, Great Queen Street, Lincoln's Inn Fields, W.C.—Catalogue of Works on Horticulture Forestry, Landscape Gardening, Orchids, etc.

LONDON SEED TRADE.

June 26th, 1893.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report some speculative trade in Trifolium incarnatum at extreme prices, and a moderate enquiry for Mustard and Rape at unchanged rates. Spring Tares exhausted.

COVENT GARDEN MARKET.

June 28th, 1893.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Tasmanian Apples per case	5 0	10 0	Melons each	1 6	2 6
Cherries ½ sieve	3 6	7 0	Strawberries, per lb.	0 6	1 6
Grapes, per lb.	1 0	2 6	Pine apples. —St. Michael's, each	2 6	6 0
Peaches per dozen	3 0	8 0	Black Currants, ½ sve	4 6	4 9
Red Currants, ½ sieve	2 0	3 0			

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Asparagus per bundle	1 6	5 0	Horse Radish, bundle	2 0	4 0
Artichokes Globe doz.	3 0	6 0	Lettuces per dozen	1 6	2 0
Beans, French, per lb.	1 6	2 0	Mushrooms, p. basket	1 3	2 0
Beet per dozen	2 0	3 0	Onions per bunch	0 4	0 6
Cabbages per doz.	1 6	2 6	Parsley per bunch	0 6	
Carrots per bunch	0 6		Radishes per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	5 0	Seakale per bkt	0 0	0 0
Celery per bundle	2 6		Small salading, punnet	0 4	
Cucumbers each	0 4	0 8	Spinach per strike	1 6	
Endive, French, doz.	2 6	3 0	Tomatos per lb.	0 9	1 0
Herbs per bunch	0 2	0 6	Turnips per bun.	0 6	

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	2 0	4 0	Pelargoniums, 12 sps.	0 6	0 9
Bouvardias, per bun.	0 6	1 0	— scarlet 12 bchs.	3 0	6 0
Carnations per doz.	1 0	3 0	Pinks, doz. bunches	2 0	6 0
doz. bunches	4 0	8 0	Pyrethrum doz. bun.	1 6	4 0
Cornflowers, dz. bun.	1 6	3 0	Primula, double, bun.	0 6	1 0
Eucharis per doz.	3 0	6 0	Red Roses, doz. blms.	3 0	8 0
Gardenias 12 blooms	2 0	4 0	Roses, yellow, dozen	2 0	4 0
Gladiolus, White, dz bn.	4 0	9 0	— Red doz. blms.	2 0	3 0
Heliotropes, 12 sprays	0 4	0 6	— Saffrano per doz.	1 6	2 0
Lilium Harrisii, doz. blooms	2 6	5 0	— Tea per dozen	0 6	2 0
Maidenhair Fern, 12 bs.	4 0	6 0	Stephanotis, dz. sprays	1 6	2 6
Marguerites, 12 bun.	2 0	4 0	Sweet Peas, doz. bhs.	4 0	8 0
Mignonette 12 bun.	2 0	4 0	Sweet Sutton, dz. bhs.	3 0	4 0
Orchid Bloom in var. per bloom, from	0 3	1 0	Tuberoses, per doz	0 6	1 0

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Cyperus per doz.	4 0	12 0	Liliums, various, per doz.	12 0	24 0
Dracæna term., doz.	18 0	36 0	Lobelia per doz.	3 0	6 0
Dracæna viridis, doz.	9 0	18 0	Marguerites, per doz.	6 0	12 0
Erica, various, doz.	12 0	24 0	Nasturtiums, per doz.	3 0	4 0
Evergreens, invar. doz	6 0	24 0	Mignonette, per doz.	4 0	8 0
Ferns, invar., per doz.	4 0	18 0	Palms in variety, each	2 6	10 0
Ferns, small, per 100	6 0	10 0	Palms, Specimen	15 0	63 0
Foliage Plants, doz.	12 0	60 0	Pelargoniums doz.	9 0	15 0
Fuchsia per doz.	6 0	12 0	— scarlet per doz.	4 0	9 0
Genista per doz.	9 0	12 0	Saxafrage per doz.	12 0	18 0
Hydrangea, per doz.	9 0	18 0	Spirea, per doz.	6 0	12 0
Ivy Geraniums doz.	4 0	6 0			

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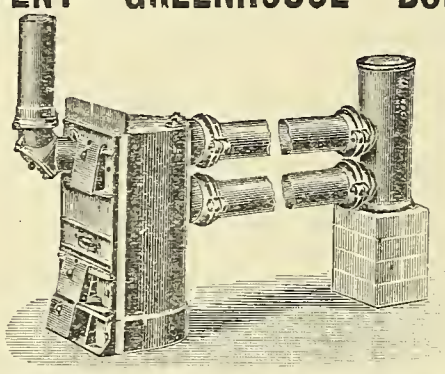

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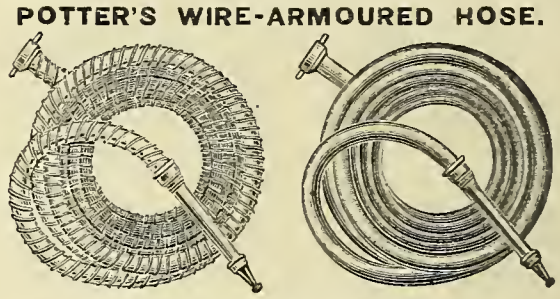

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The Gardening World.

ESTABLISHED 1884.

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STRAND, LONDON, W.C.

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WITH

DESCRIPTIVE LIST OF THE BEST VARIETIES IN CULTIVATION

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Silene pendula compacta
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Primrose, Choice Hybrids,
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Per Packet, 6d., 1/-, and 1/6, post free; *or in larger quantities*
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Full particulars will be supplied with each packet of seed sent out. 1s. per packet. Post free, 1s. 6d. per ounce.
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EARLY ORDERS SPECIALLY REQUESTED TO SECURE GOOD EARLY PLANTS.
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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, July 11th.—Royal Horticultural Society: Meeting of Committees at Chiswick.
National Carnation and Picotee Society's Show at Chiswick.
Wolverhampton Floral Fête (3 days).
Sale of Orchids at Protheroe & Morris' Rooms.

WEDNESDAY, July 12th.—Royal Caledonian Horticultural Society's Summer Show (2 days).
Rose and Carnation Show at Earl's Court.
Tunbridge Wells Flower Show.
Luton Flower Show.

THURSDAY, July 13th.—National Rose Show at Worksop, Notts.
Woodbridge Flower Show.
Boston Flower Show.

FRIDAY, July 14th.—Helensburgh Rose Show.
Orchid Sale at Protheroe & Morris' Rooms.

SATURDAY, July 15th.—New Brighton Rose Show.

The Gardening World.
Edited by BRIAN WYNNE, F.R.H.S.
SATURDAY, JULY 8th, 1893.

THE NATIONAL CARNATION SOCIETY.—We may remind our readers that owing to the exigences of the early season the usual Southern Show of the National Carnation and Picotee Society, will be held next Tuesday at Chiswick, instead of on the 25th, at the Drill Hall. The arrangement is a specially acceptable one as it will enable visitors to enjoy the Carnations so much more agreeably under the Chiswick tents, and at the same time permit them to enjoy a perambulation round the famous old garden. Carnations are universally early this season, indeed in many places they have been blooming a long time, and not a few would probably say that even the 11th is rather late.

However, as the finest show flowers are usually produced on pot plants, and these can have cool situations, we may well hope that the usually fine, bright character of what is just now perhaps the most popular of flowers will not be found deteriorated. As to border flowers they have been held somewhat in check by the cooler weather which for a few days prevailed, and the showers have rendered good service.

The revival of the Carnation as a popular flower without doubt owes much to the efforts of Mr. Dodwell and the National Society in making it known through the aid of exhibitions. These again, have had a good effect in other directions in stimulating criticism. The public mind has been in this way attracted, with the result that now we see Carnations growing everywhere, and varieties both suited for exhibition and for ordinary garden decoration have been produced in great abundance. We shall hope to see a beautifulshow of the Carna-

tion family at Chiswick. and a big attendance of Carnation lovers, who by-the-bye seem just now to be everybody. We hope for ample rains in the interim, and a fine day for the show, so that all concerned may have at Chiswick a delightful re-union.

SEEDS AND THE SEASON.—Very severe indeed have been the tests to which all descriptions of seeds sown in the open ground have this season been subjected. It is too commonly the case that under such trial many seeds have failed altogether. It may be that such failure is due to atmospheric conditions; but when, as may have been seen in large allotment areas, some good growths from seeds and very bad growths side by side, yet under precisely similar conditions, it is evident that not the weather but the seeds must have been at fault in many instances.

We draw attention to this matter because in one particular case when enquiry was made from numerous allotment holders as to whence the seeds came, we found that whilst growth was good in the case of those obtained from good class houses, from small local dealers the growth was invariably bad. It is therefore no matter for surprise to learn that in this case there is a talk of forming a sort of allotment holders' syndicate for the purpose of purchasing seeds in bulk from good firms, so as at once to secure cheapness and quality. Possibly the small retailers are not entirely to blame, but still the worker who invests his few shillings annually in garden seeds pays relatively as high a price as his richer neighbour and is entitled to as good quality.

Nothing can be more disappointing to the gardener than to find that through failure of growth he has lost a crop, or else that the product is a coarse imperfect one. The smallest of purchasers are entitled to protect themselves against disapointments of this kind,and seedsmen may as well take note of the fact. It is very likely that much seed this season has failed to grow because of shallow sowing or imperfectly prepared soil, but no one could foresee the nature of the drough which followed. It is pretty certain that the season will tell disastrously on seed crops, and next year good seeds may be comparatively scarce.

FLORAL TABLE DECORATIONS.—At a popular suburban flower show held last week, there was a class for dinner table stands "modern style." We did not observe that the judges paid any attention to this requirement, for the first prize went to stands dressed as stands have been dressed for the last twenty years, and apparently will be dressed so long as stands of the old epergne pattern are utilised. We endeavoured to ascertain what was meant by "modern style," and whilst in one direction learning that it was found in somewhat elaborate or heavily dressed tops, in another it was shown to be all bases and no tops, practically dwarf pyramids in dishes.

Perhaps those who fashioned the schedule will another year kindly indicate more clearly what they mean by "modern style." What is most obvious in relation to these dinner table stands is that the decorator is much tied by the form of stand which has to be dressed, and hence, barring variations in the nature and colour of the flowers, it is very difficult to introduce variety in style. Truly we are tired of the stereotyped stands seen everywhere, and which are still more seen at exhibitions than on real dinner tables.

When the wire arches were introduced it was believed that these would supersede the glass stand, but they have not become popular, indeed they seem rather to be obstructions to social intercourse across the table than to be artistically decorative. It is very difficult indeed for anyone to define or originate any new form of table decoration. All we know is that the public is getting very tired of the old monotonous styles, and wants a new sensation. The March stands have been with us for a generation and in diverse patterns they still exist. Would that some society would endeavour to promote something that is both new and distinctly attractive.

ARTIFICAL MANURES.—A Bill of material value to all classes who use chemical manures, whether farmers, gardeners or cottagers, is that promoted by the Board of Agriculture, and intended to make guarantee as to fertile quality of any artifical manure compulsory on the vendor. Armed with such a guarantee the purchaser, if he has any practical knowledge of value of specified percentages of nitrogen, of phosphate, of potash, etc., will be able to estimate exactly the money worth of the article he is obtaining.

Now in purchasing all sorts of mixtures or special manures very much has to be taken for what it is worth, and too often very little is the worth. A measure of this description should prove to be of special service to small holders and allotment or cottage gardeners, because those too often are unable to obtain animal manures, and frequently in purchasing those of an artifical nature obtain what as plant food is almost worthless. Taking them when fresh and in their most fertile state, there are no such manures as are those of animal production. These not only contain, in varying proportions, all that is required as food by plants immediately, but leave behind a good deal of what is termed insoluble food which, however, in the process of time becomes soluble and thus creates fertility.

Artifically we cannot well create exact duplicates of animal manures, but we can at least furnish to different crops those elements of food which they specially need. During the present season of drought, however, artifical manures have unfortunately been so far exceedingly inoperative, and the well-prepared fresh, moisture retaining animal manures have been of material value. Still we shall have many seasons yet when chemical manures will be found of great service, and the more pure and complete they are the better will it be for those who use them.

Mr. Harry Angus, late general foreman at Wykeham Abbey has been engaged as gardener at Coupland Castle, Wooler, Northumberland.

Honours at Oxford.—We are pleased to learn that Mr. J. F. Hudson, of Jesus College, Oxford, only son of Mr. James Hudson, Gardener, Gunnersbury House Acton, has just passed the first public examination ("Mods") and is placed in the first class (Honours School) in Mathematics.

The Albert Medal of the Society of Arts for the present year has been awarded by the council of the society to Sir John Bennet Lawes, Bart., F.R.S., and a like medal to John Henry Gilbert, Ph.D., F.R.S., for their joint services to scientific agriculture, and notably for the researches which, throughout a period of fifty years, have been carried on by them at the Experimental Farm, Rothamsted.

The Aldermaston Estate.—We understand that this historical well-known Berkshire estate, comprising upwards of 2,5000 acres, with its magnificent deer forest, park, mansion, and the entire village of Aldermaston has been purchased by Charles E. Keyser, Esq., Warren House, Stanmore, for the sum of £80,000, exclusive of the timber which has to be valued. This is perhaps the most important sale of property that has taken place during the present season.

The Bouquet presented to Her Majesty on the occasion of the unveiling of Her Majesty's statue in Kensington Gardens, last week, was an extremely elegant one and composed of rare Burmese Orchids. It was novel in form too, the apex being fashioned into the shape of an imperial crown with smaller flowers of the same kind. The designer was Mr. Oscar Vogel, late floral decorator to the Queen of Saxony, but now in the employment of Mr. P. McArthur, 4, Maida Vale, W.

Rose and Carnation Show at Earl's Court.—We learn from Mr. Milner, manager of the Gardening and Forestry Exhibition, that in addition to the prizes offered for Roses on Wednesday next, July 12th, a further series will be offered for Carnations and Picotees. Seven classes are provided for as follows:—1, 24 Carnation blooms, not less than 12 to be distinct; 2, 12 Carnation blooms, distinct; 3, 24 Picotees, not less than 12 distinct; 4, 12 Picotees, distinct; 5, 24 Selfs and Fancy Carnations, not less than 12 distinct; 6, 12 Selfs and Fancy Carnations, distinct; 7, 12 Yellow-ground Picotees.

Frozen Chrysanthemums from Sydney, N.S.W.—A special meeting of the general committee and also of the floral committee of the National Chrysanthemum Society will be held at the Royal Aquarium, Westminster, on Friday, July 21st., at 6 p.m., to examine some frozen blooms of Chrysanthemums sent from Sydney for the opinion of the society. Members of the society, not being members of the committee named, will be admitted at 7 p.m. on production of their member's pass.

Cricket at St. Albans.—On Saturday last a team of cricketers, representing the firm of Messrs. Hugh Low & Co., of Clapton, played a match with the Anguloa's (Messrs. F. Sander & Co's. club) at St. Albans. The Anguloa's commenced batting at 3 o'clock and by half-past 4 were all out for the small total of forty-eight runs, Mr. L. Sander being top scorer with twelve. After a short interval the visitors went to the wickets and made 103 runs before the last man from Clapton was got rid of. The highest score made for Clapton was Mr. Brown's very useful forty-eight.

Shrubberies burnt at Alexandra Palace.—On Saturday evening last, the shrubbery and trees immediately in front of the palace, through some unexplained cause, became ignited, and the fire spread with such alarming rapidity that in a very short time several acres were ablaze, and considerable excitement prevailed at one time as to the safety of the palace, the flames coming into close contact with the eastern front of the building. In response to calls the local steamers in addition to the palace hydrants were quickly at work, but the fire was not got under for some hours. After the brigades had left, a second outbreak occurred, and it was deemed advisable for the Hornsey steamer to remain for a time in order to cope with any further outbreaks. The conflagration covered an area of ten acres, and the damage is reported as considerable.

The Devon Rosery Gardeners' Relief Fund.—The sixth annual exhibition in connection with this fund for assisting gardeners in distress and the widows of gardeners, organised by Messrs. Sanford, Curtis & Co., of the Devon Rosery, Torquay, was held in the grounds of the rosery on the 27th ult. The exhibition takes the place of the summer show, originally held by the Torquay Horticultural Society, which lapsed through lack of funds. Despite the rain there was a large attendance, and the exhibits placed in a spacious greenhouse in the grounds presented a most attractive appearance. At the luncheon in the afternoon it was stated that the committee commenced the year with a balance in hand of £44 18s. 1d. The proceeds of last year's show amounted to £42 13s, or £10 less than in 1891. The special donations amounted to £21 16s., collecting boxes £3 5s. 3d. The committee had made thirty-five grants amounting to £50. They had now a balance in hand of £45. Since they started in 1888 they had received in donations and from collecting boxes £283 10s. 7d. The committee had made 156 payments.

Gardenias.—T. R. writes:—Those who have a pit with a command of bottom heat would ensure a better supply of bloom by planting them out than in pots. The bottom heat can be supplied by fermenting manure, but as the latter requires renewing, the plants must be kept in pots. Hot-water piping would be more useful and permanent.

National Chrysanthemum Society's Annual Outing.—The final arrangements for this event have now been made, and may be summarised as follows:—Train leaves Paddington at 8.20 a.m. for those who take part in the cricket match, and any friends who may desire to accompany them. Eleven a.m. cricket match commences in the grounds of Wycombe Abbey. Eleven a m., second train leaves Paddington; 1.30 p.m., dinner in the Abbey Hall; 2.30 p m. to 3.30 p.m., inspect chairmaking factories of Messrs. Beech & Sons; 2.30 to 5.45, drives to Hughenden Manor; 6 p.m., tea in the Abbey Hall; 8 p.m., train leaves for Paddington. Lord Carrington has very kindly given permission for the party to look over the gardens and pleasure grounds; to view the state rooms of the Abbey, and to dine in the noble hall adjoining the Abbey. The charge for the tickets will be 8s. 6d. exclusive of driving fares, and Mr. Dean will be glad of early intimation from those who intend to join the party.

Death of Mr. Robert Holland of Frodsham.—We regret to hear of the sudden death, recently, from heart disease, of Mr. Robert Holland, of Frodsham, Cheshire, a well-known authority on agriculture, and the joint author, with Mr. James Britten, F.L.S., of the Natural History Museum, South Kensington, of the "Dictionary of English Plant Names." Mr. Holland it appears has had but a very small income for some years, and has left a widow and four children with very limited means. An appeal has accordingly been issued by Mr. Thomas Rigby, of Sutton Weaver; the Rev. H. B. Blogg, vicar of Frodsham; and Mr. E. J. Baillie, F.L.S., of Chester, who are endeavouring to raise a fund to meet the needs of the family for a few years.

Caution to intending Emigrants to Brazil.—In continuation of the notice issued in September last respecting emigration to Brazil, the Emigrants' Information Office warns the public that an agent has been sent from Brazil with the object of introducing Scotch settlers into the province of San Paulo. Seeing that all parts of Brazil are, both in climate and in other respects, unsuited to British emigrants, and that great suffering has already followed British emigration to that country, intending emigrants are again most strongly warned not to go to Brazil. They should disregard any inducements which may be held out to them of obtaining cheap passages, grants of land, or high wages, and should apply for further information to the Chief Clerk, at the Emigrants' Information Office, 31, Broadway, Westminster, S.W.

Nurserymen's Trip to Llandudno.—The employés of Messrs. Richard Smith & Co., St. John's Nurseries, Worcester, had their 19th annual excursion on Monday, the 19th ult. Llandudno was the place chosen for this year's outing, and accompanied by their wives and friends, the whole party numbering 450, travelled by way of the lovely Severn Valley in a special train provided by the G.W.R. Co., and arrived at their destination in time for breakfast. The morning was spent in bathing, boating, fishing, in drives round the Great Orme's Head, and in various other ways. A sea trip to the famous Menai Bridge and back in the pleasure steamer "Bonnie Princess" had been previously arranged for the afternoon. Glimpses were had of Beaumaris, Bangor, and other watering places on the lovely Welsh coast on the route. The return journey was commenced at seven o'clock, the party reaching Worcester about one a.m., after having spent a most enjoyable day and fully appreciating the generosity of the firm in granting the day's holiday. We also understand that the firm closed their nurseries and seed establishment on the 6th inst. in honour of the Royal Wedding, and paid their employés for the day as usual.

Derby Horticultural Association.—A well-attended meeting was recently held in Derby, at which it was decided to form an association under the above name for residents in Derby, having the following objects:—To obtain instruction in the best and most profitable methods of cultivating fruit, flowers, and vegetables, and of storing and packing fruit: to encourage the tasteful arrangement and successful cultivation of gardens; to promote the extension of window gardening; to secure the teaching of gardening as a "special subject" in schools; to assist in procuring practical training for gardeners, by means of which they may qualify for certificates of efficiency; to further the acquisition of ground for allotments under the Allotments Act, or by other means; to obtain fruit trees, plants, seeds, &c. for members on the most advantageous terms; and generally to advance and protect the interests of the members. A large number of members was enrolled, and it is confidently hoped that the number will be very considerably augmented. Mr. W. G. Wheeldon was unanimously elected president: Mr. R. Y. Dawbarn, treasurer; and Messrs. Channon and Welbourn, 6, Shelton Terrace, Derby, as joint secretaries. A representative committee of sixteen members was also appointed.

A new disease of Carnations.—Under this heading the *Revue de l'Horticulture Belge* makes some remarks about the injury caused to Carnations by eel-worms, a malady but too well known in this country, but evidently only just making itself felt on the Continent, where, however, the ravages have already been sufficiently great. At Nice M. Quillaud has had 6,000 plants attacked, turned yellow, and completely destroyed. Every care that could be bestowed upon them has prove quite useless. The creature does not confine its attacks to Carnations, but has done great injury to Beet in certain cultures. M. Kühn, who has seriously studied the parasite, has established its presence upon the roots of 180 species of plants, and after having tried several means of destruction without results, he proposed to try several plants as baits to take the eel-worms in the soil, and he recommends chiefly the summer Turnip. This means, however, is dangerous, for unless the experimenter knows the moment when the larvæ have penetrated the roots to pull them up and destroy them, he only hastens their multiplication. It is to be hoped that a more efficaceous means may be discovered of abating or curing the evil.

Bulbous Irises.—The number of species of Irises coming under this denomination is greater than a casual observer would readily imagine while judging from those generally seen under cultivation, the forms of I. xiphium and I. xiphioides or Spanish and English Irises respectively are certainly very numerous, and amongst the most familiar of the group to gardeners and the public generally; but we refer to species or what are generally considered to be so. Professor Michael Foster, Sec. R.S, F.R.H.S., etc., read a paper on the subject at one of the meetings of the Royal Horticultural Society on May 3rd, 1892, and this he has expanded and variously modified till it appears in pamphlet form. In this he describes twenty-nine species and numerous varieties, giving the salient features of each such as might be useful to gardeners. It is rather a remarkable fact that I. Sisyrinchium, the most widely distributed species in a state of nature, should prove one of the most difficult to cultivate in this country. In a wild state it grows in stiff clay soil, which becomes baked almost as hard as a brick in summer. Many woodcuts illustrate various characters of importance in relation to the group. Flowers are given natural size, and in other cases the whole plant reduced. Sections and botanical details of the various parts of the flower, fruit, etc., render the little book a valuable one. It is published at the office of the Royal Horticultural Society.

THE MUSK ROSE.

The single wild forms of this Rose have not received the attention they used to enjoy for some years past The Teas and hybrid perpetuals are the Roses of the day for exhibition and many other purposes. The Musk Rose would now be termed an old-fashioned garden Rose, and as such it finds many admirers even yet. It is a tall rambling shrub of 12 ft. to 16 ft. in height when it can find a suitable support. Small gardens are not therefore the place for it; but those who have plenty of space at command would find it a most artistic Rose for rambling over and clothing a tall branching support, such as a dead or half-dead tree. The flowering branches hang down in a graceful manner and produce a great profusion of single flowers of large size, of a creamy yellow hue at first but afterwards becoming pure white, and deliciously fragrant. In a wild state it has a very wide distribution from Madeira across Africa and Asia to the Himalayas. A form introduced from the latter place was grown in this country for many years under the name of R. Brunonii, but is now considered a mere form of R. moschata.

NATIONAL ROSE SHOW.

The annual exhibition of the National Rose Society was held at the Crystal Palace on the 1st inst., and notwithstanding the fierce dessicating heat that then prevailed and for some days previously, the Roses made a brave display when the stands were placed on the tables and the covers removed so as to expose them to the eye of the judges. In point of size they were wonderful notwithstanding the falling away in some instances, both in the case of Teas and hybrid perpetuals grown in southern counties. The latter kinds being somewhat the later, held their own the best in our opinion. The display on the whole may as be taken representative of what a Rose show can do in such an exceptional season as the present, and compares very favourably with the show of the same society in 1887. The northern growers had the advantage of the southern competitors in several of the leading classes, although the results might have been different a fortnight ago. The challenge trophy in the class for seventy-two blooms of distinct varieties was taken by Messrs. Harkness & Sons, Bedale, Yorks, who also received the National Rose Society's Silver Medal for the best hybrid perpetual in the nurserymen's class, with a magnificent bloom of Horace Vernet. Other fine blooms were Mrs. John Laing, Dupuy Jamain, Gloire de Margottin, Comte de Raimbaud, Gustave Piganeau, Madame C. Craplet, Madame Victor Verdier, Duc de Rohan, Camille Barnardin, Duchess of Bedford, Edward Andry, La France, Ulrich Brunner, Dr. Andry, August Rigotard, Sir Rowland Hill and other hybrid perpetuals. Good Tea Roses were Ernest Metz, Comtesse de Nadaillac, Souvenir d'Elise Vardon, Souvenir de S. A. Prince, and Madame C. Kuster. The second award was taken by Mr. B. R. Cant, Colchester, who had the best Tea Rose in the nurserymen's class, showing a magnificent bloom of The Bride, and taking the society's Silver Medal. Other fine blooms in his stands were Paul Neron, Thomas Mills, Alfred Colomb, Beauty of Waltham, Marie Verdier, A. K. Williams, Ernest Metz, Marie Van Houtte, &c. Mr. Frank Cant, Braiswick, Colchester, took the third award with considerably smaller blooms than those in the premier exhibit. There were five entries in this class. Messrs. Harkness & Sons were again first for forty-eight varieties, three blooms of each; and there could be no manner of doubt about the superiority of their exhibit. All the blooms were fresh and of exceptional size, in many cases including fine samples of Duchess de Morny, Suzanne M. Rodocanachi, C. Lefebvre, Alfred Colomb, Dr. Andry, Sir Rowland Hill, Fisher Holmes, A. K. Williams, Marie Verdier, Etoile de Lyon, and Comtesse de Nadaillae. In this case Mr. Frank Cant took the second position, showing some fine blooms; and Mr. B. R. Cant was third with tolerably fresh but smaller blooms. Mr. Henry Merryweather, Southwell, Notts., had the best forty-eight blooms in fair samples of Horace Vernet, Her Majesty, Mrs. John Laing, Fisher Holmes, The Bride, Sir Rowland Hill, Comte de Rainbaud. Duchess of Bedford, La France of '89, and others. Messrs. G. & W. H. Burch, Peterborough, took the second position here with many fresh blooms of medium size; and Messrs. Perkins & Sons, Warwick Road, Coventry, were third with some very fine blooms. Mr. W. H. Frettingham, Beeston, Notts, had a very even lot of medium size in the class for twenty-four blooms. Mr. John Mattock, New Headington, Oxford, was a good second; and Messrs. D. Prior & Son, Myland Nurseries, Colchester, were third. In the class for twenty-four varieties, three blooms of each, Messrs. G. & W. H. Burch, took the leading award with an even lot of good average size. Mr. W. H. Frettingham was a good second; and Mr. G. Mount, Canterbury, took the third place.

The Challenge Trophy for forty-eight blooms in the amateurs' classes was carried off by E. B. Lindsell, Esq., Bearton, Hitchin, as well as the Society's Silver Medal for the best hybrid perpetual with a fine bloom of Ulrich Brunner. Other good blooms in his stands were Madame E. Verdier, Horace Vernet, J. S. Mill, A. K. Williams, Marie Verdier, Duchess of Morny, Comtesse de Nadaillac, Ethel Brownlow, The Bride, Caroline Kuster, and Marie Van Houtte. The Rev. J. H. Pemberton, Havering-atte-Bower, Essex, took the second place with blooms of good average size. The blooms of Henry V. Machin, Esq., Gateford Hill, Worksop, were slightly smaller but fresh, taking the third award. The Rev. A. Foster-Melliar, Sproughton

Rectory, Ipswich, took the leading prize for thirty-six blooms, showing good samples of Comtesse Panisse, Merville de Lyon, Emilie Hausburgh, and Ulrich Brunner. Walter Drew, Esq., Uplands, Ledbury, was a good second; and the Rev. J. H. Pemberton took the third award. J. Gurney Fowler, Esq., Woodford, Essex, had a fresh and even lot of good average size in the class for twenty-four blooms, taking the leading award. Col. J. H. Pitt. Turkey Court, Maidstone, followed very closely, For sixteen varieties, three blooms of each, E. B. Lindsell, Esq., again took the leading award, and Henry V. Machin, Esq., followed. For twelve blooms of any hybrid perpetual the leading award went to Walter Drew, Esq., who showed Mrs. J. Laing. In another class for twenty-four blooms the Rev. H. Berners, Harkstead Rectory, Ipswich, took the leading award with blooms of fair size and mostly fresh. A. Slaughter, Esq., Steyning, Sussex, was second; and was followed by W. C. Romaine, Esq, The Priory, Old Windsor. A. Whitton, Esq., Askew, Bedale, Yorks, had the best eighteen blooms, which were above the average and fresh. He was followed by Jas. Parker, Esq, Oakfield, Hitchin, with much smaller blooms. Edward Mawley, Esq., Rosebank, Berkhamstead, was third, having his Roses widely spaced in a large box. J. Ough, Esq., Clifford Street, Hereford, had the best twelve blooms. The Rev. H. Berners took the first place for eight blooms. For nine blooms of any hybrid perpetual, the Rev. H. Berners took the first place with Merville de Lyon. In another class for twelve varieties the first award was secured by Osmond G. Orpen, Esq., West Bergholt, Colchester, with fine blooms of Alfred Colomb, Gustave Piganeau, etc. C. J. Grahame, Esq, Coombe Road, Croydon, was second. C. Jones, Esq., Hucclecote, Gloucester, took the first award for nine blooms. James Parker. Esq., The Croft, Haddington, Oxfordshire, had the best six in trusses of three. Dr. Tucker, Swanley Junction, Kent, took the leading award for six blooms of any hybrid perpetual showing enormous blooms of Her Majesty. In another division Mrs. L. E. Times, Hitchin, had the best nine blooms. W. D. Freshfield, The Wilderness, Reigate, was first for six blooms. For four varieties, three blooms of each, the first award was taken by Miss E. B. Denton, Orchard Court, Stevenage. In a class for those who had never won a prize from the National Rose Society, Arthur Bryans, Esq., The Cottage, Foots Cray, took the first award. J. Bateman, Esq., Rosevale, Archway Road, took the first award for Roses grown within eight miles of Charing Cross. The Rev. J. H. Pemberton was first for new Roses in the amateurs' class.

In the nurserymen's class for twenty-four Tea or Noisette Roses Mr. B. R. Cant took the leading award with fine blooms of Ethel Brownlow, Comtesse de Nadaillac, Madame de Watteville, Souvenir d'Elise Vardon, Catherine Mermet, Madame Cusin, Marie Van Houtte, and The Bride. Mr. F. Cant was second with Ethel Brownlow, in fine condition. Messrs. D. & W. Croll, Dundee, N.B., took the third award. Mr. Henry Merryweather had the best eighteen Tea or Noisette varieties which were fresh and clean. Messrs. D. Prior & Son were second; and the third place was taken by Mr. John Mattock. Messrs. D. & W. Croll had the best twelve, which were neat and fresh, even in the afternoon. They were followed by Messrs. G. & W. H. Burch; and Messrs. R. Mack & Son, Catterick, Yorkshire, took the third place. For eighteen varieties, three blooms of each, the first prize was taken by Mr. B. R. Cant with flowers of good size.

There was a trophy class for amateurs showing Tea or Noisettes, and the Challenge Trophy was awarded to the Rev. A. Foster-Melliar, as well as the society's Silver Medal for the best Tea, in a magnificent bloom of Madame Cusin. Other fine blooms shown by him were Marie Van Houtte, Souvenir d'Elise Vardon, and Ernest Metz. Osmond G. Orphen, Esq., was second; and H. V. Machin, Esq., wast hird. The Rev. H. Berners had the best twelve, and the best nine blooms, the latter being all of Madame Hoste. The Rev. A. Foster-Melliar again came to the front for twelve sorts in trusses of three; and Mr. H. V. Machin with velvet-covered stands came second. A piece of plate was offered by the Rev. F. R. Burnside for twelve varieties, and this was awarded to Osmond G. Orpen, Esq. In another class for nine, the Rev. J. H. Pemberton was placed first. For six sorts of three blooms each, Osmond G. Orpen, Esq., was first, as well as for six blooms of any Tea or Noisette. In another class for nine blooms Dr. Tucker took the lead, and A. Whitton, Esq., had the best six.

In the open classes for twelve blooms of a yellow variety, Mr. B. R. Cant was first with Madame Hoste. Messrs. R. Mack & Son, had the best white in Merville de Lyon. The English Fruit and Rose Co., Hereford had the best of any crimson in Alfred Colomb. Messrs. D. Prior & Son had the best stand of a velvety-crimson, and the best stand of Marechal Niel. Mr. Geo. Mount had the best Marie Baumann. The best stand of Mrs. J. Laing was shown by Mr. John Mattock. Messrs. Mack & Son had the best twelve blooms of A. K. Williams. Messrs. G. & W. H. Burch showed the best Niphetos. Mr. B. R. Cant showed the best twelve blooms of Her Majesty, and the best Ernest Metz. Mr. F. Cant had the best twelve blooms of any hybrid perpetual not named in the shedule, showing Fisher Holmes. For six blooms each of Catherine Mermen and The Bride, Mr. G. Mount took the first place. For twelve blooms of any new Rose, Messrs. Harkness & Sons were first with Gustave Piganeau. Messrs. Paul & Son, Cheshunt, had the best twelve new Roses. A Gold Cup was offered for three trusses of any new Rose or sport, and this was taken by Mr. C. Turner, Slough, with Crimson Rambler. Messrs. A. Dickson & Sons, Newtownards, Co., Down, Ireland, had a Gold Medal for three blooms of a new white variety named Marchioness of Londonderry, and another for three blooms of a rosy-pink variety, somewhat in the style of Mrs. J. Laing, and named Mrs. Sharman Crawford.

In the class for thirty-six bunches of garden Roses, Messrs. Paul & Son took the lead with Noisettes, Polyantha Roses, single varieties, varieties of Rosa rugosa, &c. Messrs. D. & W. Croll were second with Cabbage and Moss Roses, Noisettes, &c. A Silver Cup was offered by Lord Penzance for eighteen bunches of garden Roses, and this was awarded to Alfred Tate, Esq., Downside, Leatherhead, who had a very imposing display made up in large bunches. The Rev. J. H. Pemberton and Henry V. Machin, Esq, were equal second, and Miss Mellish received a fourth award. Chas. E. Cuthell, Esq., Chapel Croft, West Humble, Dorking, took the leading award for twelve bunches of garden Roses, which were cut with long stems, and included many single and Polyantha varieties. Osmand G. Orpen, Esq, was second in this class. Mr. John Mattock took the first prize for twelve bunches suitable for buttonholes, and which were very attractive. Messrs. Keynes, Williams & Co, Salisbury, were second, and Henry V. Machin, Esq., came in third. The first prise for nine bunches of single-flowered Roses was awarded to Miss Mellish.

In the miscellaneous class, a handsome display of Begonias was made by Messrs. J. Laing & Sons, Forest Hill, whose group was circular, elevated in the form of a cone in the centre. Many of the blooms, both single and double, were of great size, and all the leading colours were represented, and relieved by Palms and Ferns. Messrs. J. Cheal & Sons, Crawley, Sussex, had a collection of the herbaceous plants in season, with Viola sprays set up on velvet covered stands. Messrs. Geo. Jackman & Sons, Woking, had five stands of Roses, including one in which the Roses were in bud form. Messrs. Wm. Paul & Son, Waltham Cross, exhibited cut Roses, many of which were set up in baskets of a kind, and interspersed with Palms and Arundo donax variegata. Lord Penzance, Eashing Park, Godalming, exhibited a stand of garden Roses.

FLORICULTURE.

Pansy Bella Duncan.

I CAN fully endorse all you say on p. 644 about this new Pansy. I procured it last autumn from the raiser, Mr. Michael Cuthbertson, Rothesay. It wintered well with me here, and during the dry season we have had it has been growing and flowering splendidly, when other varieties were tumbling over with that horrid rot. By the way, can you not give me a cure for this disease? When so many of our best Pansies are liable to go off in this unaccountable manner, it is well to know kinds that will stand through all changes of weather. Besides, being a first class competition flower, it is, from its dwarf and free flowering habit, specially suited for bedding for which purpose I am working up a stock.—*Gardener, Colinsburgh, Fife.*

CARNATIONS AT TOTTENHAM.

ALREADY the Carnation season has commenced, and unless the early summer and the drought we have hitherto experienced acts prejudicially upon the continued growth of the plants, which we hardly expect will be the case, we may look for a long supply of bloom from the border varieties at least. It seldom happens that we have a display of Carnations during the last two weeks in June, yet such has been the case with Mr. T. S. Ware, Hale Farm Nursery, Tottenham, whose collection we inspected on the 24th ult. A considerable amount of watering has been done to keep the plants alive during the long-continued drought, and the result is that flowers are plentiful. Although all are grown under the same conditions and on the same piece of ground there is a considerable difference in the earliness of some varieties over others, many of them not having burst a bud, while others were practically almost in full bloom.

White varieties are well represented by all the leading and best sorts of the day. Florence Emily Thoday is considered the finest variety in the field, and we certainly agree that it is the most perfect flower we noted amongst the white kinds. The flowers are large, slightly fragrant, pure white, and perfectly full, although not so crowded as to cause the calyx to split; nor is there any crowding of the broad, rounded, entire petals. The flowers have a fine and solid appearance about them, and every bloom opens. The stems grow from 18 in. to 2 ft. in height, but are dwarfer when grown in pots. Although White Dame must take a second place, yet it is a handsome bloom when fully expanded. The plant is dwarfer than Florence Emily Thoday, and the flowers fragrant. The broad loosely-arranged petals are slightly toothed, and the central ones more or less folded. The blooms of Mrs. Moore, generally held in high esteem, are smaller this year than usual, resembling a small Gardenia, but very choice all the same. Mrs. Frank Watts is well known for its dwarf stature, but is now 18 in. high, a fact which must be owing to heavy watering. It is pure white and large, but the petals are toothed. The petals of Mrs. Fawcett are often irregularly cut, making the flower, in our opinion, inferior to either of the above. Under different conditions it might be much better. Diverging slightly from the above we have a series in which the flowers are more or less marked with some other hue on a white ground. A highly desirable sort is Countess of Paris, with large delicate flesh-white flowers, slightly toothed petals, and very floriferous. Of a different type is Catherina, whose broad, incurved and slightly toothed petals are blush coloured and finely mottled with purple all over. A good old border variety is Alice Ayres, slightly striped with red on a white ground. M. Alcott grows about 16 in. or 18 in. high, producing a fine lot of grass, and having white flowers beautifully lined all over with deep rose on a white ground. Prince George might be classed with the Picotees, as it has a heavy crimson-red edge formed of lines running from the edge inwards.

The pink and rose-coloured varieties are now both numerous and of special merit for decorative purposes on account of their attractive colours. The list may be headed by Mary Morris, although that is not now considered the best of its type. The petals are of a soft rose and slightly toothed. It is said to be superseded by Ketton Rose, the flowers of which are of a uniform rich rose and of fine shape. The blooms of Mrs. Feigner are rather small, but the deep rose petals are rounded and almost entire. Rose Celestial is likewise somewhat darker than Mary Morris. Very choice and attractive is Wordsworth, with large, deep rose flowers, shaded with scarlet and broad petals. It is a vigorous grower, and useful for border culture or cut flowers. Fedora grows about 2 ft. high, with large rose flowers and broad toothed petals; the blooms are fragrant. On the contrary Gertrude Feigner has soft rosy pink, small and neat flowers. Raby is now getting popular as a border variety. The flowers are moderate in size with deeply toothed petals, but of an attractive warm rose colour, and freely produced. Princess Alice has large and deep salmon-rose flowers, but is considered inferior to Ketton Rose in some respects.

Our visit was made somewhat early for seeing all the scarlet and red varieties in bloom, but what we noted were very choice, while some of them are

amongst the best to be had. An early variety and the best of its kind is Horace. The stems are only 12 in. to 16 in. high most floriferous, and already quite a sight to see. The blooms are of a bright clear scarlet, showing off the variety wherever the eye rests upon it. The quantity of it grown also indicates its usefulness for decorative purposes and the estimation in which it is held. It is also very useful for winter work in pots. The flowers of Danger are of a most intense or dazzling soldier's scarlet, as it is described, and certainly the richest in the collection, but they are moderate in size with few petals. The stems grow 2 ft. high. The flowers of Napoleon III are scarlet-red and of large size. The darkest flower we noted was Duc de Rageuse, of a maroon crimson. The intense purple, open flowers of Mrs. C. W. Empson are certainly handsome of their kind. Beauty of Foxhall is considerably lighter in colour, but still of a rich purple.

The best yellow variety, namely, Pride of Great Britain, is not in the general collection as the stock is still kept in pots in order to secure as much increase as possible. Germania still holds its own as a very refined flower, but it is not so vigorous for border work as is Pride of Penshurst, which, although less refined, still earns a considerable amount of favour on account of its being more easily grown under ordinary treatment. The dry weather has prevented Germania from making much grass for layering purposes. Another yellow sort is August Guerin, about 12 in. to 18 in. high with clear yellow flowers that are rather small this year. It is inclined to sport and occasionally produces a yellow ground Picotee on the same stems with yellow flowers. The flowers of Lewis Jarvis are clear yellow with slightly toothed petals. A yellow ground variety is Allen Anscombe, the flowers of which are striped with rose and carmine. The terra-cotta Mrs. Reynolds Hole, or as some describe it salmon-apricot, is now flowering with freedom, but the long continued drought and great heat seems to have affected the intensity of the colour some what. The advent of cooler weather, however, may restore its wonderfully distinct hue, as the later produced flowers open.

NOTES ON MANURES.

Professor W. P. Brooks has the following notes drawn out on artificial fertilisers:—

1. Fodder crops, pasture grasses, corn stover and hay all remove large amounts of potash from the soil, and these crops occupy a large proportion of our improved lands.

2. The urine of our domestic animals contains about four-fifths of the total potash of their excrements.

3. When urine is allowed to waste, the manure is poor in potash.

4. When manures are exposed to rains, much of the potash, being soluble, is washed away.

5. Nearly all the special fertilisers are especially rich in phosphoric acid, and do not contain enough potash.

6. Superphosphates were the first fertilisers to come into general use among our farmers.

7. When the farmer buys a fertiliser, he still, nine times out of ten, calls for a phosphate.

8. As a result of the above conditions, our soils seem to be quite generally in need of more liberal applications of potash.

9. In the case of corn the need of potash appears to be particularly prominent.

10. For a good crop of corn the fertiliser used should supply 100 to 125 lb. of actual potash per acre; 200 to 250 lb. of muriate of potash or one ton (50bu.) of good wood ashes will do this.

11. With ordinary farm or stable manure it will generally pay to use some potash for corn; 125 to 150 lb. of muriate of potash has given profitable results.

12. The liberal use of potash means more clover in our fields, more nitrogen taken from the air, more milk in the pail, a richer manure heap, and storehouses and barns full to overflowing. It means also a sod which, when turned, will help every other crop.

13. For the potato crop the sulphate appears to be much superior to the muriate of potash, promoting both yield and quality in much higher degree; 300 to 400 lb. of high grade sulphate of potash furnishes enough of this element.

14. For oats, rye, and grass, nitrate of soda applied just as the growth begins in spring has proved very beneficial; 300 to 400 lb. per acre should be applied.—*Farmer and Stockbreeder.*

CONCERNING POTATOS.

A VERY serious problem is presenting itself to growers of Potatos in all directions as to the best course to take to check growing out or protuberation in the case of the earliest varieties. This sort of phenomenon may be difficult of explanation, but still it seems to result only after there has been a distinct check given to the swelling of the tubers, so that when slight rainfalls come that simply moisten the surface of the soil and do not penetrate to the roots, the crown eyes of the tubers have a faculty of bursting into new growth, as it were, in search of the moisture, although no doubt the moisture forces the growth from the young tubers in a way not easily understood or elucidated. Still, there can be no question that this supertuberating follows only when there are still green tops to the Potato plants. If these be destroyed or pulled, or in any way checked from action, no supertuberating will follow.

Already in many cases this protuberation has begun, and where it is so, it is most obvious that whilst the newly forming tubers must be useless the previously formed tubers will be comparatively worthless also. If the haulm be pulled there is an end of the matter. On the other hand tubers are still so moderately small that few care to sacrifice the chance of getting a little more size on so long as a green leaf is left. That causes great risk, and it must be chanced so long as the tops remain. With regard to late and strong growing varieties there is, so far, no harm done, but then even they, rooting deeply and having a broad leafage to sustain them, cannot long endure such persistent dryness. They may not supertuberate, although that seems to be very possible, but the tubers must be small. Altogether the lookout for our Potato crop of the year is far from being at present a hopeful one.—*A. D.*

SOCIETIES.

Richmond Horticultural.—This popular suburban society held its annual show in the Old Deer Park, on Wednesday, June 28th, when the exhibits provided for in the lengthy schedule were arranged in four large tents, but owing to the dry and early season the Rose and fruit tents were not quite so well filled as in former years. In the class for a group of plants arranged for effect, 100 square feet, Mr. Fordham, nurseryman, Twickenham, was first, with a very effective arrangement, consisting of good Gloxinias, Liliums, Crotons, etc. J. Marriott, Esq., of Coventry (Mr. Finch, gardener), was second. In the local class for a group, F. Wigan, Esq., Clare Lawn, East Sheen (Mr. Want, gardener), came in first; and for six stove and greenhouse plants in flower Mr. Marriott's gardener secured premier honours with a very good lot, including Ixora Frazeri, Erica Parmentieriana, and Phœnocoma prolifera. Among the other exhibits in the largest tent was a very fine group, not for competition, from Mr. McLeod, gardener to J. P. Morgan, Esq., Dover House, Roehampton. This occupied about 200 square feet, and contained a very fine lot of well grown plants. Mr. Turner, of Slough, sent two groups, one of Carnations and one of Pelargoniums, both very good. Other good groups were also contributed by H. Little, Esq., Messrs. John Laing & Sons, Forest Hill, Messrs. J. Peed & Sons, Messrs. Puddock & Sheppard, Messrs. James Veitch & Sons, Chelsea, Mr. W. Iceton, Putney, and Messrs. Hugh Low & Co. Roses from the trade growers were good, Mr. B. R. Cant being first for forty-eight trebles, and Messrs. Paul & Son, second; and for eighteen trebles Mr. Mount, of Canterbury, was first. The Roses from local growers were not so good as usual. Hardy flowers in the class for twenty-four bunches were shown, Mr. M. Prichard, of Christ-Church, who was first, showing amongst other good things Polemonium Richardsoni alba, a very pretty plant, and a spike of the true Eryngiun alpinum, which was very much admired by everyone. In the fruit classes Mr. T. Osman, of Chertsey, was first, having especially good Grapes. Mr. Sage, of Ham House, was second. Mr. Osman had also the best three bunches of Black Grapes, Mr. Ellis, of Hounslow, being second. Peaches and Nectarines were not largely shown, Mr. Simmonds, gardener to W. Cunard, Esq., Orleans House, being first in both classes with fine samples. In the various classes for vegetables the first prizes were taken by Mr. Waite, Esher, Mr. Wilkins, Inwood, and Mr. Sage, Ham House. Considering the season these were all very good.

ELÆAGNUS EDULIS.

THE name accepted by botanists for this plant is E. longipes and it has a synonym in E crispa. It is best known in gardens and nurseries, however, under the name of E. edulis, doubtless on account of its edible berries. Some of our American contemporaries have even figured it as a desirable new fruit to augment the supply and give variety to the dessert table, along with the Japanese Wineberry (Rubus phœniculosus). The Elæagnus under notice was introduced to British gardens from Japan in 1873, and is remarkable both for the quantity of fragrant flowers it will produce and the weight of fruit in favourable seasons. A large bush about 6ft. or 8 ft. high, in the nursery of Mr. T. S. Ware, Tottenham, has had to be tied up to prevent the weight of fruit from bearing the bush down to the ground. The berries are oval and of a dark red, dotted with small rusty scales, and have a certain amount of acidity which is very agreeable to some palates. They are suitable either as dessert or for making jam, are good for allaying thirst, and are very juicy, with a small stone in the centre. It is perfectly hardy and would make a capital subject for a lawn when in fruit.

Gleanings from the World of Science.

New Case of Apospory.—Hitherto apospory has only been found to occur on adult Fern plants. Last year, however, a very singular and interesting instance of it was discovered on a seedling Fern, the largest frond of which was only ¾ in. long, and still attached to the prothallus. It was detected by Mr. C. T. Druery, in a Wardian case kept close but cool in July last year. A fully developed prothallus had grown out from the tip of the miniature frond of the seedling, and bore rhizoids on the under surface, as well as antheridia, but no clearly defined archegonia, although the cushion from which they might be expected actually existed. Close examination of the lateral pinnæ of this frond also revealed a number of rudimentary prothalli, bearing root hairs in some instances. The next frond, after attaining its full development, gave rise to numerous prothalli at all points and edges, as well as a host of them on the flat surface along the midrib. When the seedling had made some progress it was determined to be a tasselled form of Lastrea Pseudo-mas cristata which Professor Farlow has found to be constantly apogamous. Mr. Druery surmises that apospory in this instance is connected with and possibly the outcome of apogamy, and reasoning from this he does not think that plants so produced will be constant, but on the contrary that it will be to a certain extent unstable. His observations are recorded in the "Journal of the Linnean Society," vol, xxix., p. 479.

The Germination of Palms.—An interesting paper on the germination of Palms, from the pen of M. Henri Micheels, appears in the *Revue de l'Horticulture Belge* for July. He treats chiefly on the form of the first few leaves of the germinating seedling; and notwithstanding the great sameness that prevails amongst a large number of them, a considerable amount of variety may be detected in the order. The portion of the cotyledon which leaves the seed, shows a slit from which the plumule arises. The first leaf in a large number of cases is reduced to its sheath, which is more or less pointed as a rule, rigid, and serving as an organ for piercing the soil, while it encloses and protects all the younger leaves. In certain Palms the second and third leaves are also reduced to their sheaths, and in general characters resemble the first. According to a sketch by Karsten, representing the germination of Iriartea præmorsa, that Palm has the first four leaves reduced to their sheaths. The first normal leaf possesses a lamina of a particular form, which gives to the plant its characteristic physiognomy. In some cases the first leaf is entire and pointed; in other cases truncate and laciniate at the apex; in others the first leaf is bifid; sometimes it is two-parted with the extremities cut; again pinnatisect, or in Caryota divided into two half triangular portions with a filament between them.

The Carnation: its History, Properties, and Management. with a descriptive list of the best varieties in cultivation. By E. S. Dodwell. Third edition, with supplementary chapter on the Yellow Ground. London: GARDENING WORLD Office, 1, Clement's Inn Strand, W.C. 1s. 6d.; post free, 1s. 7d.—AD.]

M. HAMELIN'S EXPERIENCES IN MADAGASCAR.

DISCOVERY OF THE FAMED EULOPHIELLA.

WE are indebted to the courtesy of Messrs. F. Sander & Co., of St. Albans, for the opportunity of placing before our readers to-day a striking yet exceedingly faithful illustration, so far as it can be given in black and white, of the singularly handsome new Orchid from that *terra incognita* of naturalists the interior of Madagascar, which, under the name of Eulophiella Elisabethæ, has lately created more interest among Orchid lovers than any other introduction of late years. The plant was discovered by a French traveller, M. Léonce Hamelin, and through the enterprise of Messrs. F. Sander & Co. his last importation, and the last as it appears that can be got out of the country for some time to come, is now being put into commerce in this country. M. Hamelin's experiences in Madagascar, as detailed in the following letter from him to Messrs. Sander, read like a chapter from the "Travels" of Baron Munchausen, and would not be inserted here if there was any reason to question the author's veracity:—

"THENON,

"*27th June*, 1893.

"I am glad to say that I am now quickly recovering my strength and health in the calm and restful quiet of this place; the home comforts that I now enjoy will, I hope, soon recoup my system that has suffered a little severely from my hard knock-about journeyings.

"I hasten to supplement my brief and hurried letter from Marseilles, which gave but a mere sketch of my search after Eulophiella Elisabethæ, and it pleases me to hear that they have reached your hands safely, and that you have so kindly undertaken their disposal. It is seldom that amateurs fully appreciate a newly-discovered plant, and it is only later on as a rule that they recognise their error, and then would give almost any amount for an Orchid that has perhaps disappeared; or, if perchance the plant does still exist, it is sometimes an impossibility to collect it owing to political reasons or changes in its native country. It is needless to mention cases, they are only too numerous. Eulophiella Elisabethæ hardly exists now. The plant grows in a country inaccessible to Europeans. I had a special privilege accorded me to penetrate those regions which are held by an independent and powerful tribe, fiercely hostile to foreign encroachments.

For some seven or eight years I have known the King of this great tribe intimately. I have on numberless occasions had the opportunity of observing and taking part in the quaint ceremonies and customs presided over by the King, surrounded by his highest dignitaries. These people are very suspicious, and it is only after knowing a white man for years, and after having tested him fairly, that they will allow him to associate with them. This favouritism very seldom occurs, and since Madagascar has been known to enterprise, even going back as far as the history of Flacour, very few Europeans have obtained such honours. I feel rather proud that I have been one of those few. About six years ago I had the privilege of passing through the ceremony of the 'Tatadra' with the King Moyambassa—which consisted of being made his 'brother in blood.'

To perform this ceremony the whole tribe is called together, a gala gathering—like that called together on the day of the great 'Kabars' or coronation fêtes. I was placed by the side of the King on seats of 'Foutsivolomano' (white moss) and thereupon I was presented to all the subjects. Then the real ceremony commenced. It is performed by giving a slight cut in the chest of the two who are to be made brothers so as to draw a drop of blood, each drop being taken on a piece of Ginger, which is handed over to the master of the ceremonies, the priest, doctor, and sorcerer of the Court. At this moment the 'great fire of purification' is then made (for it is believed by this tribe that fire purifies everything) The priest ties the two pieces together and throws them into the fire; then arming himself with the silver 'zagaie'—which is only used on great events—swears by the flames and the souls of the tribes' ancestors that the stranger to the tribe and to the family is a brother to the King, and that they must help and protect him, that their goods become one property, and that the interest of one is identical with that of the other, and that even death cannot break their engagements, for the first who dies and appears before the 'Zanatiar' must protect his brother on earth from the persecutions and devilish spells of the bad spirits.

"This event, executed with the greatest pomp, placed me at once amongst the highest caste in the tribe, and, as a brother to the King and a prince of the Royal Family, it was my right and duty traverse the whole of his territory.

"In my subsequent journeys it was nearly one year before I discovered the gorgeous Orchid now known as Eulophiella Elisabethæ. This plant only grows in a very limited region and on trees of slow growth, and which only begin to attain any height after ten years. To secure plants of the Eulophiella, which flourish on the tops of the tallest trees, I was obliged to have them cut down, and then I most carefully gathered all the plants myself, and, I said to myself, will the seeds carried away by the wind lodge and germinate on other trees and so propagate the species? And the young trees, growing up again, will they be suitable for the plants seeing that I only found them on the very highest? Excepting young and very small plants, and those are under the special care of my brother in blood, Moyambassa, until such time as I may want them, I had to do this to prevent the total extinction of the species, and at least several years must elapse before these small plants will be large enough to gather. Amateurs may trust that no plant of this species can or will be imported.

"Enormous difficulties and manifold dangers have to be surmounted before even the country where they grow can be reached. I have still fresh in memory the sad fate of three inexperienced and unfortunate collectors, who, not knowing the customs of the country, died from fever—the last by the sword of the natives.

"My journeys into the interior have been numerous and in every direction, for I have travelled for years; but to be able to do this, one must have a fair knowledge of the language, the customs and manners of the natives, etc.; above all, patience and firmness which must never yield. Under these circumstances alone is it possible for anyone to live and mix with these people. I had numerous obstacles to overcome and was obliged to make enormous sacrifices and to incur fearful expenses—my journey was far from being without danger—and was full of privations and sufferings. I think I can consider myself very lucky to have had the exceptional chance to escape and return safe to my family.

"Although I had a great number of well-armed men with me, upon whom I could rely, I had always to fear and guard against surprises by the warriors of the neighbouring tribes bordering Moyambassa's territory. In this country, fighting is continually carried on between the different petty Kings, and their only mode of warfare is to act by surprise.

"An amateur paying 100 shillings for a plant would not cover the cost. Not counting the constant exposure of my life, and the lives of those accompanying me, not only was our party exposed to the risk of being strangled by ferocious and hostile tribesmen—a fate that befel many a poor fellow belonging to our expedition, whose unwary footsteps led him to straggle—but we had to struggle almost night and day against the wild animals haunting these primeval forests. The most terrible of all is the Protocryptoferox Madagascariensis, against which we had constantly to be on guard.

"During the daytime it is extremely dangerous, for it crouches in the forks of trees, hidden among the rich tropical foliage and climbing plants, and watches for its prey. It is exceedingly agile and the moment its victim approaches, it slides silently down, and in one bound is on top of it—a picture of horrible ferocity. At night big fires had to be constantly kept up and men had to take the watch, as we were thus exposed to the observation of no less savage human enemies.

"The favourite haunt of the Protocryptoferox seemed to me to be amongst the masses of foliage where the Eulophiella grew. Here they were numerous, and I was happy to be able to capture two young ones. The animal is not big, but extremely ferocious. The capture of these two cubs was attended by a terrible adventure—no less than the death of the brother-in-law of the King, a fine, handsome, well-built man. I sincerely mourned his death. It came about in this wise: Whilst we were busy with the young ones, the mother returned, and, maddened with rage, pounced on the shoulders of Tsiampohé (the King's brother-in-law), rending the flesh from back and shoulders, and mangling him in a frightful manner. Tsiampohé fell as if struck by lightning. The next moment thirty 'zagaies' were quivering in the carcase of the fierce creature that had wrought such direful mischief.

"I had often thought of trying to obtain some specimens of the Protocryptoferox, but I had little thought of the appalling danger of such an enterprise. I think it is the principal reason of its being so scarce in European collections. In London you have a little one purchased in Marseilles, and there is another in Paris imported by M. Humblot.

"This fatal accident brought me to a position sufficiently embarrassing, and witnessing another native ceremony. After Tsiampohé's death, he was buried according to their religious rites. The body was tied and placed in an erect position in his own hut, and was allowed to remain until it was full of maggots and the flesh rotting to the bones. The remains were afterwards placed in a kind of coffin made from the stem of an ebony tree, in which his weapons were placed and carried to the cemetery of his ancestors. Here, the coffin was placed on four sticks about three feet above the ground.

"The exhibition of the dead body lasts about eight or ten days, in which time rum and 'bessa-bessa' are drunk in such quantities that by the smell one would fancy himself in a veritable distillery. All the time is spent in wailing and chanting the praises of and brave deeds of the defunct, and to the spirits to guard him in the other world.

"The burial ceremony finishes by taking the coffin to the cemetery, and there they kill 50, 60, or even 100 bullocks, of which each mourner takes his part according to the rank he holds. But it was not yet all over. Being 'Valola,' or brother in blood to the King, and thus a relation of Tsiampohé, I had to take part and join in these ceremonies; and worse than that, I had to obey their laws, which command that if anybody has the moral responsibility of an accident, and that death is the result of it—especially of a relative as Tsiampohé was to me—he has the choice of being greased and being burnt alive, or take the whole family of the deceased, including the wife. I chose the latter alternative. Of course there are more lively ceremonials, such as eating salt with the King, a symbol of cordiality, making offerings of bullocks to the memory of the departed. These offerings of course serve as a repast to the whole tribe. For the dead they only leave the bullocks heads which are stuck up on sticks in two rows near the head of the coffin, then they add some calabasses with rum and leaves of Kava, so as to give his soul a chance of quenching its thirst.

"But I must conclude, or my simple narrative will swell into a volume, and a volume I could well indite, which would be interesting in the extreme."

Writing again on June 29th, in reply to some natural history enquiries made on behalf of the Honble. Walter Rothschild, M. Hamelin says:—

"I am in receipt of your letter respecting the eggs of the Epyornis which I know perfectly well and could have got some if I had gone a little later in the country of the Eulophiella Elisabethæ, but my time for these two or three last journeys was already mapped out. I will not fail to bring some back on my next journey in spite of the difficulties that surround their collection. The price paid for this egg in London, 2,500 francs, is not excessive, it had probably some cracks in it, which took off its value somewhat, for an egg in perfect condition has a value of 5,000 to 6,000 francs. It is true that a perfect egg is very rare, or rather almost an impossible thing to obtain, but being known, as I am, to all the inhabitants of this country through my relations with the King, and also being well known to many minor chiefs and headmen, my difficulties will be smoothed a little and thus I hope to bring home some real good ones, at least, I will do my best. I I also hope to bring back a skeleton of that gigantic bird, of which, so far, only pieces exist in collections. There are also some gigantic Hippopotomi in Madagascar and Rhinoceros fossils which I discovered in certain districts and which must be, according to the bones, nearly six times as large as our elephant. It is only the money question that has prevented me going in for this work.—*L. Hamelin.*"

THE NEW MADAGASCAR ORCHID, EULOPHIELLA ELISABETHÆ.

We have received a lengthy communication from Mr. Lucien Linden with regard to the original discovery of this plant and discussing also some commercial transactions, which as they concern only Messrs. Linden, Sander and Hamelin, are from our point of view of no public interest, and therefore need not be further alluded to. As regards the discovery of the Eulophiella we are glad to publish what Mr. Linden has to say, merely remarking that we have perfect confidence in the accuracy of our statement at p. 663 that the plant was discovered in Madagascar (not on the Congo as was at one time erroneously put about!) by M. Hamelin, and our information further goes to show that whatever plants of the Eulophiella the Messrs. Linden ever possessed were obtained by Sallerin from Hamelin. The Messrs. Linden may or may not have been aware of this; we do not know one way or the other, but we believe the facts to be as stated.

Mr. Linden writes:—"In 1890, we received from one of our collectors, Mr. A. Sallerin, the most marvellous importation of Angræcum sesquipedale, and of Grammatophyllum (Grammangis) Ellisi, which has probably ever been sent into Europe,

Among those plants there was found an Orchid of a character absolutely distinct, which subsequently flowered, and was named Eulophiella Elisabethæ. In the month of March, 1891, a Mr. Hamelin wrote me, announcing that the collector, Sallerin, of whom we had not for several months previously received any news, was dead, having been drowned, and offering me his services to send us plants. In the meanwhile, Eulophiella Elisabethæ, sent by Mr. Sallerin, flowered and showed itself as a magnificent novelty. I immediately caused a water-colour drawing of the plant to be made of natural size, and I sent it to Mr. Hamelin with several coloured plates, and a specimen of the number of the *Lindenia*, in which the Eulophiella was figured and described, asking him to collect plants on our account. On the 5th of October, 1892, Mr. Hamelin wrote us that he had recognised the plant on receipt of the plates, and that he was going to send us specimens on the 27th of October. Several months passed without news, but at last, on the 15th of February, 1893, he wrote a letter which was received in March, in which he stated that he would send us plants on the 27th of March or the 27th of April, and we heard no more until we received a telegram from him from Marseilles on the 27th of May."

Mr. Hamelin has the right to reply if he thinks proper.

THE HERBACEOUS BORDER.

Choice plants in flower.

Aster diplostephioides.—When this becomes plentiful, it is evident that it will enjoy a long run of popularity on account of the large, blue-purple heads, which measure 2 in. to 3 in. across. Some growers would no doubt like a larger production of flowers from a plant, as each stem terminates in a single head the disc of which is blackish-violet. The stem varies from 6 in. to 3 ft. high. It was introduced from the Sikkim Himalayas in 1882, and is not yet over plentiful.

Chrysanthemum maximum.—The stems of this plant, notwithstanding the drought, have maintained their usual stature, being about 18 in. high. The golden disc is surrounded by several rows of imbricated white rays. C. lacustre is often grown under the name of C. maximum, but that is a taller, coarser plant, with broader leaves than those of C. maximum, which are oblong-lanceolate.

Centaurea aurea.—The thistle-like heads of this plant are of a bright yellow and surrounded by silvery-white, scarious bracts. The stems are winged and 3 ft. high. The flower heads of the same colour as those of the Yellow Sultan, represent a hue that is popular at present. Being perennial and upright the plant is in all respects well adapted for cultivation in the herbaceous border. Another name for it is C. glastifolia.

Eryngium Oliverianum.—The spiny leaves of this plant are deeply three parted. The upper portion of the stem and branches, as well as the bracts surrounding the oblong heads of flowers, are of a deep steel-blue, and this hue has been well developed this summer. The plant is a good substitute for the handsome, old-fashioned E. alpinum, which does not seem to like the sunny south. Large quantities of it are grown for market, generally under the erroneous name of E. amethystinum.

Veronica longifolia.—The variation in the colour and habit of this species is extensive. The flowers are of various shades of blue, rose, and white—the more distinct forms receiving special names. One of the finest of the blue forms is V. l. subsessilis, a Japanese plant with large and handsome flowers of a deep blue. Some of the dwarfer varieties form intermediate links between the species and V. spicata. Propagation is very easy.

Lilium Parryi.—The flowers of this comparatively new Californian Lily are tubular below with the segments spreading widely above, and wholly of a clear Hemerocallis yellow with exception of a few scattered crimson dots in the throat. They are also agreeably fragrant. The bulbs are slightly rhizomatous with curiously jointed scales. A quantity of peat in the soil is of great advantage to this species. We noted it doing well in the nursery of Mr. T. S. Ware, Tottenham.

Lilium Washingtonianum.—When the flowers of this Lily first expand, they are white with a few crimson spots scattered along the middle of the segments, but as they get old they change to a soft, rosy-purple, and are therefore as handsome when fading as when in their pristine glory. The oblanceolate leaves are produced in six to nine whorls, while the flowers are produced in a dense terminal raceme. It has been flowering finely for some time past with Mr. T. S. Ware, of Tottenham.

Lychnis chalcedonica.—The bright scarlet flowers of this Campion are always welcome when they make their appearance. For border decoration the double form is even more appreciated, because the flowers are more durable. There are white varieties, single and double, but except for the sake of contrast they are not appreciated like the scarlet ones.

Lilium Brownii.—The unusual character of the season does not seem to have affected the vigour of this handsome Lily, which is now 2 ft. to 3 ft. high, with handsome foliage. The external face of the three outer segments is bronzy-brown, and while in bud the whole flower of course exhibits this aspect and is certainly peculiar. When expanded the inner face of all the segments is pure white with a waxy shining lustre.

Spiræa lobata.—The rosy panicles of flowers of this species are very attractive, as the foliage is fine when grown under suitable conditions with a fair amount of moisture. When planted in a dry exposed position in seasons like the present, the leaves and stems are liable to be attacked by mildew and rendered unsightly. Planters would do well therefore to attend to this matter when selecting positions for their plants.

Helenium Bolanderi.—The various forms of Helenium, like other plants, are earlier than usual, and H. Bolanderi maintains its position in the first rank. It is about 18 in. high, with clear yellow rays and a large, prominent, brown disc. Like H. pumilum it requires no staking when grown in a bed or mass, and more particularly in dry seasons.

A CHAT ON PROPAGATION.

Propagation by Cuttings is most advantageously adopted for plants whose characters are not reproduced by their seed, or which only bear seeds at very long invervals, or the seeds of which are difficult to germinate. From the cutting of a succulent plant to that of a thin-leaved stove plant, we have a range of great variety; the one we root by drying it in the sun, while the other we have to shade and keep constantly in a moist, close atmosphere.

For most tropical plants it is necessary to start soon; there is no time like the days of early spring; the cuttings strike easily, and have then the whole summer to grow in. Cuttings of ornamental fruit and berry-bearing plants, such as Rivina, Psychotria, Callicarpa, Solanum, and Capsicum, should be put in as early as possible, as it is important that they should be in flower early in summer, in order to set and ripen plenty of fruits.

Some cuttings try one's patience to the utmost. Economics as a class are about the worst in this respect. Other things will rot off or go black almost as quick as you put them in; I don't know how many batches of Camoensia I have put in and have failed with. Still I persevered and put more in, and finally was rewarded with a whole batch, not one of which failed. If, therefore, anyone tells you such and such a plant cannot be raised from cuttings, I would advise you to try for yourself.

In making cuttings, it is important to have a good knife and cut clean. Cuttings of tropical, and indeed of most plants, I prefer to put singly into small pots, as it saves a shift and prevents damage to the roots. For hard-wooded plants of course you use larger pots, or even pans or boxes; the drainage must be perfect, the cutting properly ripe but not hard, thin and weaker shoots to be preferred; the lower leaves must be carefully removed. For planting the cuttings use a dibber with a proper point, according to the thickness of the cutting, it being important that the base of the cutting should rest on the bottom of the hole, and not have a hollow space beneath. If the cuttings are covered with a bell-glass let it be large enough, and be careful to keep it clean. Cuttings under bell-glasses want very careful watching as to watering, cleaning, airing, &c.

In the nursery it is chiefly ornamental shrubs and Conifers that are propagated from cuttings. The former may be taken as young soft-wooded shoots, and put under handlights or in frames, treatment which answers for Ribes, Deutzia, Philadelphus, Spiræa, etc., or large shoots two or three years old may be used if they are put in beds outside. Cuttings of Conifers must not be too sappy nor too woody. Cuttings of young shoots do not make much callus, while woody cuttings do. Should the callus get hard outside it will prevent roots from breaking through; such cuttings should be picked out when the others are potted up, the callus cut, and then placed in a little extra heat.

Roses are propagated from cuttings put in frames in July and August. They must be kept close, exposed to sun and frequently syringed, potted off when rooted, and wintered in a cold frame. Cuttings of many Cacti root easily, and will not only produce bulbils from the spine-cushions, but also on the axis. The stems of Cycads may be cut through and the tops used as cuttings, and even the scales of Cycas will form new plants.

The scales of bulbs will produce a number of young bulbils if the base of the bulb is cut crosswise or sliced off altogether. I may here say that young bulbils, whether from seeds or scales, do nowhere better than when planted out in frames, and that young seedlings of bulbous plants do not go to rest, as a rule, until two or three years old.

Leaf Cuttings.—There are a great number of plants which may be propagated from their leaves. Begonia Rex is a well-known example; but whenever you have a plant of special value and wish to propagate it rapidly it is well to try leaf cuttings. Besides Begonias, such things as Peperomias, almost all Gesnerads, including Ramondia pyrenaica, Pelargoniums, Cyperus (leaf-whorls), Phyllogathis, Bertolonias, Echeverias, and other succulents will easily strike. For some plants leaf cuttings are by far the best way.

Root Cuttings.—Cuttings formed of roots are sometimes taken advantage of when a large quantity of plants from small stock is desired. This method is, however, slow, and the plants thus obtained are not as strong as from ordinary cuttings. Root cuttings must not be put in much bottom-heat, or they will only form shoots which soon turn black and perish. In the nursery such plants as Rhus, Colycanthus, Paulownia, and Sophora are propagated from roots of the thickness of a pencil to that of a thumb; they are cut into 6 in. lengths and put into pots, cutting fashion, and placed under glass in slight bottom-heat.

Layering is a convenient way of propagating in the nursery, as it may be done at any time after the wood is ripe. It is commonly employed for Carnations and Lapagerias, and may also be applied to Asparagus plumosus, when all the foliage has been cut off. It must not be forgotten that in many cases you cannot get cuttings early enough unless stock plants are prepared expressly for that purpose.

Propagation by Grafting is one of the most important methods of artificial propagation. The subject in itself is so wide that I cannot hope to be able to do it justice. The objects of grafting are:—1. To save time, where you would otherwise have to wait ten years before getting fruit, through grafting you may get the result in two or three years. 2. To keep sorts true. 3. To alter the habit of a plant, *i.e.*, dwarfing. 4. To propagate plants which are difficult to strike, and do not seed. 5. To improve the flavour and colour of fruits. 6. To enable us to grow plants on soils and in climates which, under ordinary circumstances, would be unsuitable to them. 7. To grow several kinds on one plant. 8. To renew the fertility of old trees. 9. To repair imperfect wall trees.

There are four kinds of grafting, namely:—1. Marching; when the scion is a rooted plant. 2. When the scion is a cutting, as in splice, saddle or cleft grafting. 3. Grafting on roots. 4. Budding.

Both stock and scion should be in perfect health, and the latter properly ripened. Season and weather must be carefully studied, and also in relationship of stock and scion. Stocks in pots, such as Rhododendrons and Camellias, must be thoroughly soaked before being worked. The grafts must be well attended to as to airing, shading, and moisture.

Propagation may be called by far the most important and responsible of the gardener's duties; men engaged in this work should have a genuine love of it, be reliable, patient, and methodical. Careful observation of the smallest details, and thoughtful execution of even the simplest operation,

are most essential to success. Everything should be clean and sweet—pots, crocks, stages, and glass—inside as well as outside. Cleanliness is half the success in plant growing. The plunging material in the propagating cases—fibre, or whatever is used—should also be kept as sweet as possible. Decaying wood often breeds fungus, and once you get fungus into the cases it is difficult to get rid of it. The water tanks should also be cleaned out now and then.

I should like here to recommend to you a hot-water tank, such as we have in the pits at Kew. This tank is in itself a most pleasant and exceedingly interesting study to me. If you have any cuttings which refuse to strike, try them in warm water. Bambusa striata, with which I had failed so often, was at last struck in the tank. Many young Palms we have saved by placing them on warm water; also bulbs, ferns, and many other plants we have tried with success. Nothing, as far as I can remember, has yet failed.—*G. H. Krumbiegel, in the Journal of the Kew Guild.*

ABOUT OSIERS.

THE term Osier is popularly used as comprehending all the trees or shrubs of the Salix genus, which are converted into wicker work. The genus Salix includes Willows, Sallows, Osiers. Most of the kinds grown for a crop in the Fen district are, it is stated, really Willows, and not Osiers. At any rate, while growers use the term in a collective sense, they limit the term when distinguishing sorts of rods to a coarse-growing, soft-wooded species, which peels indifferently, and is only grown in limited quantities for a particular purpose.

Osiers are grown in enclosed plantations, which are locally known as holts. The produce of the Osier holt is known commercially as "rods."

In the Fen district the growth of Osiers is chiefly carried on in unembanked river valleys, which are subject to flooding. A variety of circumstances contribute, perhaps, to this situation being almost universally selected. It is not merely that this is the natural habitat of the genus, and that the soil is suitable, but the convenience of having close at hand water carriage for a bulky and heavy crop, which must be for the most part removed in a green state, has no doubt tended to restrict the growth of Osiers almost entirely to the borders of rivers. An additional reason for the selection of such sites is, that the periodical winter floods bring down from the uplands a considerable quantity of soil which acts as a fertiliser, and is obtained at a comparatively cheap rate. Floods, however, are occasionally the cause of considerable injury to the holts. An ice flood cuts the rods and seriously damages them. Sheet ice settling down on the holt will entirely destroy a crop, and a spring flood, which entirely covers the young shoots, will kill them; but freshets, which disappear quickly and which do not rise above the tops of the rods, do no harm.

The area of Osier holts in the district in question has been approximately estimated as follows:—

In the Ouse valley, between St. Ives (Hunts) and Denver (Norfolk) ..	190 acres.
In the Cam valley, near Cambridge and Ely	108 ,,
In the Nene valley, in the neighbourhood of Peterborough	60 ,,
In the Welland valley, around Spalding and Crowland	130 ,,

Excluding considerable areas above St. Ives, Peterborough, and Cambridge.

There can be no doubt that the extend of Osier holts in the Fen district is now much less than it was; but at the present moment there is some evidence of increased interest in the subject and greater attention to the business. The industry is apparently becoming more of a speciality, and basket-makers are planting holts in some instances to supply their own requirements.

THE CULTIVATION OF THE OSIER.

The most suitable soil for the growth of Osiers is a deep, rich, moist, alluvial soil. Any good clay may be planted if sufficiently moist. Peat moor and hot gravels are absolutely unsuitable. Though water is requisite, a holt will not thrive in stagnant water.

The site of a holt having been selected, the land must be thoroughly cleaned during the summer before planting, and it may be worth while to give it a complete summer fallow. Before the winter sets in it must be thoroughly stirred either by digging or ploughing to a depth of 14 in. or 16 in.

If the soil is not naturally rich, it should be manured, and soot is said to be a good preparation for the crop.

Planting should be done in February or March. The sets are cut from wood of two years' growth—they should be 16 in. or 18 in. long, and about 10 in. of the set should be in the ground. During the spring and early summer the spaces between the rows must be kept clean by hoeing and forking. The cleaning must be completed before the middle of June, or the Osiers will be injured. The cost of cleaning is variously estimated at from £1 to £2 per acre per annum for the first two years. After that time the expense of cleaning is much less, as the dense and rapid growth of the Osiers stifles and smothers all other vegetation. It may be mentioned in passing that the young shoots from an established stock will make a growth of 18 in. in the course of a single week.

Under the most favourable circumstances the newly-planted holt will be at maturity in three years; but, as a general rule, four or five years must elapse before its full development.

A holt properly planted, kept clean, regularly filled up, and well managed will last from ten to fifteen years, the duration depending upon the sorts planted and various circumstances which affect the several kinds of Osiers in different ways.

A certain proportion of the coarse-growing Osiers may be grown, as the basket-makers require some strong, stout rods for uprights; where they are not grown their place is supplied by leaving a portion of the holt to grow for two or three years.

The cost of preparing and planting an osier holt is variously estimated at from £14 to £23 an acre—the amount depending upon whether the land is trenched or ploughed and upon the preparatory cleaning which may be necessary.

Taking an outside estimate, the items of expenditure would be as follows:—

	£	s.	d.	
Fallowing..	4	0	0	an acre.
Trenching	8	0	0	,,
Sets, 20,000 at 10s. per 1,000	10	0	0	,,
Planting	1	0	0	,,
	£23	0	0	

This is without any allowance for manure.

On the other hand, if fallowing is not required and ploughing is resorted to, the cost would not exceed £14 an acre.

The Osiers attain to their full growth by the middle of September, by which time the rods on established plants will have made a growth of 6ft. to 7ft. Osiers and Sallows will make an average growth of 8ft. or 9ft., and, occasionally, as much as 13ft. in a single season.

CUTTING AND PULLING THE RODS.

Cutting the rods commences with the new year, if the holts are accessible. Sometimes, however, floods or other circumstances prevent the early cutting, and the process has to be postponed. It is, however, considered very desirable to cut before the sap rises, as the stocks bleed, and the new growth is less vigorous if the sap has risen before cutting. The rods are cut with a sharp hook, somewhat like a strong reaping hook, a clean cut, without splitting the rod, is essentially necessary. As the rods are cut they are tied up by willow bands into bundles or "bunches." Each bunch has a girth of 45in. (an English ell) at a distance of 1ft. from the butt end of the bunch. The "ell band" is secured in its place by attachment to another band, called the "breech band," round the butt end. A third band is placed higher up. The cutting is paid for by the score bunches, the ordinary rate being 2s. 6d. An average crop will be about 150 bunches, and a heavy crop will reach to 250. A green bunch will weigh 6st. The weigh of rods per acre will range from 5 tons to 10 tons.

If the rods are to be peeled, they are conveyed to the peeling-yard, and placed with their butt ends in water, where they remain until the rise of sap makes the peel separate easily from the stick. Sometimes, after the rods are cut, they will dry from exposure to the air, and in that case they are put in a heap, watered, covered up, and sweated, or "couched," as it is called. If the rods in the pits get too advanced in growth before peeling, the difficulty of peeling is increased, and the rods are damaged. The work of peeling begins as soon as any of the rods are fit. It is chiefly done by women, who draw the rods through "break" or "cleave," which divides the bark into strips, which are removed by the hand. The children of the peelers assist in this latter operation.

GARDENING MISCELLANY.

LORD ANSON'S PEA.

THERE must be some mistake in applying the name of Lord Anson's Pea to the blue variety of Lathyrus sativus, as mentioned by your correspondent at p. 679. Lord Anson's Pea is a yellow-flowered annual species, which was introduced from Cape Horn, in 1744, and was named Lathyrus magellanicus. The flowers are produced in many-flowered racemes, on long footstalks, and make their appearance in June and July. Now, L. sativus has only one flower on a short footstalk, and it is light blue. It was introduced from South Europe, in 1640, when it was more or less extensively cultivated as food both for human beings and other animals. What was considered a poisonous variety of it was brought from Barbary. It had black seeds, spotted with white, a white standard, and a red keel; and was supposed to be a mule between L. sativus and L. Cicera. In proof of this, the flowers and seed partook of the characters of both those species. Granting such to be the case, there is reason to believe that the small blue flowers of L. sativus, as now known in British gardens, are capable of improvement.—*A. R.*

EARLY PEACHES IN CHESHIRE.

IT may interest the numerous readers of THE GARDENING WORLD to know that a ripe Peach was gathered from a tree on an open wall in the garden of the Rev. Canon Turner, the Vicarage, Neston, on June 22nd. There is an excellent crop of medium sized, well-coloured fruit, and the variety is the Waterloo. Is there any recorded instance of Peaches ripening at such an early date in the northern parts of England?—*Andrew Jamieson, The Hermitage, Neston, Cheshire.*

HYPERICUM RICHERI.

A LARGE number of the St. John's Worts are tidy and interesting plants, bearing, as a rule, a great profusion of yellow flowers, of which the stamens frequently play a very conspicuous part. That under notice is a dwarf herb about 8 in. to 10 in. high, terminating in a profusion of flowers of relatively large size. The petals are of unequal size and shape, reflexed and dotted all over with black glands. The ovary, which is to a considerable extent exposed by the reflexing of the petals, is even more densely dotted with similar glands. The leaves are small, ovate, and glaucous. It is by no means a common plant, but may be seen on the rockery at Kew. The name of H. Burseri is sometimes given to it.

SPIRÆA ULMARIA AUREA.

THE variegated variety of this plant frequently does not show much variegation, but S. Ulmaria aurea, on the contrary, is often almost wholly yellow with a few green leaves and shoots here and there. This yellow condition of the plant seems to have the effect of dwarfing it independently of the dry season, for many of the stems do not exceed 12 in. to 15 in. in height. A moist situation should be selected for most of the Spiræas of this type, as they naturally inhabit moist places.

CODONOPSIS OVATA.

IT is a pity the interior of the flowers of this Bellwort is not so well shown as that of many others belonging to the family. The flowers are large, deeply bell-shaped, pendent, of a soft porcelain blue externally, with darker veins. The inner face is similar till near the base where there are two concentric purple zones, within which are other two of entirely different and intense lines round the centre or base. The outer of these two is five-rayed and orange, while the inner one is five-angled and violet. The small, grey leaves are ovate, and the plant grows 12 in. to 16 in. in height. The plant is perfectly hardy, and ought to be more extensively cultivated than it is, as a choice plant for the rockwork.

VERONICA SPICATA.

THE smaller and dwarfer forms of this plant are highly ornamental subjects for the rockery where the barren stems form a procumbent carpet, covering the ground, while the flowering stems are only 6 in. high, terminating in long, spicate racemes of bright blue flowers. The plant can readily be increased by division, by cuttings and seeds. Being a British plant it is perfectly hardy.

LILIUM MARITIMUM.

THE stems of this Lily, which is seldom seen in this country, vary from 2 ft. to 3 ft. in height, and bear a terminal raceme of two to six flowers, which are bell-shaped and drooping. They vary in colour from pale to dark crimson-scarlet, and are marked in the throat in a varying manner with dark crimson spots. The leaves are dark green, oblong-lanceolate, and mostly scattered, or the upper ones may be in whorls. It is a native of California, in peaty, maritime meadows, near San Francisco, where it is exposed to the foggy climate of the sea coast in that district. These facts should afford some hints as to how it should be treated in this country. While perfectly exposed to sunlight the ground should be shaded with something that will retain the moisture; and if a good quantity of peat is mixed with the soil so much the better, as a peaty soil is not so liable to get dry and hot, nor does it ever get baked. A quantity of bulbs have been flowering for some time past with Mr. T. S. Ware, Hale Farm Nurseries, Tottenham.

PYRUS ANGUSTIFOLIA FLORE PLENO.

A double-flowered form of an ornamental Crab has been put into commerce by M. Oscar Tiefenthal of Wandsbek, under the simple name of Pyrus angustifolia, a North American Crab, with rose-coloured flowers, and which was introduced to this country in 1750. It forms a tree about 20 ft. in height, flowering with us in April, and having oblong or lanceolate, narrow leaves, tapered to the base. The double variety is evidently a fine thing with large flowers, which, although double, are by no means crowded with petals. There is a woodcut of it in *Bulletino della R. Societa Toscana di Orticultura*, for June. That journal says the flowers emit an odour as sweet as the Rose, and which may be perceived at a great distance. The tree grows slowly, but is perfectly robust, is well adapted to various soils, and is otherwise well worthy of cultivation on account of the beauty of its foliage, and the beauty and delicious odour of its flowers.

YUCCA GLORIOSA.

THE hardy Yuccas, but particularly the strong growing species which develop a stem, are handsome objects at this season of the year when they come into bloom. Y. gloriosa and Y. g. recurvifolia rise up with stout, often branched stems with each branch terminated by a dense crown of leaves, rather formidable looking in the case of the type on account of their rigidity and spiny tip. The flower stems are terminal and cause the branching. They vary from 2 ft. to 3½ ft. or more in length, and are covered for the most part by a dense tapering panicle of drooping creamy-white flowers of great size. Some describe them as Lily like, but we should compare them to those of a white Fritillary, having similarly shaped flowers but more contracted at the mouth and pendent. The title of "century plant" is generally applied to Agave Americana, but one of our provincial contemporaries applies it to Yucca gloriosa, and must have been labouring under a seriously erroneous impression, seeing that the same plant flowers frequently when it has attained a large size.

DIANTHUS ATKINSONI

THIS is one of the mule Pinks in the way of D. Napoleon III, but much darker in colour; in fact the flowers are of a brilliant dark crimson when they first expand, but they ultimately fade somewhat, and are seen to possess at least three distinct zones of colour. The outer zone retains its crimson hue to some extent, while below the middle of the petal is a bright crimson-scarlet zone, with a purple-red band round the eye, forming the innermost zone. The stems are about 12 in. high, producing numerous flowers on a branching, rather open cyme. The leaves are of a dark green. A bed, or even a good line of this round a bed would be very effective.

FERULA CANDELABRA.

THE large and handsome leaves of this plant are about seven times divided with the ultimate segments linear. The flowers are small and yellow, produced in compound umbels on ascending branches from stems 6 ft. to 8 ft. high. The plant is therefore stately and striking when in bloom, but is at all times deserving of cultivation for the sake of the foliage alone. Given plenty of room, the plant may be grown in the herbaceous border, but a round bed on the grass is best calculated to show off the handsome foliage to advantage.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

VANDA SUAVIS.—Our plants have just gone out of bloom after carrying their spikes for nearly two months, a much longer period than we generally allow them to stay on. The plants, however, do not appear to have suffered in the least, for they show no signs of losing any of the bottom leaves. The plants in question are what may be termed half specimens, being about 4 ft. high. Some growers do not succeed with this genus, although they grow Aerides, Saccolabiums, and other Orchids to perfection. I do not know that our plants receive any special treatment; they are, as before explained, grown with the Cattleyas, where, of course, they get a good deal of light. They are grown in baskets instead of pots, and are given peat as well as sphagnum moss to root into. Herein then, perhaps, lies the whole secret of our success. The baskets are of course large, two feet square for a four feet high plant, and proportionately deep. Pieces of broken pots are mixed in with the material when it is necessary to renew it, which helps to keep it sweet and porous. The roots keep in healthier condition than when grown in pots, besides having the advantage of the syringing when damping down. When watering them we do it thoroughly, allowing them to become moderately dry before watering them again. Manure water may be given to healthy growing plants at every other watering.

GENERAL WORK.—This will now consist of keeping the plants free from dirt and insects by frequent application of the sponge. Unless the plants are very bad we use clear rain water only. Keeping the plants clean has more to do with their successful culture than many think.

TOP DRESSING.—Where the moss has failed to grow it should be replaced with fresh live sphagnum. This can be done without damage to the roots if a little care is exercised in doing the work.

WATERING.—Every plant is now in a growing state and must not be allowed to get a check by being dried too much. To avoid this plants growing on bare blocks or with very little material to root into, should be so placed that they can be easily seen, so that when syringing in the afternoon they can be sprayed over. Plants in baskets and suspended close to the glass must be frequently taken down and examined—every other day where the plants dry up at all quick (as ours do), will not be too often, if they are in good condition.

GIVING AIR.—It is the practice of some growers to reduce the air during the very hottest part of the day by partly closing the ventilators so that the plants should not dry up too much. Especially is this the case with the Odontoglossum house. We do not favour this practice, but give them plenty of air day and night. By this treatment we get large, well-ripened bulbs and foliage too, and in due season they produce spikes which are worth having.—*C.*

Cattleya amethystoglossa rosea.

THE typical C. amethystoglossa has white sepals and petals spotted with rosy-purple. The variety under notice is more richly coloured in all its parts with the oblong-spathulate sepals and petals of a rosy hue spotted all over with dark purple. The tube of the lip is white, the lateral lobes rosy-purple, and the lamina as well as the inner face of the lateral lobes of a rich crimson-purple; the terminal lobe is more or less plaited. The flowers, it seems, are somewhat smaller than those of the type, but that may be to a great extent a matter of cultivation. At all events the variety is highly deserving of attention at the hands of cultivators. Plants have appeared in several collections from the importations of Messrs. Linden (*L'Horticulture Internationale*), Brussels, in whose establishment a plant flowered and is figured in the *Lindenia pl.* 375.

Cattleya Hardyana Statteriana.

THE original form which appeared in this country, namely C. Hardyana is supposed to be a natural hybrid between C. Dowiana aurea and C. Warscewiczii (C. gigas) both of which grow togeter in the same locality. It may be taken for granted that they cross readily, seeing that almost every importation from the district includes forms of C. Hardyana, which are generally new and almost always distinct from one another. The sepals of the variety under notice are dull ivory-white with a tint of yellow, and the ovate, undulate and more or less folded petals are of a similar shade. The tube of the lip is short, nankeen yellow, more or less spotted with purple externally, and with crimson internally on a yellow ground or crimson with a broken yellow veining; the apical lobe is of a rich crimson-purple, netted with dark veins; the central portion is of a rich yellow with purple lines along the middle. Indeed the amount of yellow to be seen in the lip gives it a characteristic effect and readily separates it from C. Dowiana aurea, one of its reputed parents. The variety comes from the Frontino district. A beautiful coloured illustration of it is given in the *Lindenia pl.* 373.

Cattleya Mossiæ Mendelii.

THIS name is given to a plant which turned up in an importation of C. Mossiæ, made by the Messrs. Linden, of Brussels, and which presented characters so nearly intermediate between C. Mossiæ and C. Mendelii that the importers joined the two names to indicate that the newly-imported plant was a variety of Mossiæ. Notwithstanding this fact, we think it a pity that a fresh name was not given to the new comer, because it is likely to lead to confusion in the minds of gardeners as to the relationship of the plant; and no doubt many will consider that C. Mendelii has been at last tacked on to C Mossiæ as a variety of the same. The new introduction has soft, rosy sepals and petals, and a white lip with two sets of soft, rosy-purple markings on the middle of the terminal lobe. There is also a large golden-yellow blotch in the throat striated with rosy-purple lines. A beautifully executed figure of it is given in the *Lindenia pl.* 376.

WHAT TO DO IN THE GARDEN.

The Stove.—Should it be intended to dispense with fire heat in the stove during the present month, the atmosphere of the house should be kept proportionately drier. Damp down very lightly at night or not at all when closing up unless the sun be very hot. Leave some ventilation on all night to carry off the superfluous moisture.

New Holland Plants.—After the Lescbenaultias have gone out of flower they should have the flower shoots removed to make them branch out freely and become bushy. It may be necessary likewise to pinch the shoots once or twice to get bushy stock by next year. Pimeleas may be prunned into shape. In the case of Dracophyllums, whose slender shoots have to be trained, it is only necessary to cut back the flowering stems to the places where they are breaking out again.

Heaths.—Attend to these in the matter of watering, and where they are placed out of doors to ripen the wood, take care that the pots are partly shaded from the fierce rays of the noonday sun. Should the slightest traces of mildew make its appearance syringe the plants with a mixture of sulphur and water, or syringe them and then dust with sulphur.

Polygalas.—Such kinds as P. Dalmaisiana and P. oppositifolia are liable to get long and straggling. To counteract this, some of them may be cut hard back which will have the effect of making them bushy at the expense of a good display of bloom next summer. For this reason some of them should be left as they are till next year.

Peaches.—As the fruit in the early houses gets gathered, give the trees a thorough syringing with the garden engine to clean the foliage of insects. Red spider is the worst enemy, and is almost sure to attack the leaves, or even to increase to an extraordinary extent while the house is kept dry during the ripening of the fruits. Sweep up and clear away all the leaves which come down during the process. Tie in the shoots of those trees whose fruits are now swelling, remove gross growths that are too coarse to produce fruits next year, elevate the fruits so as to expose them to all the light possible.

Melons.—Those who have Melons now swelling up their fruits, and which will be ready for gathering about the end of this month, will be able to take another crop out of the same house by sowing a few seeds at intervals of ten days from now onwards, so that when the old plants have done fruiting they may be pulled up and the beds of soil remade, after which the stock of plants that has been purposely got ready may be planted with reasonable hope of success for a crop during late autumn and early winter.

Cucumbers.—In properly constructed houses, in sunny positions, it will be necessary to shade during the hotter parts of the day. Atmospheric moisture must also be kept up by freely damping down the paths and beds on bright days. The aim of the cultivator should be to get short-jointed wood and moderately large leaves with short, crisp footstalks. Abundant ventilation in the early part of the day, at least, is necessary for this.

Celery.—The main crop of Celery should now be planted as soon as the ground can be got ready. Dig in plenty of well decayed manure in the bottom of the trenches, and give a good watering to settle the soil when the planting has been completed. The occasional showers of rain with which we have been favoured will encourage rapid growth, and as the nights become longer progress will be correspondingly great.

Late Tomatos.—Young plants potted up now, or even later, and stood out of doors till severe weather makes it necessary to take them in, will set a quantity of fruit which will ripen and prove very useful in the autumn. A vinery from which the leaves have fallen, or some similar house will enable them to complete their growth and ripen admirably. They will, in fact, constitute a succession to those grown out of doors.

QUESTIONS AND ANSWERS.

Seeds from Mount Tabor.—*W. W.*: If the seeds are still fresh and good, many of them would germinate if sown in pots and placed in cold frames. To give them a better chance however, you could place the pots in which they are sown in a warm greenhouse, keeping them moist but not saturated till they appear. There are many plants in this country which came from various parts of Syria, including some from the mountains and which prove hardy while others are half hardy.

Red Spider on Vines.—*Omega*: This could be kept in check by free ventilation and regular syringing with clean water. You do not state at what stage the berries are. If still in a young and growing state, then vigorous syringing twice a day, but more particularly when closing the house, would destroy the pest. We caution you against putting sulphur on your flues lest at any time the latter should get over heated and burn the sulphur to the great injury of the leaves. But there would be less danger in painting a board and laying it on the flue, so that when the latter gets heated, it would communicate a mild heat to the sulphur on the board and so raise a sufficiently strong fume to kill the spider.

Feeding Vines.—*Omega*: The best thing you could do in your case is to damp down the paths and borders with diluted liquid manure. This may be obtained from the drainings of the stables, or it may be made by putting some good cow manure in a tub and filling up the latter with water. After it has steeped for a time, the liquid clear of the straw may be used and diluted according to its strength. An evaporating pan placed on the flue and kept filled with water and liquid manure would answer admirably.

Names of Plants.—*Omega*: 1 and 2 are Tufted Hair Grass (Aira cœspitosa); 3, Common Bent (Agrostis vulgaris); the white flowers are those of the Feverfew (Matricaria Parthenium); the other is the Orange Hawkweed (Hieracium aurantiacum).—*A. J. M.*: 1, Campanula latifolia; 2, Campanula carpatica; 3, Campanula portenschlagiana; 4, Helenium autumnale pumilum; 5, Gaillardia aristata var.; 6, Lilium croceum.—*M. S.*: 1, Sibthorpia europæa; 2, Thymus Serpyllum albus; 3, Campanula isophylla; 4, Stachys germanica.—*R. M.*: 1, Dianthus plumarius garden var.; 2, Campanula rhomboidalis; 3, Aconitum variegatum, frequently called A. Napellus bicolor; 4, Dianthus plumarius garden var.; 5, Spiræa lobata; 6, Centranthus ruber; 7, Funkia ovata argenteo-variegata; 8, Potentilla argyrophylla atrosanguinea garden var.; 9, Pyrethrum roseum var.; 10, Spiræa filipendula flore pleno; 11, Galega officinalis alba; 12, Hydrangea, but cannot be named without flowers; 13, Habrothamus elegans; the rest next week.—*W. R C.*: 1, Aloe frutescens; 2, Aristolochia Clematitis; 3, Solidago canadensis; 4, Helenium autumnale; 5, Chrysanthemum lacustre.—*P. M.*: 1, Lysimachia punctata; 2, Geranium pratense; 3, Hieracium aurantiacum; 4, Sidalcea malvæflora; 5, Campanula sarmatica; 6, Veronica spicata; 7, Campanula persicifolia calycanthema alba; 8, Potentilla argyrophylla atrosanguinea garden var.—*Omega*: 1, the dwarf Helenium (Helenium autumnale pumilum); 2, Chrysanthemum species, please send leaves; 3, Yellow Bedstraw (Galium verum); 4, the Mollugo-like Bedstraw (Galium Mollugo).

Name of Pea.—*John H. Burton*: In the absence of any information as to height, cropping qualities, etc., it is impossible to closely identify the Pea sent, but it bears a very striking resemblance to the Old Blue Scimitar, sometimes also grown under the name of Beck's Eclipse, and if it grows about 3 ft. high pods generally in pairs, and all are ready for picking about the same time. It is too near that variety to warrant another name being given to it.

Mealy Bug in a Stove.—Will any reader who has been plagued with mealy bug in a stove and has exterminated it be good enough to favour us with his course of treatment and oblige many besides.—*One in distress.*

Turnips for Winter Use.—*Omega*: Should the autumn prove a favourable one, sowings of Turnips for winter use may be made up to the end of August, but you would be more certain of success to make several sowings at intervals of a fortnight, commencing about the end of July. Good sorts are Snowball, white, Golden Ball, yellow, Veitch's Red Globe, purple, and Chirk Castle Black Stone with a dark skin. The latter is very hardy, but not of so good quality as the others in the opinion of some growers, but you might think different.

Communications Received.—D. P. L.—W. A.—J. D.—W. K.—J. H. B.—T. W.—A. J.—J. H—A. G.—W. H. R.—C. G.—E. B.—W. R.

LONDON SEED TRADE.

July 4th, 1893.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report no enquiry for Trifolium incarnatum. New Rapeseed is offering at moderate figures. Mustard unchanged. New English Trefoil is reported a short crop of medium quality. New English White Clover promises to be plentiful, quality good.

COVENT GARDEN MARKET.

July 5th, 1893.

Fruit.—Average Wholesale Prices.

	s. d	s. d.
Tasmanian Apples per case	5 0	10 0
Cherries ½ sieve	3 6	7 0
Grapes, per lb.	1 0	2 6
Peaches ... per dozen	3 0	8 0
Red Currants, ½ sieve	2 0	3 0
Melons ... each	1 6	2 6
Strawberries, per lb.	0 0	0 0
Pine apples. —St. Michael's, each	2 6	6 0
Black Currants, ½ sve	4 0	

Vegetables.—Average Retail Prices.

	s. d.	s. d.
Asparagus per bundle	1 6	5 0
Artichokes Globe doz.	3 0	6 0
Beans, French, per lb.	1 6	2 0
Beet ..... per dozen	2 0	3 0
Cabbages ... per doz.	1 6	2 6
Carrots ... per bunch	0 6	
Cauliflowers, Eng. dz.	3 0	5 0
Celery ..... per bundle	2 6	
Cucumbers ..... each	0 4	0 8
Endive, French, doz.	2 6	3 0
Herbs ..... per bunch	0 2	0 6
Horse Radish, bundle	2 0	4 0
Lettuces ... per dozen	1 6	2 0
Musbrooms, p. basket	1 3	2 0
Onions ..... per bunch	0 4	0 6
Parsley ... per bunch	0 6	
Radishes ... per dozen	1 6	
Seakale ..... per bkt	0 0	0 0
Small salading, punnet	0 4	
Spinach ... per strike	1 6	
Tomatos ..... per lb.	0 9	1 0
Turnips ..... per bun.	0 6	

Cut Flowers.—Average Wholesale Prices.

	s. d.	s d
Arum Lilies, 12 blms.	2 0	4 0
Bouvardias, per bun.	0 6	1 0
Carnations ... per doz.	1 0	3 0
doz. bunches	4 0	8 0
Cornflowers, dz. bun.	1 6	3 0
Eucharis ... per doz.	3 0	6 0
Gardenias 12 blooms	2 0	4 0
Gladiolus, White, dz bn	4 0	9 0
Heliotropes, 12 sprays	0 4	0 6
Lavender ... doz. bun.	4 0	6 0
Lilium Harrisii, doz. blooms	2 6	5 0
Maidenhair Fern, 12 bs.	4 0	6 0
Marguerites, 12 bun.	2 0	4 0
Orchid Bloom in var. per bloom, from	0 3	1 0
Mignonette ... 12 bun.	2 0	4 0
Pelargoniums, 12 sps.	0 6	0 9
— scarlet ..... 12 bcbs.	3 0	6 0
Pinks, doz. bunches ...	2 0	6 0
Pyrethrum doz. bun.	1 6	4 0
Primula, double, bun.	0 6	1 0
Red Roses, doz. bhs.	3 0	8 0
Roses, yellow, dozen	2 0	4 0
— Red ..... doz. blms.	1 0	1 6
— Saffrano ... per doz.	1 6	2 0
— Tea ..... per dozen	0 6	2 0
Stephanotis, dz. sprays	1 6	2 6
Sweet Peas, doz. bhs.	4 0	8 0
Sweet Sutton, dz. bhs.	2 0	4 0
Tuberoses, per doz	0 6	1 0

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.
Cissus discolor ... each	1 6	2 6
Cyperus ..... per doz.	4 0	12 0
Dracæna term., doz.	18 0	36 0
Dracæna viridis, doz.	9 0	18 0
Erica, various, doz.	12 0	24 0
Evergreens, in var. doz	6 0	24 0
Ferns, invar., per doz.	4 0	18 0
Ferns, small, per 100	6 0	10 0
Foliage Plants, doz.	12 0	60 0
Fuchsia ..... per doz.	6 0	12 0
Hydrangea, per doz.	9 0	18 0
Ivy Geraniums ... doz.	4 0	6 0
Liliums, various, per doz.	12 0	24 0
Lobelia ..... per doz.	3 0	6 0
Marguerites, per doz.	6 0	12 0
Nasturtiums, per doz.	3 0	4 0
Mignonette, per doz.	4 0	8 0
Palms in variety, each	2 6	10 0
Palms, Specimen ...	15 0	63 0
Pelargoniums ... doz.	9 0	15 0
— scarlet ..... per doz.	4 0	9 0
Saxafrage ... per doz.	12 0	18 0

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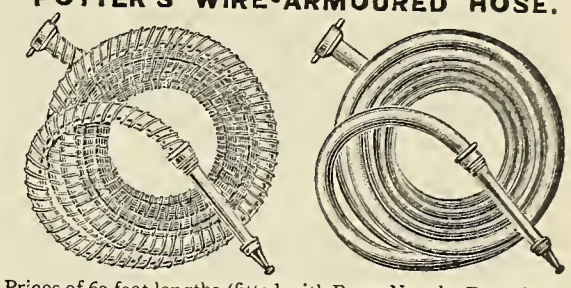

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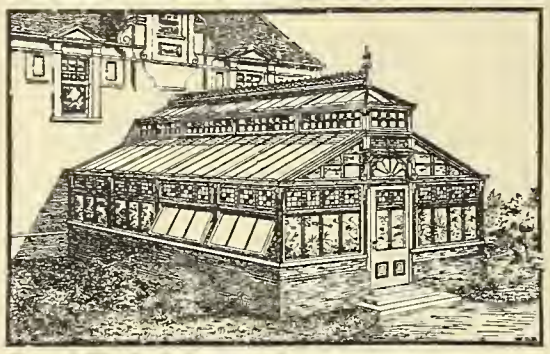

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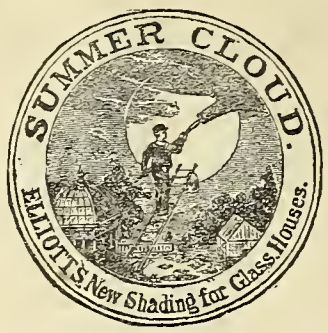

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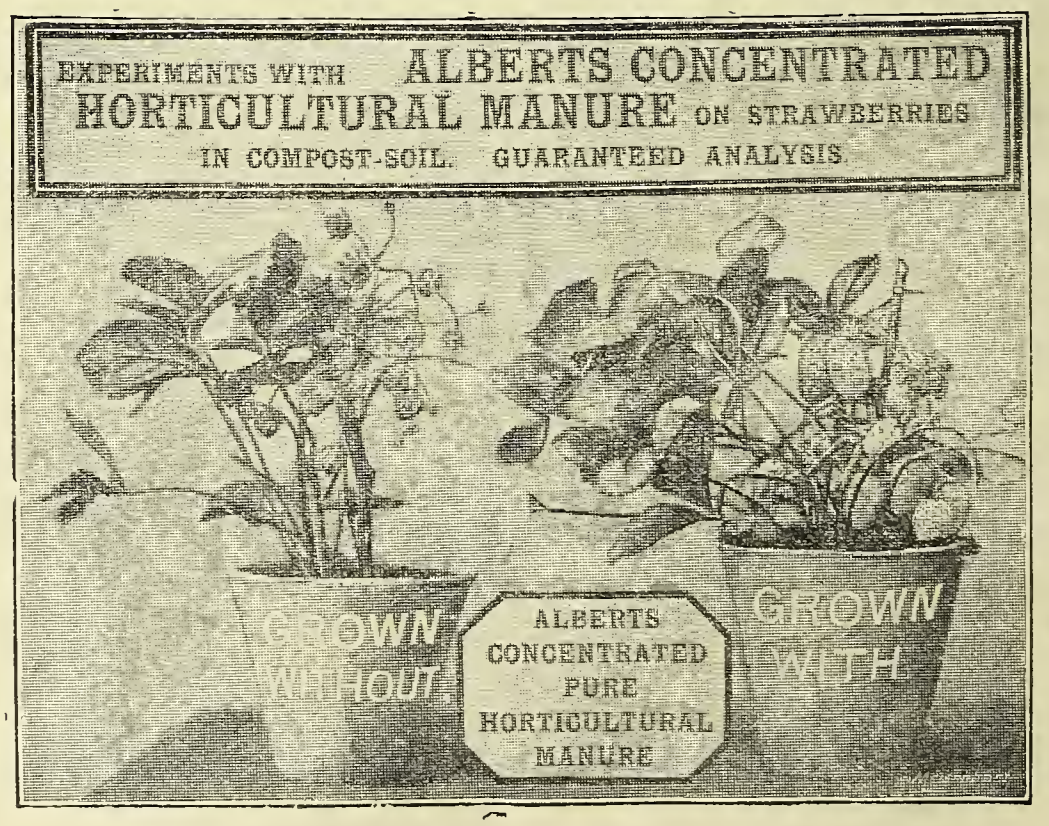

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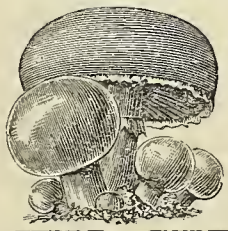

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For Index to Contents see page 730.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, July 17th—Annual Outing of the National Chrysanthemum Society.
TUESDAY, July 18th.—Carnation and Picotee Show at Oxford. Eye (Suffolk) Flower Show.
WEDNESDAY, July 19th.—Carnation and Picotee Show at the Clifton Zoological Gardens.
THURSDAY, July 20th.—Trentham Flower Show.
Newcastle-upon-Tyne Summer Show.
Bedford Flower Show.
Ludlow Flower Show.
High Barnet Flower Show.
FRIDAY, July 21st.—National Chrysanthemum Society: Meeting of General and Floral Committees.
Sale of Orchids at Protheroe & Morris' Rooms.

The Gardening World.
Edited by BRIAN WYNNE, F.R.H.S.
SATURDAY, JULY 15th, 1893.

THE PEACH CROP.—The remarkable earliness of everything this season has not failed to affect Peaches, and thus we have seen that correspondents in all directions, filled with wonder at the unusual precocity of their fruits, have been sending notes to the papers as to the dates on which they have first gathered, each one apparently thinking that he was earlier than any one else. It will, no doubt, be many years before anything so singular is again reported, but we must not forget all the same that some of this unwonted precocity in the ripening of Peaches outdoors is due to the very early varieties we have now, beginning with Alexander, which seems everywhere to be the first to ripen its fruit, following upon which comes Early Beatrice, Hale's Early, etc., and if there be only a proper succession, ending up with Late Admirable and Salwey, then may Peaches be had on walls this year, very good too, for fully three months.

It is true that in cold seasons the last matured fruits are none too good, but this year they have every prospect of being, of their kind, of unusual excellence, and therefore the fruit season may not only be a long one, but a really good one. Beyond this the trees should materially benefit as in addition to thus getting rid of their fruit early they will have a longer and warmer season than usual to mature their wood. That again, especially if the trees have ample watering, should produce a grand fruit crop next season.

Of course all other hardy fruits are early as well as Peaches. We have seen Apples quite ripe gathered the first week in July, indicative of very early ripening of the main crop, and the same precocity is being manifested in every direction. Gardeners

have, perhaps, ere now discovered that their various evidences of fruit precocity are not at all singular. They may, however, well make and preserve notes of these early maturings for quotation and reference in future years, for, as we have said, it is not likely that we shall see such earliness repeated for a long period.

MORE ABOUT TOMATOS.—It is only recently that we referred to Tomatos in these columns, but it seems impossible to allow reference to these most valuable fruits long to remain quiescent. The fact is, in relation to Tomatos, that every year seems to find them becoming more and more interesting, as well as valuable, not merely from the cultural and market aspects, but also because of their dietary excellence. Just now we may see in our shops a capital object-lesson in the shape of foreign fruits selling at 1d. and 2d. per lb. and English fruits selling at 6d. to 8d. per lb. Now it is obvious that no nonsense can be greater than that sometimes heard as to foreign competition injuring the home grower.

Why, the prevalent price for good English Tomatos now, with the enormous areas of glass houses devoted to their culture, shows that this immense area could be doubled to-morrow with profit to the investors. We venture to think that the existing prices are far too high as it is, because they largely prohibit the consumption of the best class of fruits. There is absolutely no comparison between the relative merits and appearance of the best home and foreign fruits, and although we have seen a somewhat absurd charge made that by using a black-lead brush freely on foreign fruits they can be made to pass for home-raised ones, we think that no one now can be so green as to be deceived.

No doubt a little later on we shall see home grown fruits very much cheaper, but from the consumers' point of view we should like to see them cheaper now. Our opinion is that the Tomato is literally miles away from the height of its popularity. Still further that, like the Apple and the Potato, it has come to stay. We do not for one moment share the gloomy view of some pessimists that the taste is a mere fashion, and that presently, to the ruin of growers, it will change. So far from that being the case there is every probability that the appreciation of the Tomato will grow and grow illimitably.

SINGLE CARNATIONS.—Just at the time when the favourite double Carnation is holding high festival by presenting itself in all its perfection and variety at exhibitions, it is not an unsuitable time to draw attention to the merits, if only for domestic decoration, of the single forms. We saw but the other day an example in which these single Carnations, set up with Gypsophila, made a very charming combination, and secured much admiration. That, however, is but a trifling recommendation perhaps, but it is worthy of some attention.

The single forms come from seed freely, and they seed abundantly, hence they can be increased enormously with ease. There is in commerce a single strain known as "Jacks," but these are cultivated for improvement, solely, so far as their leafage is concerned, and very fine leafage a good strain of these "Jacks" have. But then florally we should never be content with existing single Carnations, even though the flowers are so pretty and so pleasing for domestic decoration. We want to see them doubled in size, and even have finely cut or lacerated edges, for though these may be the detestation of the florist, they are the delight of those who prefer informal looking, graceful flowers.

Did we but try, there is no telling what a wealth of beauty may yet be obtained from single Carnations. If we could but engraft on the plants such size and colour as Dianthus chinensis Heddewigii gives, what a gain it would be. Who will try what can be accomplished? There is no telling. Single Pink flowers are very beautiful, then why not single Carnations?

TRADE AND GARDENING.—Unless there is speedily a great revival of trade it is but too evident that gardening will materially suffer. We have already heard of numerous cases in which trade depression or financial failures have led to reductions in garden expenses and the dismissal of old servants to a painful extent; and there is too much reason to fear that soon this evil may be greatly extended. Gardening is in no sense responsible for this misfortune, but it is, unfortunately, the first to suffer, perhaps because it is the most innocent. As gardeners we deeply deplore this, and all the more so because very much of the depression from which horticulture suffers comes from the evil days upon which the sister art of agriculture has fallen, the product almost entirely of bad seasons and severe epidemics amongst our flocks and herds. We have, no doubt, whatever, because things have in previous times been as bad or worse than they are now, but that they will presently improve; and if gardening suffered less then, it was because it was not so extensively practised as it is now. It is possible that things may be worse before they are better, but we sincerely hope not. In any case it is just as well to boldly face the difficulty, and be prepared for the worst. Gardeners, who after long and faithful service are turned adrift, certainly merit our earnest sympathy in their great trouble.

The Waltham Abbey and District Flower Show will take place in a field near Waltham Cross Station, on Thursday, the 27th inst.

Mr. John Adams, late of Clovenfords, and formerly foreman at Normanby Park, Doncaster, has been engaged as gardener to Thomas Hardman, Esq., Corbar Hall, Buxton, Derbyshire.

The Rothamsted Jubilee Memorial.—At a recent meeting of the Rothamsted Jubilee Fund, it was decided to ask the Minister of Agriculture to preside on the occasion of the dedication of the memorial at Rothamsted and the presentation of congratulatory addresses to Sir John Lawes and Dr. Gilbert. This ceremony will take place on Saturday, the 29th inst.

Pampisford Hall, Cambridgeshire, was offered for sale by auction last week, by order of Mr. W. Parker Hammond, but failed to obtain a single offer. This property includes a mansion built in the Italian style and an arboretum which is noted for its rich collection of coniferous trees. The area is 790a 1r 8p, with the actual and estimated rent roll of £1,193 per annum.

United Horticultural Benefit and Provident Society.—The quarterly meeting of this society was held on Monday evening last at the Caledonian Hotel, Mr. Nathan Cole presiding. Three new members were elected, making thirty-five in the six months. The death of a non-paying member was reported as having occurred in May last, and the amount standing to his credit (£24 7s. 4d.), was paid to his widow. The late member ceased to contribute in 1886. There is only one member on the sick fund at the present time, and the treasurer reported that he had invested £200 in West Bromwich Three per Cent Stock since the previous meeting.

Choice Orchids.—At Protheroe & Morris's rooms, on the 7th inst., some very choice Orchids came under the hammer, but there were not many buyers present. One of the only two known plants said to be in existence of Cattleya Mendelii Bluntii was withdrawn at 145 guineas, the reserve not being reached. A form of Cattleya Hardyana, and by no means the same thing as the original, fetched 75 guineas. There was a fair run on the imported pieces of Dendrobium Phalænopsis Schroderianum, and the new Eulophiella Elisabethæ realised from two guineas to thirteen guineas per plant.

Living Up a Tree.—At Washington, the official capital of the States, a veteran of the Civil War lives literally "up a tree." He has built a home in the branches of three great Oaks at Mount Pleasant, a suburb of Washington. There he lives, 30 ft. above the ground, surrounded by squirrels, birds, and books, with the fresh air blowing over him, and enjoying himself immensely. He calls his abode "Airy Castle," and many visitors to Washington "do" this castle as one of the numerous sights of the city.

Haldon Hall, within an easy distance of Exeter, has, with the extensive parks and grounds, passed from the Palks to T. B. Bolitho, Esq., M.P., of Penzance, and since it became his property, the Hon. gentleman has spent large sums in improving the fine pleasure grounds so much visited by the public. Mr. Bolitho is the right man in the possession of such an estate, especially as he lends his immense wealth to giving pleasure to the public without stint, and the result of his expenditure at Haldon in extending the beauty of the grounds will be appreciated as deserved.

New Plants Ceritficated in Ghent.—At the last meeting of Chamber Syndical of Belgium Horticulturists, Certificates of Merit were awarded to Mr. L. Desmet-Duvivier and Mr. F. Desbois, for Strobilanthes Dyerianus; to Mr. F. Desbois for Hydrangea otaxa compacta and Nicotiana colossea foliis albo marginata; to Messrs. Edm. Vervaet & Co. for Odontoglossum Trianæ var.; to Mr. Charles Vuylsteke for Cypripedium Harrisianum robustum; to Mr. A. Van Imschoot for Cattleya guttata Leopoldi, and Grammatophyllum Ellisi; to Mr. Jules Hye, for Odontoglossum elegantissimum and to Mr. Schmitz for Cattleya Mendelii virginalis.

A Reminiscence of the Queen.—At the judges, luncheon at the Manchester Rose Show, on the 6th inst., Mr. Bruce Findlay, in proposing the toast of "Happiness to the newly-married couple," mentioned the following incident, which is no secret, inasmuch as it is known to Her Majesty the Queen:—In the year 1821 his father was a gardener in the then Duke of York's garden at Oatlands Park, in Surrey. The Princess Victoria, then a baby, was in the garden with her nurse, and fell into a pool of water, and Mr. Findlay's father, who was near at hand, pulled the baby out of what might have been a watery grave.

Hengrave Hall, Suffolk, the historic sixteenth century edifice erected by Sir Thomas Kyston, who was knighted by Queen Elizabeth, was put up for sale last week, but failed to find a purchaser, the property being withdrawn at £68,500. The great feature of Hengrave is the windows, many of which contain painted glass of much interest. In the old chapel the window has twenty-one lights, brought by Sir Thomas Kyston from the Low Countries, each light representing an allegorical or scriptural subject, beginning with "The Creation of the Heavens," and ending with "The Day of Judgment." Other windows, notably the Oriel window of the morning-room, have numerous coats of arms, either of local or historic interest.

Scottish Horticultural Society.—A meeting of this association was held at 5, St. Andrew Square, Edinburgh, on the 4th inst., Mr. James Grieve, Pilrig Park, in the chair. There was a fairly numerous attendance of members. Mr. Gallacher, Redbraes Nursery, read a paper on "The Bouvardia," in which he touched on the beauty of its flower and its usefulness as a decorative plant, giving in detail his own mode of treatment, which all the later speakers agreed was in entire sympathy with their own for showing good results. There were exhibits from Mr. Chapman, Easter Duddingston, of flowers of Desfontanea spinosa and Veronica cupressiodes var. variabilis from the open; and from Mr. Carmichael, Pitt Street, of the fruit of Laxton's Competitor Strawberry.

A well-travelled Dracæna.—The beautiful specimen of Dracæna Sanderiana shown by Messrs. F. Sander & Co., at the late Ghent Quinquennial, where it formed one of their first prize group of six new plants, has by its subsequent wanderings proved

itself to be a good traveller. After the Ghent Show it made its appearance at one of the Drill Hall meetings, where it obtained a First-class Certificate. Thence it was sent across the Atlantic to New York, from New York it went to Chicago, and from Chicago back to Boston, where it turned up "as fresh as paint," and won a Silver Medal. As a mileage record, this surely beats the experiences of that famous Erica Cavendishiana, of the Messrs. Cole, which some twenty years ago was said to be acquainted with half the railway porters in England, and to know its way about as well as the lively "Billy" himself!

The Manchester Rose Show, held on the 6th inst., again found the Southern Rose growers almost completely out of the hunt, both in the trade and amateur competitions. In the open classes the Messrs. Harkness, of Bedale, were first for seventy-two singles; Messrs. Mack & Son, Catterick, being second; and Mr. H. Merryweather, Southwell, third. The Bedale firm were also first with thirty-six trebles, twelve Teas or Noisettes, and twelve trusses of any white Rose. For the best eighteen Tea or Noisettes, the premier award went to Messrs. D. & W. Croll, of Dundee, who also had the best dozen blooms of any yellow Rose. In the amateurs' competition with thirty-six single trusses, the awards went to the Rev. J. H. Pemberton, Havering-atte-Bower, Essex; Mrs. A. Whitton, Bedale; Mr. W. Boyes, Derby; and Mr. E. B. Lindsell, Hitchin; and Mr. H. V. Machin, Worksop, was well to the fore in other classes. The display of Roses all round, considering the season, was exceedingly good, and the attractiveness of the exhibition was enhanced by liberal contributions from Messrs. Dickson, Brown & Tait and Messrs. Dickson & Robinson, Manchester; Messrs. Dicksons, Limited, Chester; Messrs. Clibran & Son, Altrincham; Mr. F. Law, and others.

Seizure of Rotten Fruit.—With commendable promptitude the sanitary authorities have commenced the seizure of unsound fruit, of which it appears considerable quantities have been consigned to London. With cholera and other epidemics threatening our shores, and in the present sultry weather, this step has become a paramount necessity. At Worship Street the sanitary inspector of the Whitechapel Board of Works obtained the condemnation of a consignment of Pineapples, which costermongers were hawking in the street at a halfpenny a slice. No fewer than 442 Pines were thus seized, and, acting on information obtained from the costers, the inspector went to a cellar in Spitalfields, where he found several casks of the same fruit, which were all unfit for human consumption. The magistrate ordered the whole to be destroyed.

Wakefield Paxton Society.—A most interesting and well-attended meeting was that of the 8th inst, when the Pelargonium was the subject of discussion. Mr. Corden, of Wakefield, opened the proceedings by reading a short paper on the methods by which he produces such good specimens. Mr. Corden is well known in the district as an enthusiastic and successful amateur grower. He has given a great deal of time and attention to the raising of improved forms of double and single zonals, and has been eminently successful, as was demonstrated on Saturday last, when he exhibited both plants and cut blooms. There are but a few of his varieties yet in commerce, but all are, almost without exception, worthy of forming part of any good collection. Mr. W. Hudson, of Sandal Grange, Wakefield, and Mr. G. Hudson, of Woolley Park Gardens, also exhibited cut blooms. The discussion chiefly related to the winter blooming qualities of zonals. Mr. Corden gave his experience as to culture of plants during the summer that would be in full beauty at Christmas. Messrs. A. V. Maher, W. Hudson, and Swales also took part.

Vegetable Products in Cornwall and the late Refreshing Showers.—The thirsty earth has at last drunk in refreshing showers, and the condition of vegetation is entirely changed. Even farmers and market gardeners look brighter themselves, and well they may, for there is now a chance of getting in Turnips for autumn and winter use. Those who have had the labour of planting Cabbage and Brocoli will have the privilege of repeating the operation, for there was nothing but dried leaves to show that the ground had been at all occupied. Now, however, comes the chance. Tomatos, grown in the open, have come into marketable condition very rapidly during the last few days, and the crops will probably be very heavy. The excessive sunshine has done wonders for this vegetable this year. Grapes, too, are most abundant, and should be put into the market at a reasonable figure, for the profit to the grower, under the circumstances, will permit of it. Apples are abundant in most of the Cornish orchards, where blight has not taken the fruit and leaves wholesale, and many tons have been despatched within the last few days. The fruit is unusually large and early in ripening. Pears are scarcely as abundant, but Plums will realise well. Cherries never did very well in Cornwall, a fact which is rather remarkable, considering the nature of the soil. It is gratifying to learn that the various Technical Education Committees are becoming more and more convinced of the necessity of extending their operations to imparting a scientific knowledge of gardening, especially to the younger branches of those occupied in the trade, and it is equally satisfactory to find that in every instance where classes have been established the success has been of a character that warrants continuance.

The Royal Wedding Decorations.—Buckingham Palace has not for many years been made to assume such a gorgeous appearance. At every turn we were confronted by a display of the choicest flowers, and the atmosphere seemed heavily laden with the odour produced by many thousands of lovely Roses, the most predominating variety amongst which was the old White Provence. The Royal Banquet on Wednesday was served in the State Dining-room. Here were displayed the unique and magnificent gold plate, interspersed with a great profusion of the choicest Exotics. The State Dining-room was used for the accommodation of Her Majesty's Royal guests. A series of round tables were arranged in the centre of the room, with buffets on either side. At the back of these were displayed the magnificent service of gold plate, and arranged between the magnificent gold cups and vases were innumerable graceful Palms, and other pretty foliage plants. To accommodate the numerous guests invited by Her Majesty to the Royal Wedding, the spacious ball-room was set apart as an impromptu breakfast-room. Here some four to six hundred guests were provided with breakfast. This magnificent room was, like the spacious State dining-room, most elaborately decorated with Exotics, and as the State dining-room opens into the ball-room, the effect of the elaborate floral display could be more easily imagined than realised. The decorations at the Palace were as usual entrusted to Messrs Wills & Segar, of Onslow Crescent, South Kensington, and Messrs. J. W. Wimsett & Son, King's Road, Chelsea, and needless to say were faultlessly carried out. The wedding bouquets were by Royal command supplied by Messrs. Wills & Segar. H.S.H. The Princess Mary of Teck, carried a lovely shower bouquet, in which the predominant flower was the old White Provence Rose, interspersed with blooms of the new white Carnation, The Bride, beautiful Orchids, Orange Blossoms, Myrtle, and Lily of the Valley. The ten bridesmaids' bouquets were composed of similar flowers with the addition of the pretty mauve Cattleya Mendelii. H.R.H. the Princess of Wales also carried a lovely bouquet of York Roses, White Carnations, and choice Orchids. In all, there were fourteen bouquets, carried by as many Princesses, an unprecedented occurrence in the history of Royal Weddings.

Nymphæa Lotus Ortgiesiana.—The bright rosy-red colour of the flowers of this Nymphæa are very attractive when they expand in the morning sun or in response to the rising temperature. They are also of large and handsome size, as is the case with most of the varieties of N. Lotus and allied forms. The leaves are also of wonderful proportions when plenty of space has been given the plant to make good growth and other conditions of good culture are attended to. They are orbicular with a slightly open sinus, wavy, and repandly toothed at the edges, so that as they lie upon the water they give it a crimped appearance. In the young state of these great shield like leaves they are of a beautiful bronze-red hue, ultimately becoming dark green. The calyx is likewise coloured like the young leaves. Like several other of the noblest forms of Water Lilies, this one is now flowering finely in the house, or rather the tank, specially set apart for their culture at Kew.

KINGSTON GARDENERS AT READING.

On Wednesday of last week, just after a glorious rain and when the clouds tempered pleasantly the prevalent hot sunshine, a large party of the gardeners of Kingston and Surbiton, in company with the members of the Gardeners' Cricket Club of the locality, journeyed to Reading for the primary object of enjoying a game of cricket with one of Messrs. Sutton & Sons' fine teams, but also to see all that eminent firm had to show them. The party were under the leadership of Mr. A. Dean, who had arranged the details. They found compartments in the early train specially reserved for them, and reached the biscuit town, as it is popularly termed, at ten a.m. Here they were met by Mr. Jones, the seed firm's well-known Potato department head, and in a couple of large breaks kindly provided by Messrs. Sutton & Sons, drove to the offices and warehouses. Here on behalf of the firm they were heartily welcomed by Mr. Leonard Sutton; then under the conduct of that able cicerone, Mr. Caldwell, were all conducted over the immense range of buildings which comprise the firm's stores, etc. Then into the conveyances—Mr. Jones leading the way with Mr. Atter, head of the flower seed department, in company—the party were driven out to the seed farm and trial ground, where, in spite of the adverse influences exercised by the drought, there were myriads of interesting, as well as beautiful, things to be seen and appreciated—lovely masses of annuals, on the one hand, extensive trials of Peas, Potatos, and other good vegetables on the other. Then the party remounted the vehicles, and were driven to the London Road Nurseries, where Mr. James Martin was in waiting to conduct them over his most attractive department. A fine break of summer Stocks first claimed attention, then Cannas, Celosias, Portulaccas, Carnations from seed; Petunias, Verbenas, Mignonette; lots of charming things in great variety, affording abundant pleasure to the visitors. In the houses the party found a wealth of beauty that staggered them. First a large span house full of diverse varieties of Achimenes in bloom, and splendidly grown in 48-sized pots. Many of the varieties, especially Splendens, fiery scarlet; Ambrose Verschaffelt, white, with dark veins; Celestial, lavender-blue; Longiflora, deep blue; Rosy Queen, rose magenta; Lady Lyttleton, ruddy carmine; Harry Williams, deep, rich rosy carmine; Masterpiece, purple, were very beautiful, and we could heartily wish to see this once popular flower again universally grown. From these the party passed into a similar house of young Gloxinias, plants just getting well into bloom from seed sown so recently as February last, a splendid lot truly, many of the flowers being of wonderful excellence. Then again into house after house full of other young and myriads of older plants, presenting a Gloxinia feast, such as could hardly be equalled anywhere in the Kingdom. The grand nature of the strain now so wonderfully improved, and the most admirable culture shown, calls for the warmest admiration. Begonias again evoked the most profound surprise and admiration. They are at once so fine, grandly coloured, and so lovely. Not least are the products of the semperflorens strain, Crimson Gem, Princess Beatrice, Snow Flake, Duchess of Edinburgh, which seem to do as well out-of-doors as inside, and are as lovely for bedding as for pot work; whilst also they are so valuable for winter decoration when the tuberous forms are at rest.

Having here been satiated with floral beauty the party had, perhaps, become all the more physically hungry, for now they again mounted the breaks and gladly accepted the firm's generous invite to luncheon. This was found ready for them at the Abbey rooms, a splendid spread for some fifty persons being prepared. The luncheon party, presided over by Mr. Leonard Sutton, in the absence of his respected brother, included the whole of the visitors, the firm's cricket team, that was that day to play, and several heads of departments

Ample justice having been done to the meal, Mr. Dean, on behalf of the visitors, tendered to Mr. Sutton, and the distinguished firm he represented, the grateful thanks of himself and Kingston friends. He said their reception had been a royal one, and they had been splendidly welcomed, and most hospitably entertained. These remarks were enthusiastically cheered. Mr. Leonard Sutton, in

response, expressed the exceeding pleasure it offered himself as representing the firm to welcome and entertain the party, and he trusted that they would have not only a most enjoyable, but a profitable day.

Then the cricket teams, with several friends, wended their way to the firm's cricket ground, near the Thames, and opposite Caversham, where the match of cricket was played. The home team won the toss, and as it was at the outset all Lombard Street to a China Orange that they would win, it was no surprise that the visitors met with a licking, over which we gladly draw a veil. All the same even such a defeat did not dull their sense of enjoyment, and they returned home to Kingston in excellent time in the highest of spirits, and realising that their trip to Reading would have to be marked as a red letter day in their existences.

CARNATIONS AT CHELSEA.

Like everything else, Carnations will be past their best when the usual exhibition season comes round. All things considered they have done well in the nursery of Messrs. J. Veitch & Sons, Chelsea, and were very floriferous in most cases when we examined them last week; and although many were past their best they could hardly be otherwise, seeing how sheltered is the nursery, reflecting the sun's rays on every side. They occupy a central position, where they are planted out in beds mulched over with Cocoa-nut fibre. The varieties are very numerous, including all the best of the leading types, but the predominating kinds are those best suited for border work and winter-flowering. Picotees are fairly numerous, but they as well as bizarres and flakes are far outweighed by the selfs and fancy kinds for border work, if not in number of kinds at least in quantity.

Border Maid has delicate rosy-pink flowers with white edges, and is suitable alike for border decoration or winter-flowering. The petals of Magnum Bonum are bright scarlet, broad, and in no way crowded. An old kind is Mrs. W. P. Milner, with broad white petals, and very suitable for cut flowers. The same may be said of Alice Ayres, which produces an abundance of flowers slightly striped with rose, and plenty of shoots for layering. Like the last, Earl of Beaconsfield may be termed a fancy, and has deep red flowers flaked with maroon, and fragrant. Wm. Toby is a deep maroon sport from the last, equally as fragrant, and both find favour with the public. A deep rose and very floriferous variety is Brilliant, with plenty of grass. A delicate rosy-pink and free-flowering variety is Dr. Parke, and a free grower. Rose Celestial is a fine thing in the way of Mary Morris, and rose coloured shaded with a deeper hue when the flowers first expand. One of the dwarfest and best of the white varieties is Mrs. F. Watts, now about 12 in. to 15 in. high. Its counterpart may be found in Winter Cheer, similar in height, and of a brilliant crimson-scarlet or red. It keeps on flowering till November in the open ground, and also flowers freely in winter as the name implies.

A race of comparatively new and vigorous border varieties has recently been added to the collection. Of these, Oxonian is deep crimson, but larger, and not so dark as Wm. Toby. Cantab is practically a scarlet Clove, with a delicious fragrance, and brighter in colour than Winter Cheer. Another dark sort is Sultan, of a crimson hue, shaded with darker. A charming variety is Ruby, producing a profusion of deep rose flowers, shaded with scarlet, but it wants shading in hot weather to preserve its rich colour. The same of course applies to many of the rose-coloured sorts. The scarlet-red flowers of Queen of Bedders are not particularly refined, but they are produced in great quantity, and do not prevent the plant from being equally profuse in the development of shoots for layering. A striking flower is Cara Roma, of an intense purple, with the outer petals shaded with maroon. It grows very freely. The pink flowers of Maggie Lawie are of a delicate pink, and ultimately fade to blush. The flowers of Mrs. Gifford are somewhat fringed, but otherwise refined and pure white. It is a dwarf variety, and only slightly taller than Mrs. F. Watts.

A beautiful rose-coloured and floriferous variety is Ruby, somewhat fringed, but handsome for bedding purposes. It does not burn with sunshine; nor does Amy Herbert, of a warm rose pink, with large, well formed flowers. Single crowns planted in the autumn give rise to several stems and a great quantity of flowers. The bright crimson-scarlet flowers of Montague form a fine contrast. Then again we have Empress, growing about 2 ft. high, and producing a profusion of moderate-sized flowers of beautiful form, and which are not inclined to split. A handsome sort is Grant Allen, with deep rose flowers shaded with a scarlet flush. The best of the crimson types is Crimson Pet, of an intense bright crimson when first expanded and ultimately becoming shaded with maroon. The fragrant old Clove, of which a quantity is grown, must not be overlooked. One of the best of the purple kinds is Purple Emperor, with dark coloured flowers.

Fancy kinds are well represented, and one of the brightest and best of the yellow grounds is Charles I., with scarlet markings shading into salmon and that again into yellow. Cheerful also is The Lady, flaked and run with scarlet rose on a yellow ground. It is one of the most floriferous in the collection. Grandiflora, on the other hand, is striped with rose on a white ground. Of the yellow kinds, Germania has done well, producing a profusion of flowers. A seedling as yet unnamed closely resembles Germania, but its broad petals are paler; it is a good grower with plenty of grass. A new variety named Leander is the strongest growing yellow we have seen, with stems 2 ft. to 3½ ft. in height, and the firm, thick petals are well adapted to withstand rain. A soft yellow ground is Almira, with a few rose stripes. The terra-cotta Mrs. Reynolds Hole has also done well.

Bizarres and flakes are represented by a considerable number of kinds, but we noted only the best of them. True Briton is flaked with scarlet and maroon on a white ground, and sometimes sports into a maroon flake on a red ground. John Hines is flaked with maroon and red on a white ground. The flowers of Sarah Payne are flaked with rose and purple on a white ground, and Princess Beatrice has similar colours, but different in their arrangement. The flakes of Queen Victoria are crimson and rose on a white ground. There is a true flake of the same name, the markings being purple and white. Other flakes are St. Gatien, rose and white; Thalia, bright rose and white; Ada, deep purple and white; Mr. Sutton, purple and white; and James Douglas, with broader purple flakes, and which sports into a deep purple self.

Picotees are numerous, and many of them are extremely pretty in their chaste and refined colours. One of the best of the heavy crimson-edged type is J. B. Bryant. By way of contrast Gosten has a crimson wire edge, and is moreover a good grower. The ground colour of Alice is of a uniform rose and the wire edge is crimson. Although it bids defiance to the florists' standard in not having a white ground, it is a charming flower and well deserves a place in the border for its intrinsic beauty. One of the dwarfest and most handsome on the ground is Admiration having a heavy purple edge. Mrs. A. Chancellor has a heavy clear purple edge, and is considered the best of its class in cultivation. It is certainly a most attractive sort. Another floriferous variety and very dwarf is Ensign, with a heavy crimson edge. Dr. Epps is also a handsome sort with a heavy but brilliant crimson edge. Of another class is Little Phil, a dwarf sort with a light rose edge. The heavy edge of Mrs. Sharp is bright rose; like Mrs. Payne this is not a common variety in cultivation. Annie Louise has a light rose wire edge, and is both floriferous and a very free grower. It is a pity that some of the most charming varieties produce few good shoots for layering purposes, but raisers could surely manage to get those pleasing and bright colour in plants with strong constitution, so as to render them of easy culture for border decoration. The bulk of the Picotees are, however, of easy cultivation, and we are surprised they are not more extensively grown as border plants for cut flowers, for they are certainly most pleasing and attractive when cut and mixed with other hardy flowers in season or used alone with long stalks and a spray or two of their own foliage.

Roses.—Climbers that have finished flowering may have the flower stems cut off to encourage fresh growth, and favour the production of a second crop of bloom. If dry at the roots, mulch them and give a good watering. The budding of Briers may be commenced at once. Should the weather prove very hot at the time, shading for a few days will be beneficial. Remove suckers that may be pushing up from established kinds.

WORLD'S FAIR NOTES.

The Wooded Island is bright with Roses now; both Teas (bedded out this spring) and hybrid remontants are in good bloom. The main attraction is of course the Rose garden in the centre, but there are some scattering groups in other parts, among them a group of standards and bush plants (budded) from W. Van Kleff & Son, of Boskoop, Holland, and a bed of Marshall P. Wilder from Ellwanger & Barry. In the main Rose garden the outer beds are mostly planted with Teas and a few Bourbons, and they are blooming very freely. Bon Silene, Perle des Jardins, Meteor, and Innocente Pirola are a mass of bloom. Mdme. Caroline Custer is fine, covered with blooms, and Louis Philippe, though perhaps inferior to Agrippina, is sufficiently free in flowering to make a good show.

At time of writing the beds are not yet fully labelled with the names of exhibitors, but the best display to be seen there was that of Alex Dickson & Son, Newtownards, Ireland. The plants were in fine bloom, the best show being made by Baroness Rothschild and Merveille de Lyon. The new Margaret Dickson did not show to good advantage; in fact the few blooms noted were distinctly inferior to Merveille de Lyon under similar circumstances. We are told, however, that some plants grown on in this country made a much better impression than those planted out directly after importation. Dickson's bed of Moss Roses is admirable—a mass of bloom and perfect in foliage. So far this Rose garden has been absolutely free from insect pests of every description, and the flowers are left to develop in perfection. Of all the hybrid remontants on view Baroness Rothschild, Merveille de Lyon and Mabel Morrison make the best show in every exhibit where they occur. Rothschild is especially good, being thickly set with perfect blooms. There are some good Magna Charta and Jacqueminot, but nothing very striking in other sorts. The Boskoop Nursery Association makes a good Rose exhibit in addition to their clematis, which occupy the centre of the Rose garden. Clematis Thunbergii and C. viticella venosa are now in good bloom.

The Associated Dresden Gardeners make a good exhibit of Tea Roses, which are doing very well, and also a lot of Standards, which are just coming into bloom, A mass of Rosa rugosa, both red and white, makes a marked impression and also makes us wish this charming single Rose had been used in the shrubbery borders. A mass of Mdme. Plantier in another border shows a sheet of white; this old hybrid China is such an abundant bloomer that it makes a fine show during the comparatively short time it is in bloom. Another very abundant bloomer is Clothilde Soupert, which is displayed by J. C. Vaugham.

Outside the Rose garden there is still quite a good supply of bloom although the earlier perennials are past their best. A fine show is made where two beds are bordered with evening primrose (Œnothera Fraserii and Œ. Youngii). The plants are covered with large golden yellow blooms and the display is very noticeable. Another good show is made along the shrubbery, where purple Delphinium is planted in masses. The Delphiniums are flowering freely in a good many places.

Among the shrubs, now that the flowering period is over with most of them, the golden Elder has a wonderfully enlivening effect, it colour being as good as Golden Bedder Coleus. Its companion, the variegated Elder, is also in fine form.

Over in the big building a good many additions have been made and also many improvements in arrangement. In the south curtain H. A. Dreer's exhibit of Ferns is a great addition. The plants are, for the most part, standard trade sorts; they are well grown and in fine order, and they are labelled with a clearness that leaves nothing to be desired. The labels are in shape a key-stone of tin, mounted on a wire standard; they are painted green and lettered in white with a distinctness plain enough for the least informed. Among the plants shown was Pteris tremula Smithiana, a handsome furgate form; P. Victoriæ and P. cretica magnifica. Davallia Fijiensis plumosa was seen in fine specimen form, a very handsome plant; D. pentaphylla was also good. There was a good variety of Adiantums, Aspleniums, Polystichums, Selaginellas, etc., and they are very well arranged in a back, backed by Palms and Pandanus.

In the Orchids there are some good Odontoglossum vexillarium, quite a noticeable show, but the main display is of Cattleyas. A good flower spike of Cypripedium Parishii is attractive, and Sophronitis grandiflora continues to make a good show of orange-scarlet. At the other end of the building the Japanese garden is now gay with Irises; this exhibit is a standard attraction, and the plants used in it are flourishing finely.

Over in the greenhouses the Gloxinias are showing plenty of good bloom; as soon as they are at their best they will be displayed on tables under the dome of the big building. These Gloxinias were raised from seed last year, being sown May 20th, 1892. They were kept growing all the summer, blooming in September, and the bulbs were then ripened off in November. This year the bulbs were started in the latter part of February, and kept growing in an average temperature of 70°. Care has been taken to provide them with sufficient drainage; wherever there is any difference in this, leading to soggy soil, there is pretty sure to be a perceptible difference in the vigour of the foliage. The World's Fair plants show some very fine stains of colour and marking; the plants include the three types with erect, semi-erect, and drooping Achemenes-like flowers. There are also some very fine Gloxinias (two-year-old roots) from the New York State exhibit, just coming into bloom; they will make a very rich show.

The tuberous Begonias are coming into fine bloom, and a great many will be used in bedding. The fancy-leaved Caladiums will, before long, make a grand display. They are planted in large boxes and will make grand clumps, including some of the showiest garden hybrids.

An oddity just coming into bloom in the New York greenhouses, west of the horticultural building, is Aristolochia Sturtevantii, the Pelican flower. Before opening its big puckered flower it is not unlike the pendent pouch from the Pelican's beak, and it is odd enough and unusual enough to attract most of us.—*American Florist.*

THE PITCH-PINE INDUSTRY.

THE British Vice-Consul at Pensacola says that the immense quantities of pitch-pine wood hewn, sawn, and manufactured, which have been shipped from the United States—notably to the United Kingdom—for so many years past, and which are still being shipped without any diminution, leave it apparent that information on this subject, generally, and particularly on the probable length of time that these pitch-pine forests will hold out, will be of value and interest to the principal dealers in this great article of trade. The pitch-pine trees of the Southern States are of spontaneous growth, and especially indigenous to those sandy soils near to the water of the Gulf and Atlantic coasts, and, therefore, hardly any attention is given to the culture of these trees. It is believed that the pine wood of Southern States is coming more and more to the front, and that it is the most valuable wood of the country for mercantile purposes, and that, as the white wood of the Western and Eastern States becomes exhausted, the Southern States will be more relied upon.

It is stated by the Forestry Bureau of the Department of Agriculture in the United States that there are about ten species of merchantable pine in the Southern States: the white pine and pitch-pine, the scrub or spruce-pine, the sand-pine, the pond-pine, the cedar-pine, and the long-leaf, short-leaf, loblolly, and Cuban pines, which are the principal varieties in general use. There is a great deal of confusion arising from the indiscriminate use of local names for these timbers. Thus the long-leaf pine is called yellow pine, hard-pine, pitch-pine, and various other names, but the settled name of this species of wood for commercial purposes at Pensacola is pitch-pine, and this quality of wood forms the largest if not the entire bulk of the shipments of pine wood from Pensacola. The short-leaf is called the old-field and spruce-pine, the loblolly fuel-swamp, sap-pine, and Virginia pine. The most important of these woods—the long-leaf pine—grows in the Atlantic and Gulf States, at some distance from the coast, covering a belt of about 125 miles in width. Next in importance to the long-leaf pine—pitch-pine—is the short-leaf pine, and this is more widely distributed than any of the other growths of pine. It is the predominating growth in some of the Southern States, and it covers immense areas to the exclusion of almost every other tree. In Florida the short-leaf pine is found along the northern border of the State. In Western Florida, nearer to Pensacola, it approaches the Gulf within twenty-five miles. It is said that the short-leaf pine gives from 3,500 ft. to 4,000 ft., board measure, per acre. A rough estimate places the possible standing timber of this species, distributed throughout the Southern States, at about 160,000,000,000 ft. board measure. The loblolly pine is found only in the northern part of Florida, and the Cuban pine is found principally in Florida and along the Gulf coast. It grows mainly on the so-called pine-flats or pine meadows.

About twelve years ago the official estimates of the merchantable pine timber standing in the Southern States gave a probable quantity of 225,000,000,000ft. Since that time there has been an enormous quantity of timber cut, but the amount standing now is estimated as follows:—Long-leaf and Cuban pine 232,000,000,000 ft.; short-leaf pine, 160,000,000,000, and loblolly pine, 102,000,000,000 ft., making a total of 494,000,000,000 ft., board measure. The long-leaf pine is known to be superior to all the other species in strength and durability. In tensile strength it is said to approach, and perhaps surpass, cast-iron. In cross-breaking strength it rivals the oak, requiring, it is stated, 10,000 lbs. pressure per square inch to break it. In stiffness, it is superior to oak by from 50 to 100 per cent. It is best adapted and much used for the construction of heavy work in ship-building; the inside and outside planking of vessels taking the deals and planks of the best quality. For house building it is used almost entirely in the district of Pensacola, and in buildings for railroads, railroad cross-ties, viaducts, and trestles, this wood is foremost. The finer grades and the "curly" woods are very much used for the timber work in the best dwellings. The hardness of this wood especially fits it for planks and flooring.

The finer grades of curly-pine are used for the manufacture of furniture, and it is said that for bedsteads it is admirably adapted, as the resinous wood prevents the inroads of insects and similar pests. The resinous products of pine wood supply many parts of the world with pitch, resin, and turpentine. And, contrary to opinion formerly held in this respect, it is said that the tapping of the pine tree for turpentine strengthens, instead of weakens, the wood. The Cuban pine is like the long-leaf pine, and is used in trade to a large extent. The short-leaf pine is a softer wood, and is more easily worked. This wood is admirable for house work, and is largely used by builders and cabinet-makers and for other purposes. The loblolly pine is suited for rougher work than the other two species, but it is not so strong, and it will not last so long as the others. It is stated, in a recent report of the United States Department of Agriculture, that in respect of the pine forests of the Southern States, the supply is good for fifty years to come.—*Journal of the Society of Arts.*

Gleanings from the World of Science.

Lichens and the Bordeaux Mixture.—About eighty trees in the Bartlett Pear Orchard, near Scotland, Va., on the James River, United States, and about seventeen or eighteen years planted, were headed down to the trunk and main branches because they were very much infested with Lichens. Some fungicides were then applied to them with the object of testing if any of them would effectively destroy the Lichens. The Bordeaux Mixture proved the most efficacious remedy. A very strong preparation was made, consisting of six pounds of sulphate of copper and four pounds of lime in eleven gallons of water, and this was applied to the trees by means of a brush, about two-thirds of the trees being treated in this way on the 16th of March. They were visited again on the 8th of April, and were found to be all dead. Later on some spraying operations were accomplished with the same ratio materials diluted with fifty gallons of water to destroy leaf blight without intention of treating the Lichens, but soon after it was discovered that where the latter had been well sprayed, though unintentionally with that dilute mixture, they were all dead. Spraying with the regular formula (six pounds of sulphate of lime and four pounds of lime in twenty-two gallons of water) would therefore be an effective remedy for Lichen. The above experiments are recorded in the American *Journal of Mycology*, vol. vii., p. 265.

Chemical action of Bordeaux Mixture on Lichens.—In the course of a minute or two after the mixture has been applied to the Lichens, the clear liquid drops with the blue copper compound suspended in them, turn to a yellowish hue. Some drops were removed in a glass tube to note whether the change was real and permanent or only made apparent by the colour of the Lichens, but the drops retained their yellow hue. When left on the Lichens the drops disappear in about fifteen minutes, partly by evaporation and partly absorbed by the Lichens. In order to determine whether there was some substance in the Lichens which acted on the blue precipitate, some of the clear liquid was separated from the latter, but when applied to the Lichens had no effect upon them, and lime alone was without effect. The mixture applied to green algæ gave no results. There would therefore seem to be some mutual reaction between the Bordeaux Mixture and the fungus portion of the Lichens, otherwise it is difficult to see how an insoluble compound could penetrate and destroy them. The point deserves some further elucidation, as it may throw some light upon the action of the Bordeaux Mixture and other insoluble copper preparations upon fungi. The experiments were carried out by Mr. M. B. Waite, as recorded in the American *Journal of Mycology*, vol. vii., p. 267.

Some Facts about Club-root Spores.—An article on the fungus (Plasmodiophora Brassicæ) which causes club root or finger-and-toe in Cabbages, Turnips, etc., appears in the recent issue of the "Journal" of the the Royal Agricultural Society, and is from the pen of Mr. W. Carruthers, F.R.S. The spores are round and so excessively minute that it takes 16,000 to make a line one inch long; 250,000,000 would lie on a square inch of space; and it would take 4,000,000,000,000 of them to make a cubic inch. These spores remain through the winter without germinating, it may be in the earth, in the diseased Turnip, or on the dung heap. If the Turnips are not too bad to be given to cattle, the spores pass through the intestines of the latter without injury or loss of germinating power. These spores germinate in spring, and leaving their cell wall make their way through the soil in the same way as the minute animalcule familiar to microscopical students under the name of amœba. They search for the roots of Turnips, Cabbages, Broccoli, Brussels Sprouts, Wallflower, Candytuft, or other members of the family. Both gardeners and farmers ought to be careful therefore what they do with their diseased or clubbed plants. Frequently, however, they are not even removed from the ground, but simply dug down to repeat the evil during the following summer.

Remedies for Club-root.—In gardens every clubbed plant of the Brassica tribe should be dug up, and all the roots that can be laid hold of collected and burnt in a heap. This could be done by first lighting a good fire of prunings and other materials such as are always plentiful in gardens, and then placing the chubbed roots upon this fire. There will still be numerous spores in the ground, and they may be treated with gas lime or ordinary quicklime applied in autumn or some time in spring before fresh crops are planted. None of the Cabbage tribe should be planted on the same piece of ground that was badly affected the previous summer; but crops belonging to altogether different orders may be grown there for a year or two at least. This evil is in itself one good reason for practising a rotation of crops. On a large scale, that is, for field culture, farmers have found the cheapest and most effective remedy to be lime, applications of which kill the resting spores, or when germinating and the naked masses of protoplasm from the spores are moving about through the soil in quest of fresh food in the form the roots of Cruciferous plants. Carbon bisulphide also kills the fungus when applied to soils, but it is dangerous to human life if not carefully handled, and is more expensive.

New Roses at the Arnold Arboreum.—Mr. Dawson is greatly pleased with the results of some of his Rose crosses made in the fall of 1891. Several are now blooming for the first time. One is General Jacqueminot crossed with Wichuraiana, having a flower almost identical in colour and form with Souvenir de la Malmaison. The foliage is thick and glossy like that of Wichuraiana, but much larger. Out of the same seed pod came a variety with the trailing habit of Wichuraiana, but with very double, deep rose coloured flowers of rather small size, but exceedingly abundant. These Roses were spoken of very highly by Mr. W. C. Barry, of Rochester, N.Y., who recently visited the arboretum.

FLORICULTURE.

Miniature Violas from Heatherslaw.

GREAT zeal still continues to be displayed by the raisers of new miniature, as well as the larger rayless type of Violas. We have just received a box of blooms from Mr. George Steel, of Etal, Cornhill-on-Tweed, and all, with one exception, of the miniature type. The exception is a nearly uniform deep primrose-yellow variety named George Lord, which we should describe as roundly oval in form, and certainly very choice. Mr. Steel says it is perhaps the best of the large flowering types. The petals are all very broad, even including the lip, while on the other hand, that organ is comparatively narrow in many of the miniature types. What we chiefly object to is when the lip is of great width, but so short as to make the flower as round as the ideal of a self-coloured Pansy. Happily we have not seen that type exactly represented amongst Violas, for Countess of Hopetoun and Sylvia are not strictly round.

A variety named Steeli will associate the raiser's name with the miniature type. The flowers are obovate, with a yellow lip edged white, and the other four petals are shaded with primrose-yellow, but vanishing on the upper third. A very pretty yellow is Beauty of Heatherslaw, with roundly obovate and a broader lip than usually occurs in the miniature type. The lip is just a shade darker than the other petals. Picey or Pixy is a creamy-white, with a narrow picotee edge, and a small yellow eye, quite rayless. Another good flower is Model, but it is washed with a light sulphur-yellow, though the shape is all that could be desired. A charming little flower is Ethel Horsfall, of a delicate lilac, with deeper branching veins, and something in the way of Blush Queen, but quite distinct in shade. The lip was somewhat twisted, but this might be accidental to the individual bloom. Fascination is in the way of Jeannie Turnbull, but the blue is several shades darker, and the warm mauve blue extending from the margin inwards is more or less broken by white lines. As a fancy, particoloured flower it is certainly pretty, and of the true, rayless type. We are pleased to record progress in colour and form, but we are unable to say anything of the habit of the plants, although we may well leave that to the judgement of Mr. Steel.

Variation in Violas.

THOSE who have watched the numerous varieties of Violas with a moderate amount of attentiveness cannot have failed to perceive the great variation in colour which they have exhibited at different times during the course of the long continued drought. This variation may have been greatest in the southern counties of England, but collections from Scotland also show that they vary in that part of the country, with more intensified colours. But this is also the case to a greater or less extent in the south in different soils and under, it may be, different conditions as to cultural treatment.

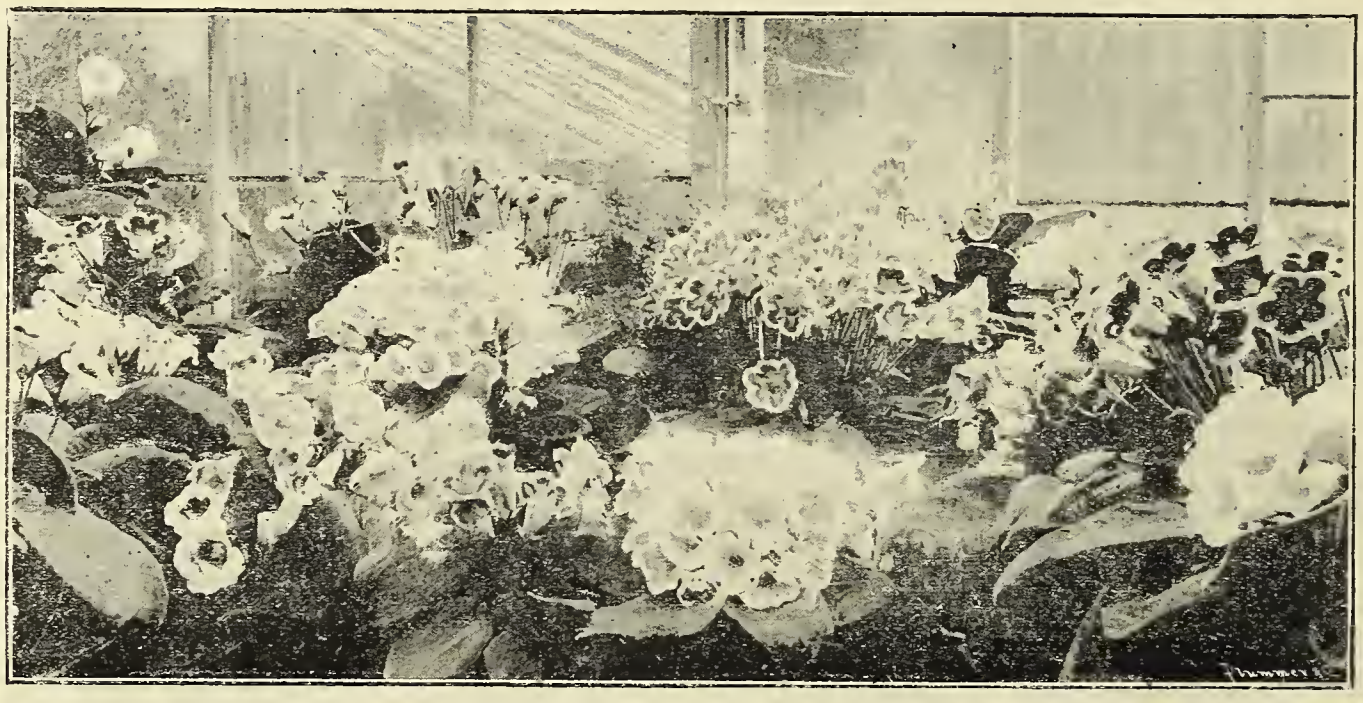
It is now pretty well known that Ardwell Gem has given rise by sporting to several very beautiful varieties, named respectively Duchess of Fife, Goldfinch, and White Duchess, all more or less marked with varying shades of blue or mauve at the edges. In a collection of Violas in a Surrey garden a plant of Duchess of Fife produced a shoot bearing flowers identical with Goldfinch. Another plant produced flowers the four upper petals of which were heavily clouded with bright mauve or blue almost to the base, overlying the usual white ground. This latter will probably not prove constant. A plant of Goldfinch gave rise to a vigorous shoot bearing flowers, the upper two petals of which were wholly of a slaty-mauve, while the three lower had a brassy sheen, the result of blue and yellow mixed. All these sports would seem to prove that Ardwell Gem was originally a hybrid between a yellow and a blue species, such as Viola cornuta and V. tricolor lutea. Seeds are rarely produced by Ardwell Gem, but when produced they give rise to varieties of blue and pale yellow shades, and sometimes to varieties of a slaty-mauve like the sport from Goldfinch. All this would indicate the separation of already mixed colours.

A similar series of sports and variations has arisen from York and Lancaster and the old bedding Pansy Lucy Ashton. Columbine is a pale sport from the latter, but it has behaved in a remarkable manner this summer in various gardens. In one case it has developed flowers as dark as those of Lucy Ashton. Another plant in the same garden has produced dark plum purple flowers, and what should be a white centre is shaded with blue. In other gardens the rosy-purple banding has faded to a pale pink. York and Lancaster varies in the same way, except that the flowers are striped with two shades of colour. Another variety showing a remarkable amount of variation is the beautifully soft rose-coloured William Neil. In the Surrey garden they have become intensified to a deep almost purple rose and die off while still of a dark hue. In ordinary seasons they are light rose and fade to the palest pink with age. The flowers in a Sussex garden, upon rather heavy clay soil, became almost unrecognisable except to those who are thoroughly acquainted with the variety, by changing to the palest pink or almost blush white, even when quite young and fresh.

Vernon Lee varies to a less extent in the upper petals, which are usually characterised by a large mahogany blotch with a yellow margin of greater or less width. Now in different parts of the same garden may be seen the usual type, as well as plants with the upper petals wholly of a brown mahogany. The latter are from plants raised from cuttings in the autumn, while the rest are old plants. Ariel should have the upper petals of a bright sky blue, but they vary by being splashed, and sometimes pass almost to white in the same garden. Blue Cloud and Skylark lose their blue edges; Countess of Hopetoun becomes rayed in the centre where no rays should be; and the lavender Duchess of Sutherland becomes striped with white in the Sussex garden, evidently as a result of heat, drought, and the nature of the soil.

GLOXINIAS.

TWELVE months ago, July 9th, 1892, we gave an illustration of an admirably flowered Gloxinia grown by Dr. Slater, of Lytham, an amateur who has been exceedingly successful in the management of these strikingly beautiful plants. On June 26th last Dr. Slater kindly sent us another photograph representing the the current season's growths, which we have had reproduced, though we are fain to confess the process is not such a success as we could desire. Some of the plants, Dr. Slater informs us, have borne about 200 blooms each, and as many as 150 blooms have been open on a plant at one time. Our correspondent's mode of treatment is a very intelligent one, and may be summarised in a few words. He raises a batch of seedlings every year, sowing on the 1st of January, and grows the plants on until they produce one flower to prove their quality. The useless ones are weeded out, and the selected seedlings then ripened off, the tubers being stored away in old biscuit tins with dry sea sand. They commence growing again about Christmas, and are then set out in shallow boxes placed in the greenhouse, and occasionally syringed. When roots begin to appear the tubers are potted, lightly, in a compost of sea sand, leaf-soil, old manure from an exhausted hot-bed, good loam, and a little of the dust shaken out of Orchid peat. They want attentive watering, but the foliage should never be wet, and as the sun gets strong they want a little shade. Dr. Slater thins out the foliage in the centre of the plants, which permits of the development of well-shaped specimens, and allows the handsome flowers to form a neat head. No tubers are kept beyond the third year.



DR. SLATER'S GLOXINIA HOUSE.

A BLUE HIPPEASTRUM.

HAD this been one of the improved garden varieties with the widely open flowers characteristic of that class, it would have been the sensation of the season, because any real shade of blue in that class would be welcome, inasmuch as there would be reasonable hope of improving it. Hippeastrum procerum is the plant referred to, a species introduced from Brazil, near Petropolis, about 1863, apparently to some Continental garden. It has now found its way to Kew, where it is flowering in the succulent house. It is described as having from four to twelve lilac flowers on a scape. The larger figure would possibly be exceptional, as the plant now in bloom has five large flowers, the segments of which measure fully 4½ in. long, but are so nearly erect as to give the flower a narrow appearance. The tube is extremely short, and if hybridists could effect a union between it and some of the large flowers of the present day, it would probably not be difficult to spread out the segments and give them breadth.

The bulbs have a neck about 12 in. to 16 in. long, and covered with brown sheaths. The leaves at the time of flowering are about the same length, two ranked, falcate, glaucous, and firm in texture, but

they ultimately get 2 ft. to 3 ft. long in the case of full sized bulbs. The whole length of the plant to the top of the flowers, of the Kew plant, is about 32 in. The flowers are arranged in two pairs with the odd one behind. Their pedicels are purple. The segments are slightly crisped at the edges upwards, and revolute at the tip. They are purplish at the base externally and mottled with a darker colour, mottled in the middle and light sky-blue upwards; internally they are white at the base, mottled with bluish-purple along the middle of the lower half without any star, and of a nearly uniform sky-blue upwards, deepening with age. All of these colours overlie a white ground, which has the effect of giving them a clear and clean appearance. The species is certainly the most distinct of the genus we have seen for a long time, and we hope the new colours will be turned to good advantage.

ALLOTMENT GARDENING.

A RECENT development of the system of County Council lectures on Gardening, which during the last two or three years have been given in all parts of the country, is a mode of procedure which we gladly recognise and heartily support, in the belief that it is calculated to do more good among the particular class whom it is desired to benefit, than even the winter evening lectures. The new departure consists in sending the lecturers directly into the gardens to give their advice and instruction on the spot, and to point out the merits and defects of the crops that come before them. As illustration of the system, we direct attention here to a characteristic address recently given to the allotment holders of Richmond, by Mr. A. Dean, of Kingston, one of the lecturers engaged by the Surrey County Council, and the fact that though the address was accompanied by frequent showers of rain, some fifty of the allotment holders stood it out, speaks well for their enthusiasm and desire for improvement.

Mr. Dean, who commenced by remarking that he had been a working gardener nearly the whole of his life, said he had been sent by the County Council, who took the greatest possible interest in gardening. He took it for granted that though the allotment holders had had a trying season for the first, it was not improper for him to say that there had been produced this year on their land two or three times as much as in previous years. And as they continued to put into it more labour the land would continue to be more productive. Those who had favoured the provision of those allotments had been true prophets, for their desire had been fully and amply realised, and the first year of cultivation was a matter for the highest commendation. They had as profitable and as excellent a crop as was to be found anywhere, and if they suffered at all it was from an imperfect knowledge with regard to the best means of cultivation. Continuing, the speaker referred to the conditions or regulations under which the allotments were held, and said that they had been drawn up with a great deal of wisdom. He pointed out that the regulations were very desirable and reasonable, especially those requiring each allotment to be free from weeds; that they should so plant trees that they should not be injurious to neighbouring allotments; and that they should trim and keep in order the whole of the edges of their allotments: and that either a man or a woman could have an allotment. He had never seen the last condition in connection with any other allotments; but he was glad to see it here. It showed they were getting somewhat nearer to the equality of the sexes.

In urging the necessity of constant manuring, he said that the ground was only a medium from which the plants took up such food as had been put therein. If they refrained from manuring plants would begin to dwindle and weaken, simply because they had neglected to feed them properly. He saw no reason why they should not plant a few bush fruits, though the primary plants must be vegetables. Not only were they more reliable and profitable, but would be of more service to them and to their families. He supposed that some of them cultivated a few flowers. Let them not despise flowers by any means, for in them there was that which administered so much to the heart, to the more beautiful characteristics of man, and to the enjoyment of women and children. Proceeding, he said there were two phases in the provision and cultivation of allotments—first, the moral aspect; and, secondly, the physical aspect. One reason urged for the provision of allotments was that it would keep men out of the public houses. But further he thought another great advantage was that engaging in such work served, to most of them who were daily engaged in work of a different kind, to expand their minds, for here they entered into a new world. This was a great moral advantage. Of the physical advantages he need say but little, except that such recreation was most desirable for them from the physical point of view, strengthening and refreshing them to a great degree. They received physical benefits of which, previously, they had but little conception.

He then proceeded to give them a few practical hints. Cultivation consisted in taking possession of a piece of ground and thoroughly well working it. Some ground that he had seen had been cultivated and produced plants to a very moderate degree. Agriculture generally was in a very parlous state, and this was due to the fact that the ground was by no means worked as deeply and thoroughly as it ought to be. Instead of digging their ground some 8 or 9 inches, let them dig it 15 or 18, or 20 inches, and then they would be able to put in a greater store of food (manure), and the result would be almost inconceivable. But if this would not do, let them "trench" the ground, a practice very common and very successfully used on private grounds. Then the ground must be, as he had said before, well manured. Manure should not be left about in heaps in all directions, or kept during the whole of the winter to be put in in the spring, for in that time it had gone through the process of fermenting, and the most useful part had gone. During that time 50 per cent. of its value had been wasted. As to the kinds of manure to use, chemists would tell them that those were best that contained such properties as were found in plants, and animal manures, bones, &c., comprised the most concentrated and distinctive forms of plant food. Their aim was no doubt to get as much out of the ground as they could, but they would not do this by crowding their plants. They must not expect to get a good crop of Potatos and a good crop of winter stuff at the same time. Plants required sustenance, and where there was only enough for one, and there were two there, they must not expect to get them of the proper quality, for they would both starve, being each unable to obtain the amount of nutriment necessary for its existence.

Mr. Dean then proceeded to speak of the numerous garden pests existing. He was told that the allotment holders had been invited to compete in connection with the forthcoming show of the

A MODEL GLOXINIA.

Horticultural Society. This proceeding, he thought, was not wise, as considering the nature of their produce, it would be too early in the season for them to exhibit, and they would only ruin their crops. He would suggest that they exhibit at the end of August or the commencement of September. He thought a special exhibition might be arranged for that time, and then they would be able to make exhibits not only to the credit of the holders, but to the credit of the borough of Richmond. As to the provision of prizes, he thought it hardly fair that those of them who had had experience in gardening should compete with others who were mere novices. He thought an exhibition would be a great encouragement, but would urge them not to let their minds be centred upon the mere winning of prizes.—Councillor Thompson moved a vote of thanks to the Technical Education Committee for having supplied them that afternoon with the able services of Mr. Dean, and for the pleasure his address had been to all present.

NORTH OF SCOTLAND HORTICULTURAL ASSOCIATION.

In beautiful weather the members of this association held their second excursion for the season on the 1st inst. The places visited were the gardens and woods of Durris Park, and Edgehill, on Deeside. The estate of Durris, which was first inspected, is now owned by Mr. A. B. Baird, and is one of the largest on Deeside, and for natural beauty—especially from an arboricultural point of view—is one of the most interesting in the north of Scotland. The party were conducted by Messrs. Lawson and Reid. Entering by the main drive attention was at once arrested by healthy and perfect specimens of the finest and rarest Conifers, including Abies nobilis, A. Nordmanniana, A. grandis—magnificent specimens—and A. concolor (lasciocarpa).

A diversity of opinion arose over a variety of pendulous Spruce, about 40 ft. high, with long, tendril-like laterals 5 ft. and 6 ft. long, having the appearance of large tooth brushes. It was named Abies inverta, but this did not satisfy some, and further inquiries are being made as to its correct name. One or two specimens were also noticed of Abies Fraseri, one of which was fully 40 ft. high, probably as fine a specimen as any in Scotland. Its beautiful spiral habit makes it an object of great interest. As the company approached the house their attention was drawn to two veterans, viz., English Yews, which may probably be 500 or 600 years old. It was agreed that if not the largest these Yews must be amongst the oldest in the country.

The garden in front of the house is laid out with great taste, and well deserved the expressions of admiration bestowed upon it. The party were now conducted to the famous Abies nobilis avenue, planted by the late proprietor, Mr. Mactier, as a screen to a new approach then proposed to be made. The appearance of this avenue is probably the most unique in Scotland. The Nobilis are planted at proper distances apart, and between each on one side are Limes, and on the other Spanish Chestnut. On the west end of the avenue the A. nobilis are alternated with Weeping Birch, and the general *tout ensemble* is most effective.

The company at this point wended their way to the kitchen garden, where the luxuriant crops were much admired. Tracks were then made for the vineries and greenhouses. In the vineries a most beautifully managed crop was displayed, reflecting the greatest credit upon those in charge. No doubt the contents of these vineries will be heard of at the shows of this year. During the last two years considerable additions have been made to the hot-houses at Durris, principally by the erection of a stove and greenhouse, with propagating pits below facing the south. Of the plants in the stove, which are in a high state of cultivation, mention may be made of Allamanda Hendersoni, showing splendid flowers and in excellent health; a very fine specimen of Gloriosa superba, carrying six or seven fully developed flowers; Maxillaria picta, also in fine bloom; and Cattleya Mendelii and Cypripedium villosum. The collection of Crotons was very interesting. The greenhouses were in admirable order, and all were impressed with the fact that they were under the charge of one who thoroughly knows his work.

After this hurried run through the gardens, the party wended their way up a part of the west approach, where numerous specimens of Coniferæ again attracted their attention. Among these were noble specimens of Abies Albertiana (Prince Albert's Fir), Abies canadensis, Picea magnifica, Wellingtonia gigantea, and another beautiful specimen of pendulous Spruce, distinctly different from the one referred to in the main drive. At this point an *al fresco* tea was partaken of. The president, in a few well-chosen remarks, conveyed to Mr. Braid, the factor, who was present, the thanks of the association to the proprietor, Mr. Baird. Mr. Braid feelingly replied, and expressed himself on behalf of his constituent as much pleased to receive the members of the society. After tea the company were conducted up the avenue to the south lodge, where they beheld the most interesting sight of the day, viz., wonderful specimens of Wellingtonia, Abies Douglasii, and Abies Albertiana, and their pleasure culminated in a view of sylvan beauty from the Ivy Bridge, which from its general loveliness baffled description.

Perhaps the finest specimens seen during the day were on the heathery knoll above this bridge, viz,, a specimen of Abies concolor, probably the finest in Scotland, the growth, habit, and colour being perfect. After being hospitably entertained by Mrs. Braid, the factor's wife, the route was taken to the estate nursery, managed by Mr. Lawson, forester, where the party were shown many seedling beds of Abies Douglasii, probably 1,000,000 grown from seeds gathered on the estate. Many thousands of Abies nobilis, ranging from 2½ to 4 ft. high, were here lined out, evidently showing care in their cultivation, and in beautiful condition for transplanting. Mr. Lawson, the forester, has to be congratulated on the way he manages the nursery, which evinces much care, skill, and attention. The company then drove to Park, and were conducted over the gardens by Mr. Grant, but as the time was limited it was impossible, beyond taking a cursory view, to make a lengthened stay. Edgehill was then visited, and the company met by Mr. Kilgour, the gardener; but as the shades of night were now descending ample justice could not be done to the many beautiful specimens of Coniferæ, &c., and it was agreed to leave a description to a future visit. The party returned to Aberdeen in the course of the evening highly delighted with their instructive outing.

FIRE ENGINES AND THE DROUGHT.

The value of a steam fire engine on an estate in seasons like the present is well illustrated in the following communication from Mr. Edward Eames, Itchin Stoke Manor, Arlesford, Hants. Mr. Eames says: "The 'Squire's' Engine, supplied me by Messrs. Merryweather & Son, Greenwich Road, S.E., has been making very satisfactory work, irrigating meadow land here through 500 yards of hose. The land was very parched, and the herbage dried up; the latter is now quite verdant. The quantity of water I have applied every day has been very large. The cost is about 4s. per inch of water per acre (1 in. thickness of water all over the acre). This is equivalent to 10s. per acre cost for 2½ in. of water, or about the same as that of an application of 1 cwt. of nitrate of soda per acre, which, such a season as this, without water, would only do harm, but with water applied, an immense amount of good, as the water produces grass. When the produce is more than doubly valuable, it is obvious that water thus applied is much the cheaper producer. I should mention that I noticed that where the land has been manured, it has set that manure to work, and the grass is better. I advise fully 2½ in. of water being applied, one or two coats to meadow or grass land. I believe 1½ in. on well-tilled land would be found sufficient, but I have not yet had time to do any; but should the drought continue, I intend doing several acres of corn and mangel next week, and if necessary other roots. I feel confident that had I put this means of irrigation into use a month earlier, it would have repaid me manifold. I, myself, am a practical farmer on my own account of over twenty-five years' experience. I believe it would repay large landowners to have one of your 'Squire's' Engines, as, besides using it as a fire engine and for irrigation, the engine could nearly always be at work on the estate, and it would be a great boon if landowners could let their tenants have the use of it in such seasons as this at a cost of about say £1 or so a day. I find it consumes about ½ cwt. of coal an hour."

THE HERBACEOUS BORDER.

Choice plants in flower.

Spiræa kamtschatica.—Where this is grown in rich, tolerably moist soil, the stems will grow to a height of 5 ft. to 6 ft. or more, terminating, according to the habit of herbaceous Spiræas, in a large terminal cyme of creamy-white, fragrant flowers. The leaves themselves have a portly appearance with the terminal leaflet five to seven-lobed. In rich soils more room should be accorded it than to other Spiræas in the herbaceous border.

Spiræa palmata.—This still continues to be one of the choicest of herbaceous Spiræas with its lively rose flowers. There is a white variety, but except for the sake of contrast with the type, it is inferior in value to the type. The usual height is 2 ft. or 2½ ft., and both flowers and foliage are handsome. It is easily grown in any moderately good garden soil, and no good collection of herbaceous plants can be complete without it.

Lilium Martagon album.—There are several very distinct varieties of the old Martagon Lily, but the extreme forms are the most desirable, and the white variety is certainly one of the choicest. The advantage of having this Lily in a garden is the ease with which it can be cultivated. When once planted in a border of friable, well-drained soil, it can take care of itself beyond what cultural attention it may get in common with other hardy subjects there.

Galega officinalis albiflora.—In some gardening books two white varieties are recorded, one under the name of G. officinalis alba, and the other G. persica. Now there is no difference between them, except that the Persian form is the dwarfer of the two, and forms a neat bush about 2 ft. to 3 ft. high, as a rule the former height in cottage gardens or where the plants have been established for some years. The typical blue-flowered form grows about 4 ft. high, and although an effective plant requires more space than the dwarf white form.

Eremurus Bungei.—In this we have another Persian plant, as recently introduced as 1885. The flower scapes are recorded as being 1 ft. long, but under British skies and cultural treatment it attains a height at least of 2 ft. to 4 ft., according to the strength of the plant. The flowers are bright yellow, and cover 8 in. to 2 ft. at least of the upper part of the stem. A number of plants have been flowering freely for some time past in the nursery of Mr. T. S. Ware, Hale Farm Nursery, Tottenham.

Helenium autumnale pumilum.—The warm weather has brought this useful plant into early bloom, but it is to be hoped that it will continue to flower as late as usual. The great heat has had no appreciable effect upon its vigour and stature where an occasional watering has been given it. For edgings or small beds upon the grass it is well adapted.

Campanula rhomboidalis.—While not so strictly a rock plant as many of the Campanulas are best suited for, it may still be regarded as a dwarf one and well adapted for the front line of the herbaceous border. The stems are about 15 in. high, and bear numerous dark blue nodding flowers in a branching cyme.

Aconitum Napellus bicolor.—The stems of this plant are so stout that they require very little artificial support; and with a stake driven into the centre of the clump, a tie or two with twine or matting is all that is necessary to keep the plant upright. The leaves are in themselves highly ornamental, and when the white and blue edged flowers are fully expanded, the plant is a great ornament to the border.

Sidalcea malvæflora.—Of the three or more distinct forms of Sidalcea in gardens, that under notice has perhaps the most compact spike of flowers. They are of a rosy-purple hue, and retain their ornamental character as long, if not longer, than those of S. candida.

Potentilla argyrophylla atrosanguinea.—The flowers of this Himelayan Potentilla are of a dark crimson, and although it is an old garden plant, it is not so frequent in collections as might be the case. It has undergone considerable improvement by hybridisation, but the improved forms for some reason or other have never become very popular. The flowers especially of the double forms are too heavy for the slender stalks to support, consequently they hang down in such a way that half their beauty is lost. The single form with a little staking is not liable to this objection.

THE EARL'S COURT ROSE SHOW.

THE third Rose show of the season at Earl's Court was held in the large tent in the western gardens on the 12th inst. The Roses were considerably smaller in some cases than on former occasions, as might have heen expected, but the cooler weather they have enjoyed for some days past has enabled them to recover somewhat and appear in fresh condition. In view of the earliness of the season prizes were offered in seven classes for Carnations and Picotees, and this had the effect of adding somewhat to the variety and effectiveness of the show. Fruit was shown in considerahle quantity, in fact more than was the case last year at shows which were ohviously more pretentious. The miscellaneous exhibits arranged round the sides and ends of the tent were also additional features to what would otherwise have been merely a display of low tables with cut flowers and fruit.

In the class for forty-eight varieties of Roses, in trehles, Mr. C. Turner, Slough, was the only competitor. Some of his best blooms were Baroness Rothschild, Pride of Waltham, Mrs. John Laing, Charles Lefebvre, Prince Arthur, Suzanne Marie Rodocanachi, Merville de Lyon, Marie Van Houtte, etc. Messrs. Paul & Son, Cheshunt, had the first prize for forty-eight hlooms. The first award for twenty-four Roses in trehles was taken by Messrs. D. Prior & Son, Myland Nurseries, Colchester. The exhibit included fine blooms of Anna Olivier, Jean Ducher, Maréchal Niel, Black Prince, La France, Mrs. J. Laing, Baroness Rothschild, Gustave Piganeau, and others. Mr. Geo. Mount, Canterbury, took the second place with good blooms of Niphetos, Marie Verdier, Alfred Colomb, Mrs. John Laing, Madame Eugénie Verdier, and others. Messrs. D. Prior & Son again took the lead for twenty-four hlooms, showing fine examples of Mrs. John Laing, Maréchal Niel, Charles Lefebvre, La Rosiere, Marquise de Castellane, Souvenir de S. A. Prince, and others. Mr G. Mount again took the second place with hlooms that were very little inferior in point of merit to those of the first prize lot. Messrs. D. Prior & Son were the only exhihitors of twenty-four Tea or Noisette Roses, and had very tolerahle blooms of Catherine Mermet, Julius Finger, Jean Ducher, Marie Guillot, and Maréchal Niel. Mr. G. Mount had the first prize for eighteen hlooms of Tea and Noisettes, showing good blooms of Hon. Edith Gifford, Catherine Mermet, and Madame Charles. Messrs. Paul & Son, Cheshunt, were the only exhihitors of garden Roses, and the exhibit, in addition to the first prize, was highly commended. The bunches of L'Ideal, Gustave Regis, Camoens and others were sweet and handsome. So close was the competition in the class for twelve bunches of stove and greenhouse flowers that equal first prizes were awarded to Mr. J. Prewett, Swiss Nursery, Hammersmith, and Mr. G. Wythes, gardener to the Duke of Northumherland, Syon House, Brentford. Eucharis, Hymenocallis, Cattleyas, Heaths, Statices, &c., were very prominent. Mr. A. Gibson, gardener to T. T. Burnaby Atkins, Esq., Halstead Place, Sevenoaks, was placed third with a splendid exhibit likewise.

An extra prize was awarded to the last exhibitor in the amateurs' classes for twelve bunches of garden Roses, which were large, hut not what is generally understood as garden Roses. He had the first award for twelve hybrid perpetual Roses. Mr. James Parker, Oakfield Hitchin, Herts, was second, and Miss E. Bailey Denton, Orchard Court, Stevenage, Herts, was third. Mr. John Parker was first for twelve Teas and Noisettes.

The first award for twenty-four Carnations was taken by Mr. M. Rowan, Chelsea, with fine blooms of Robert Houlgrave, Alfred, Roh Roy, Joe Edwards, Gordon Lewis, Fred, and others. Mr. C. Turner took the second place with a very fine exhihit, and many large blooms. Mr. J. Douglas, gardener to Mrs. Whithourn, Great Gearies, Ilford, was third. Mr. Geo. Chaundy, New Marston, Oxford, had the best twelve Carnations, with rich and distinct markings. Mr. F. Hooper, Bath, was second; and Mr. A. J. Sanders, gardener to Viscountess Chewton, Cobham, was third. The first award for twenty-four Picotees was taken by Mr. C. Turner, with fine blooms of Favourite, Mrs. Sharp, Lady Holmesdale, Lady E. Vander-Weyer, Dr. Epps, Mrs. S. Beal, John Archer, etc. Mr. J. Douglas took the second place; and Mr. M. Rowan was third. Mr. F. Hooper, Bath, had the best twelve Picotees; Mr. G. Chaundy was second; and Mr. A. J. Sanders was third. Mr. C. Turner had the hest twenty-four self and fancy Carnations in hlooms of large size and richly coloured. Mr. J. Douglas again followed; while Mr. A. Smith, Downly, High Wycombe, Bucks, was third, with considerably inferior blooms. Mr. J. Walker, Thame, had the best twelve selfs and fancies; and was followed by Mr. Rowan, 36, Mancr Street, Clapham; and Mr. G. Chaundy took the third place. There was great competition in this class. Mr. J. Douglas had the best twelve yellow ground Carnations; Mr. C. Turner was second; and Mr. G. Chaundy took the third place. All three were good exhibits.

The entries for fruit were numerous, and made a good display. Black Grapes numbered nine entries, and the first award was taken hy Mr. A. Maxim, gardener to the Hon. Miss Shaw-Lefevre, Heckfield Place, Winchfield; Mr. T. Osman, Ottershaw Park, Chertsey, was second; Mr. F. Jordon, gardener to Birkett Foster, Esq., Witley, Surrey, was third, and an extra award went to Mr. W. Shingler, East Dereham. Mr. W. Lane, King's Ride, Ascot, had the best white Grapes; Mr. W. Tidy, Stanmore Hall, Middlesex, was second; and Mr. T. Osman came in third. The first award for three Melons was taken by Mr. E. Little, gardener to L. M. Wright, Esq., Milton Court, Dorking. Mr. T. Elisha, Old Windsor, had the hest Melon. Mr. W. Chuck, gardener to P. Thellusson, Esq., Brodsworth, Doncaster, was the only exhibitor of three dishes of Strawberries, taking the first prize, as well as for one dish. The first award for Peaches was taken hy Mr. F. Billings, gardener to R. W. Hanbury, Esq., Ilam Hall, Ashbourne, Derhyshire. He also had the hest dish of Nectarines. Mr. S. Mortimer, Swiss Nursery, Farnham, Surrey, was the only exhibitor of a dish of Cherries, and was accorded the first prize.

Amongst the miscellaneous exhibits a very fine group of Ferns was exhibited hy Mr. H. B. May, Dyson's Lane Nurseries, Upper Edmonton. They were very effectively arranged on a flat tahle extending round the end of the tent and along part of one side. Graceful Palms occupied the hack ground along with Dracænas, Crotons, Azalias, and the taller Ferns such as Nephrolepis rufescens tripinnatifida. The varieties of Ferns were numerous and well grown, as everybody knows who has seen this exhibitor's work. The front of the staging was draped with Isolepis and a heautiful grass, Stenotaphrum glahium variegatum. A very effective lot of cut flowers of herhaceous plants was exhibited by Mr. G. H. Sage, gardener to Earl Dysart, Ham House, Richmond. He had fine masses of Eryngium Oliverianum, Chrysanthsmum maximum, Gypsophila paniculata, Phloxes. Delphiniums, Coreopsis lanceolata, and some beautiful horder Carnations, including G. H. Sage and Jim Smyth. The opposite end of the tent was occupied by Messrs. Barr & Son, Covent Garden, with cut flowers of herbaceous plants, including Lilies, Gladioli, Phloxes, Pentstemons, Sweet Peas, Godetias, Shirley Poppies, Eschscholtzias, and other annuals. The back ground was occupied with Palms and some of the taller herhaceous perennials. A miscellaneous lot of hardy flowers was shown by Messrs. J. Cheal & Sons, Lowfield Nursery, Crawley, including sprays of Violas on velvet covered stand, Phloxes, Sweet Peas in great variety, and all named, also border Carnations, Gaillardias, and other herbaceous plants, and fine foliage trees and shrubs. Four large stands of Roses, including one of Rose Mrs. J. Laing, were staged hy Messrs. Geo. Jackman & Son, Woking, Surrey. Another hox consisted of hlooms set up in bud state, and very pretty. A collection of Carnations and Picotees, cut with long stalks and foliage, was set up by Mr. J. Walker, and, because natural, were very attractive. Messrs. Barr & Son showed a miniature rockery on a frame which could he moved ahout as desired. It showed a great amount of variety, both in plants and the positions in which they could be planted. Some plants of Anthurium Andreanum Thellussoni were shown by Mr. W. Chuck.

A Silver Gilt Medal was awarded to Messrs. T. Rivers & Son, Sawbridgeworth, for a collection of Peaches, Nectarines, Plums, Cherries, &c., which were notable for their large size and fine finish.

GARDENING MISCELLANY.

AQUILEGIA CHRYSANTHA.

A COLOURED illustration of five varieties of this Columbine is given in the *Revue de l'Horticulture Belge* for July. Although all classed under A. chrysantha, some of them would be attrihuted to A. cærulea, or even to A. canadensis in this country. The flowers of the typical A. chrysantha are clear yellow with long spurs. Of those figured, one has vermilion sepals and golden-yellow petals; another is lilac with longer, pale yellow petals; a third has rose sepals and creamy petals; a fourth is white; and a fifth has dark blue sepals and white petals. There is a dwarf variety of the species named A. c. nana. A variety is being put into commerce by Messrs. Vilmorin-Andriex & Co., Paris, under the name of A. cæruleh flore luteo. This would seem to be closely allied to A. chrysantha, but is said to possess an advantage over other species of Aquilegias with yellow flowers by commencing to bloom in April, and continuing thence onward to the end of June. These Aquilegias are handsome both for garden decoration, for cut flowers, and for pot culture.

SOLANUM WENDLANDI.

FOR tall-roofed, warm conservatories or stoves where plenty of top room is at command, this is certainly one of the most gorgeous of climhers. Both leaves and flowers are handsome. The former are deeply pinnatifid with a large triparted terminal lobe, and in general aspect may be compared to those of the Potato, which belongs to the same genus, hut they are more leathery, smooth, and refined, as might be expected. The flowers are produced in large pendent cymes from the ends of the branches, and individually are of great size, and pale blue or lilac with a paler or nearly white band along the centre of each segment. The species is a native of Costa Rica, and is one of the comparatively few species of Solanum that are cultivated under glass for the sake of their flowers. Comparatively small plants may he flowered in pots, hut they never have the gorgeous effect that large plants produce when trained to the rafters or other supports of the roof and the hranches allowed to hang down loosely, as in the Water Lily house at Kew.

ALLIUM PEDEMONTANUM.

ONLY a few of the species of Allium are received with any degree of favour in gardens. The smell of many of them may he ohjectionable when bruised or when used as cut flowers, hut as subjects for border decoration, or more particularly for culture on the rockwork of the smaller kinds, they are certainly pretty and attractive. As an instance of the groundless objection which people may have to them may he mentioned the starry white-flowered A. neapolitanum which is grown in ever increasing numhers by the market gardeners in winter. Probably not a tithe of the British puhlic who buy the flowers have any idea how closely related they are to those of the Onion. The flowers of A. pedemontanum are hell-shaped, produced in drooping umbels, and deep rose purple, fading to pale rose at the tips and also pale internally. The interior of the flowers presents a curiously triangular appearance, owing to the way in which the segments are disposed in threes. The linear leaves are glaucous, and the flower scapes 12 in. to 16 in. high.

THE INFLUENCE OF DROUGHT ON THE SOIL.

A GOOD deal of discussion is going on in the Press anent the influence of drought on the soil. It is assumed by one Cornish writer that the prolonged drought will he the means of increasing the fertility of the soil for the growth of future crops hy storing up an ahundant supply of nitrogen, and he assumes the White Clover plant to he the chief factor in ohtaining that supply. Some writers contend, very correctly, however, that the larger the plant the deeper it strikes its root in search for food, and therefore the more luxuriant is the vegetation the greater the amount of nitrogen extracted from the lower portions of the soil and stored up in the roots of the Clover plant for future use. We think that during dry weather a continual evaporation takes place from the surface soil, more than that supplied by any rain or dew which may happen to fall. This creates a vacuum that is at once filled up by water

arising from the subsoil, extending deeper and deeper as the drought continues and the moisture is exhaled. This upward circulation of the water in the earth, the reverse of what takes place in wet weather, brings along with it all that the water holds in solution, or whatever fertilising properties the subsoil may contain. On reaching the surface the water is evaporated, but leaves behind its lime and potash, its phosphates, silicates, carbonates, and salts, all indispensable to the growth of the vegetable products of the farm. These are brought from the depths of the earth, where else they would have remained for ever unemployed, to be used as food for future harvests. From this standpoint certainly these periodical droughts may be viewed as blessings in disguise.—*Z.*

SPIRÆA BULLATA.

Few of the shrubby species of Spiræa are dwarfer than that under notice. Some of the forms of S. japonica (not Astilbe japonica), but particularly S. j. alba, come near this in stature, but it is a more widely spreading flat-topped bush. S. bullata is very compact, with small crumpled leaves of a dark green colour, brightened all over with moderate sized clusters of flower that are deep red in the bud state, and change to a rosy hue as they expand. The shrub grows very slowly, and does not appear to produce suckers to a great extent, if any. It may be propagated, however, by means of half ripened cuttings of the summer shoots, put in sandy soil under a handlight.

COLEUS DISTINCTION.

This new Coleus received some First-class Certificates not many months ago; but has been grown sufficiently long to be tested as a bedding plant. It may be seen in the nursery of Messrs. J. Veitch & Sons, Chelsea, occupying a small bed beside the Carnations. When certificated the foliage was notable for its dark colour, but gave no evidence of its capacity to withstand our climate in the open air. Just now, however, the leaves are of a blackish purple, ovate, revolute at the sides, and of a sturdy healthy appearance, notwithstanding the great heat and long-continued drought. The leaves are also finely wrinkled and have a noble appearance by the side of other bedding plants. For bedding purposes it promises to be the best of all the Coleus.

ORCHID NOTES AND GLEANINGS.

Oncidium palumbinum candidum.

The white dove Oncid is a rare species in collections, and consequently but seldom seen. We noted a flowering plant of it the other day in the nursery of Messrs. J. Veitch & Sons, Chelsea. It has only two sepals to each flower, the lateral pair being united in one piece and lying under the lip. They are oblong, and, like the obovate petals at right angles to them, are white. The lip is of the same colour, oblong-lanceolate, obtuse, and furnished with a small yellow spot in front of the curious little crest, which is of a deeper yellow and spotted with crimson. The pseudo-bulbs are small and oblong. The whole plant is not bulky, but constitutes an interesting ittle subject for suspending from the roof in pots, baskets, or pans.

Oncidium phymatochilum.

A large number of the species of Oncidium has small flowers but frequently a great number of them, and are acceptable because they flower at seasons when Orchids generally are not over-numerous. That under notice has medium sized flowers and gracefully elegant, both on account of the length and slenderness of their segments, and by reason of the much branched character of the flower stem. The latter is 3 ft. to 4 ft. long, arching and gracefully panicled for the greater part of their length. The sepals and petals are linear, reflexed, and pale yellow or primrose, with a few brown blotches. The lip, on the contrary, is white and spotted with brown round the yellow disc. A plant now to be seen in the nursery of Messrs. J. Veitch & Sons, Chelsea, is grown in a basket suspended in the house devoted to Orchids and rockwork, and bears two handsome panicles as above described.

Cattleya labiata Warneri.

A very fine variety of this comparatively old, but by no means common, Cattleya has been flowering for some time past in the nursery of Messrs. J. Veitch & Sons, Chelsea. The flowers are very large and of a warm rose colour, shaded with darker veins. Large as are the petals, the lip is the finest feature of the flower, with a large, finely crisped lamina of a rich purple with darker veins, and somewhat paler at the extreme margins; the throat is orange and lined with pale lilac. This latter hue may be seen shading the large blotch on each side of the throat, overlying a white ground. The variety was originally introduced from Southern Brazil, not far from where C. labiata was originally found and first flowered in this country in 1860.

SOCIETIES.

Croydon Horticultural.—The twenty-sixth summer show of this society was held in the grounds of Brickwood House by kind permission of G. W. Prince, Esq., on Wednesday, 5th July. The weather was all that could be desired, and the fine old Elm trees in the park where the show was held afforded the necessary shade to enable the visitors to listen with pleasure and contentment to the music discoursed by the band of the Scots Guards, "pipers an' a." The show was one of the finest ever held by the society, and filled three marquees to overflowing. The roses, on account of the hot dry weather we have experienced this year, were not equal in numbers or quality to what they have been in former years. For forty-eight Roses, distinct, Messrs. Paul & Sons, Cheshunt, were first; and for twenty-four Roses, three trusses of each, Mr. B R. Cant, Colchester, came to the front. For twenty-four distinct, Mr. Geo. Mount, The Rose Nurseries, Canterbury, was first; and for eighteen Tea or Noisette Roses, Mr. B. R. Cant came in first, and Mr. G. Mount, second; and for twelve Roses, one variety, Mr. G. Mount was first with Mrs. J. Laing. With twelve Teas or Noisettes, Messrs. D. Prior & Sons, Colchester, were first with Maréchal Niel. In the amateur and gardeners' classes, the challenge cup for thirty-six Roses, distinct, went to E. B. Lindsell, Esq., Bearton, Hitchin; Mr. James Brown, gardener to Mrs. Waterlow, Great Doods, Reigate, being second. For twenty-four Roses, distinct, first, Mr. W. Blundell, gardener to G. Christy, Esq., Buckhurst Lodge, Westerham Hill. In the local Rose classes, C. J. Grahame, Esq., Coombe Road, Croydon, was the winner of the challenge cup for twelve Roses, distinct, and in his stand was found the best H.P. in Classes 19 to 22, in Mrs. J. Laing.

In the Rose tent were also exhibited the cut flowers, vegetables, and table decorations, which in quality were quite up to former years. For the most tastefully arranged dinner table decoration, Mr. C. Cooper, Sydenham Road Nurseries, Croydon, was first, and Mr. J. R. Box, Nurseryman, Croydon, second. For the best hand bouquet, Mr. C. H. Chaff, Park Hill Nursery, was first. For twelve table plants, Mr. C. Lane, gardener to E. H. Coles, Esq., Brentwood, Caterham, was first with good stuff, amongst which was Croton Countess, C. Golden Ring, C. Picturata, C. Aigburthensis, C. Gordoni, Cocus Weddeliana, Aralia Veitchii, A. V. gracillimum, &c. For twenty-four bunches of hardy cut flowers, Mr. J. Gibson, gardener to Mrs. Berkley James, The Oaks, Carshalton, took premier honours, and he was also first for a collection of nine varieties of vegetables of high quality and well staged.

The plant-tent was, however, the centre of attraction, the large specimens being arranged along the centre, with groups of plants along the sides. In the open classes for nine stove and greenhouse plants in flower, Mr. W. Hallam, gardener to G. Warren, Esq., Handcross Park, Crawley, was first with small but fresh specimens, Mr. W. Carr, gardener to Mrs. Stephenson Clarke, Croydon Lodge being second. For nine ornamental foliage plants, Mr. W. Hallam was again to the front, with large and well-coloured Crotons, Cycas revoluta, &c., Mr. W. King, gardener to P. Crowley, Esq., Wadden House, this time coming in second, his three plants of Anthuriums—Veitchii, crystallinum, and Warocqueanum—being fine specimens. For a group of plants arranged for effect, not exceeding 100 square feet, Mr. W. King was first with a light arrangement, in which Orchids were the chief flowering plants; second, Mr. C. Lane, with a neat arrangement, but somewhat heavier than the first-prize group. In the smaller group class, open to gardeners and amateurs, Mr. F. Scott, gardener to J. Aste, Esq., Ross Road, South Norwood, was first. For six Caladiums Mr. C. Simmonds, gardener to —. Mayhew, Esq, South Norwood Hill, was well to the front, and H. C. Filbey, Esq., was first for six Orchids. Mr. W. King was first for a specimen foliage plant, and Mr. Carr first for specimen flowering.

The miscellaneous groups were a numerous and interesting lot. Messrs. J. Laing and Sons, Forest Hill, had a magnificent group of tuberous-rooted Begonias, single and double, arranged in a groundwork of Asparagus and Ferns, and a graceful background of Palms for which they were awarded a Silver Medal. The same firm had also another group of bright-coloured Caladiums. Messrs. Peed & Sons, Roupell Park Nurseries, had a most effective group of Caladiums, Palms, Gloxinias, &c. Mr. Box, Nurseryman, Croydon, had a beautiful group of double and single Begonias, arranged with Caladiums and Ferns, and the front of Gloxinias, and C. argyrites; this group was very much admired. Messrs. B. S. Williams & Son, Holloway, had also an effectively arranged group of plants, amongst which Orchid and pitcher plants were prominent. Messrs. Cheal & Sons, Crawley, sent some boxes of Carnations, Gillardias, &c.

The cottagers' produce in another tent was remarkably fine considering the dry season they have had to contend against.

Royal Horticultural, *July 11th.*—The meeting on Tuesday last was held in the gardens of the Royal Horticultural Society, Chiswick, in connection with the Chiswick local show and that of the National Carnation and Picotee Society. The exhibits were located in two large tents, and those for the inspection of the Committees were scattered through both. A group of Palms, Dracænas, Crotons, Caladiums, Ferns, and some Orchids, including a piece of Brassavola Digbyana, Cypripedium superbiens (Demmidoff's variety), Epidendrum nemorale, and others were exhibited by Messrs. B. S. Williams & Son, Upper Holloway. A large and very attractive group of Begonias of the bedding class, and varieties chiefly of Begonia semperflorens were exhibited by Messrs. Sutton & Sons, Reading. Very handsome and floriferous were Crimson Gem, with crimson red flowers; Reading Snowflake, white; Duchess of Edinburgh, white edged pink; Duchess of York, rose flushed scarlet; Compacta rosea, dwarfer; Coral Gem pink, as well as some bedding Stocks and Achimenes. The Begonias were only six months old from seed. An extensive collection of Ferns neatly arranged was exhibited by Mr. H. B. May, Dyson's Lane Nursery, Upper Edmonton. Amongst them we noted Davallias, Nephrolepis davallioides multiceps, Pteris tricolor, Gymnogamme schizophylla gloriosa, and many others interspersed with Palms, Crotons, Caladiums, and others. A very floriferous group of Gloxinias in various sized pots was exhibited by E. Hyde, Esq. (gardener, Mr. A Jones), Hillcrest, Castle Bar, Ealing. In several cases the flowers were simply aggregated in a dense mass covering the top of the plants, and the leaves were also of large size. A small collection of new hybrid Begonias was exhibited by M. V. Lemoine, Nancy. A group of plants, including Strobilanthes Dyerianus, Begonia decora, Lilium Ukeyuri, Ferraria antherosa, &c., was exhibited by Messrs. J. Veitch & Sons, Chelsea. A new plant named Nicotiana colossea variegata was exhibited by M. J. Sallier fils, Neuilly, Paris. A small group of new seedling tuberous Begonias was exhibited by Messrs. H. Cannell & Sons, Swanley, Kent. Some of the flowers were of fine types. A Silver Banksian Medal was awarded to Mr. T. S. Ware, Hale Farm Nursery, Tottenham, for a collection of border Carnations, exhibiting a great variety of colour. Two of the finest white varieties were Lady Wantage and Florence Emily Thoday. A Silver Flora Medal was accorded to Martin R. Smith, Esq. (gardener, Mr. Blick), Hayes Common, for a collection of border Carnations, exhibiting a great amount of variation, and set up with their own foliage. A new Lily named Lilium Alexandræ was exhibited by Messrs. Wallace & Co., St. John Street, Colchester. Spiræa Bumalda variegata was shown by Mr. A. Waterer, Knap Hill. Begonia Sunbeam, B. Lady Balfour of Burleigh, some Caladiums and Dracæna indivisa aurea variegata were exhibited by Messrs. J. Laing & Sons, Forest Hill. A fine new Lily named Lilium Lowii

was shown by Messrs. Hugh Low & Co., Clapton. A bunch of a white Carnation named Alice was exhibited by W. Robinson, Esq., East Grinstead. A Silver Gilt Flora Medal was awarded to Messrs. C. Lee & Sons, Hammersmith and Feltham, for a large group of variegated or otherwise ornamental trees and shrubs. A Bronze Banksian Medal was awarded to E. H. Watts, Esq. (gardener, Mr. Porteous), Devonhurst, for a group of Ferns.

An interesting group of Orchids was exhibited by Messrs. F. Sander and Co., St. Albans. Amongst them were fine pieces of Burlingtonia pubescens, Renanthera matutina, Trichocentrum tigrinum, Alrides picotiana, Cattleya Gaskelliana (Cook's var.), and a new hybrid named Cypripedium Nassaianum from C. superciliare crossed with C. Rothschildianum. A small but very varied group was also exhibited by Messrs. H. Low & Co., Clapton, consisting largely of Cattleyas, with Aerides I'Ansonii, Oncidium Lanceanum, Stanhopea Amesiana, and others. Cattleya Rex was shown by Mr. Walter C. Clark, Orleans House, Sefton Park, Liverpool. Cypripedium Stonei Cannartæ, Lælia monophylla, Cattleya Brymeriana, &c., were exhibited by T. Statter, Esq., Stand Hall, Manchester. Cattleya Gaskelliana Southgatense, and Cypripedium Bradshawianum were shown by Messrs. W. L. Lewis & Co., Southgate.

At a meeting of the Fruit and Vegetable Committee a collection of fruit was exhibited by Messrs. J. Veitch & Sons, Chelsea, and included Apples, Pears, Cherries, Raspberries, Red and White Currants, Gooseberries, and Plums. Of Gooseberries alone there were 118 dishes. Six bunches of Black Hamburgh Grapes from one pot vine were shown by Mr. J. Hudson, gardener to the Messrs. de Rothschild, Gunnersbury House. Peaches and Melons were exhibited by Mr. Owen Thomas, Royal Gardens, Windsor. A collection of Peaches, Plums, and Cherries in some variety was exhibited by Messrs. T. Rivers & Son, Sawbridgeworth. Fruit of various kinds was also shown by Mr. Leach, Albury Park Gardens, and by Mr. Miller, gardener to Lord Foley, Ruxley Lodge, Esher. Twelve varieties of Peas were shown by Mr. Gilbert, Burghley Gardens, Stamford. Taber's Perfection Long Pod Bean was exhibited by Messrs. Cooper, Taber & Co., London and Witham.

National Carnation and Picotee, July 11th. The Southern section of this society held its annual show in the gardens of the Royal Horticultural Society, Chiswick, on Tuesday, when about the usual quantity of flowers were brought together and appeared as large and as fresh as could be expected; in fact, speaking generally, the flowers were quite up to the average, notwithstanding that the first blooms in the open ground have been over for some time. The first prize for twenty-four Carnations was awarded to Mr. Jas. Douglas, gardener to Mrs. Whitbourn, Great Gearies, Ilford, who had fine blooms of Tim Bobbin, Charles Henwood, Edward Adams, Lady Mary Currie, Agricola, and several seedlings. Mr. C. Turner, Slough, was second with fine blooms of Lord Lewisham, Lady Mary Currie, C. H. Herbert, and others. Mr. F. Hooper, Bath, was third with much smaller blooms. The first award for twelve Carnations was taken by Mr. Martin Rowan, 36, Manor Street, Clapham, who had some fine blooms, including Robert Houlgrave, the premier Carnation in the show. Mr. R. Brown, Handsworth, Birmingham, was second; Mr. Geo. Chaundy, New Marston, Oxford, third; Messrs. Thomson & Co., Birmingham, fourth; Mr. R. Sydenham, Birmingham, fifth; Mr. Chas. Phillips, 18, Hamilton Road, Reading, sixth; Mr. John Walker, Thame, Oxon, seventh; and Mr. Thomas Anstiss, Brill, eighth. The first prize for six Carnations was taken by Mr. J. J. Keen, Southampton; Mr. A. Greenfield, Sutton, Surrey, was second; Mr. A. J. Sanders, (gardener to Viscountess Chewton), Cobham, was third; and Mr. F. Nutt, Southampton, was fourth. In the class for single blooms of Carnations Mr. Rowan was first and fifth for a scarlet Bizarre; second, Mr. J. Douglas; third, Mr. R. Sydenham; fourth, Messrs. Thomson & Co. For a crimson Bizarre, first and fifth, Mr. Sydenham; second, Mr. Douglas; third, Mr. Rowan; fourth, Mr. Phillips. For a pink Bizarre, first, Mr. Douglas; second, Mr. A. Greenfield; third, Mr. Rowan; fourth and fifth, Mr. A. R. Brown. For a scarlet Flake, first, Messrs. Thomson & Co.; second and fourth, Mr. Rowan; third, Mr. C. Philipps; fifth, Mr. A. R. Brown. For a purple Flake, first, Mr. C. Turner; second, Mr. Rowan; third and fourth, Mr. Douglas; fifth, Mr. A. R. Brown. For a Rose Flake, first and fourth, Mr. Rowan; second and third, Mr. G. Chaunde; fifth, Mr. A. R. Brown.

The first award for twenty-four Picotees was taken by Mr. Charles Turner, with fine blooms of Lady Catherine Gordon, Esther, Favourite, Little Phil, Brunette, Madeline, Lady Holmesdale, Morna, Dr. Epps, John Archer, and others. Mr. J. Douglas took the second award with fine blooms of Ganymede, Jessie, Liddington's Favourite, and others Mr. F. Hooper took the third place. Messrs. Thomson & Co. had the the best twelve Picotees in grand blooms of Mrs. Sharp, Campanina. Little Phil, etc. Mr. Arthur R. Brown was second in this class; Mr. Martin Rowan was third; Mr. Geo. Chaundy was fourth; Mr. C. Philipps came in fifth; Mr. R. Sydenham was sixth; Mr. J. Walker was seventh; and Mr. A. J. Sanders took the eighth place. The first prize for six Picotees was taken by Mr. A. W. Jones, Handsworth, Birmingham, who had the premier Picotee in Mrs. Payne; Mr. J. P. Sharp, Birmingham, was second; Mr. A. Greenfield, was third; Mr. Geo. Chaundy was fourth; Mr. J. J. Keen was fifth; J. Gilbert, gardener to Rev. L. R. Flood, Merrow Rectory, Guildford, was sixth. The first award for twelve yellow ground Picotees was taken by Mr. Chas. Blick, gardener to Martin R. Smith, Esq., Hayes Common, with fine blooms of Chrysolora, Dorothy, Lohengrin, Annie Douglas, Madame John Benary, and Almira. Mr. Charles Turner was a good second with some fine blooms; Mr. J. Douglas was third with some excellent blooms; Mr. C. Philipps was fourth; Messrs. Thomson & Co. were fifth; Mr. Geo. Chaundy came in sixth; Mr. Thos. Anstiss came in seventh. Mr. A. W. Jones took the leading award for six yellow ground Picotees; Mr. A. R. Brown was second; Mr. R. Sydenham was third; Mr. Chas. Harden, Ash, Dover, was fourth; Mr. F. Nutt took the fifth place; Mr. T. E. Henwood, Reading, was sixth; and Mr. Aubrey Spurling, Blackheath Park, was seventh. In the class for single blooms of Picotees, Mr. C. Turner was first for heavy red edge; second, Mr. A. R. Brown; third and fourth, Mr. C. Philipps; fifth, Mr. Douglas. For light red edge, first and third, Mr. A. W. Jones; second, Mr. Rowan; fourth, Messrs. Thomson & Co.; fifth, Mr. A. R. Brown. For a heavy purple edge, first, Mr. J. J. Keen; second and fourth, Mr. A. W. Jones; third and fifth Mr. Rowan. For a light purple edge, Mr. Rowan was first; second, Messrs. Thomson & Co.; third, Mr. A. R. Brown; fourth, Mr. J. Douglas; fifth, Mr. J. J. Keen. For a heavy rose edge, Mr. A. W. Jones was first and third; second, Mr. C. Turner; fourth, Mr. Rowan; fifth, Messrs. Thomson & Co. For a light rose, first and third, Mr. A. R. Brown; second and fourth, Mr. C. Philipps; fifth, Mr. J. J. Keen. For a heavy scarlet edge, first, Mr. A. W. Jones; second, Messrs. Thomson & Co.; third and fifth, Mr. J. Douglas; fourth, Mr. J. J. Keen. For a light scarlet edge, first, Mr. A. W. Jones; second, Mr. C. Turner; third, Mr. A. R. Brown; fourth, Mr. J. Douglas; fifth, Mr. J. J. Keen. Mr. A. W. Jones had the best yellow ground Picotee in Mrs. R. Sydenham; second and fourth, Mr. J. Douglas; fifth, Mr. C. Turner.

The latter took the first award for twenty-four self and fancy Carnations, showing fine blooms of Janira, King of Scarlets, Gladys, Mrs. Laing, and others. Mr. J. Douglas was second in this class with many grand blooms. Mr. Chas. Blick took the third place with very large blooms in considerable variety. Mr. F. Hooper was fourth. Messrs. Thomson & Co. had the best twelve blooms dissimilar in richly-coloured flowers. Mr. A. R. Brown was second; Mr. C. Philipps took the third place; Mr. G. Chaundy was fourth; Mr. J. Walker was fifth; and Mr. M. Rowan was sixth. Mr. A. W. Jones had the best six selfs and fancies; Mr. J. F. Kerr, Southend, was second; Mr. A. Jordan was third; Mr. T. E. Henwood was fourth; Mr. John Rebbick was fifth; and Mr. A. Spurling was sixth. Mr. J. Douglas took the first award for twelve specimens in pots. Mr. C. Turner was second. Some prizes were offered by Martin Smith, Esq., and the first award for twelve trusses of self Carnations was awarded to Mr. G. H. Sage, Ham House, Richmond. Mr. E. C. Goble, Walcot Nursery, was second; Mr. J. Douglas was third; and two other prizes were awarded. Mr. J. Douglas took the first award for six varieties of self and border Carnations; Mr. J. Walker was second; and Messrs. Thomson & Co were second; several other awards were made in this class. Mr. J. Douglas had the best nine varieties of Carnations in bunches. Mr. F. Hooper was second; and Mr. W. H. Divers, Ketton Hall, Stamford, was third; Mr. J. Walker was fourth.

WHAT TO DO IN THE GARDEN.

Achimenes.—Now that these are growing rapidly or approaching the flowering stage, they will require an abundant supply of water with weak liquid manure occasionally and which will improve the vigour of the plants and the size of the flowers. Guard against too moist an atmosphere, especially when the plants come into bloom, and quickly remove any flowers or leaves which may have damped off, otherwise they will soon spoil others.

Ixoras.—Look well after these plants as they come into bloom, noting the trusses of bloom while in bud to see that they do not become infested with mealy bug, which is more difficult to deal with after the plants come into bloom. Give frequent supplies of weak liquid manure, and flowers for cutting purposes or otherwise may be expected for a long time to come.

Eranthemum nervosum.—Stop the leading and more rampant shoots of this plant in order to secure bushy plants. This applies both to old and young plants which should receive all due attention during the summer months in order to secure good growth before the cloudy days of autumn set in. Keep them well exposed to light.

Heaths and Epacris.—Winter-flowering kinds may be given a shift if they are root-bound and it will enable them to flower all the better. A small shift is all that is necessary, and the fresh soil should be made firm with a blunt-pointed label. They like good, fibrous peat broken up by hand with some silver sand.

Annuals in pots for the conservatory.—Such things as Browallias, Mignonette, Scabious, Rhodanthe, and other annuals intended for the conservatory later on, should be stood on a bed of ashes out of doors in a position where they can be kept moderately cool, but not shaded by walls or trees. They will make shorter-jointed growths under these conditions than under glass. A cold frame facing the north would suit them admirably.

Auriculas.—If not hitherto effected, the plants should now be repotted and replaced in the frame facing north if possible. While repotting them it would be of great importance to see that the greenfly is thoroughly cleared out of the crowns by means of a camel hair brush, as the pest has been unusually mischievous to many soft-wooded subjects ever since spring, favoured no doubt by the dry weather. Seedlings sown about this time last year should also be repotted.

Dahlias.—The plants cannot be expected to make rapid progress while the dry weather continues, but occasional heavy waterings with liquid manure as well would enable them to make substantial progress with short-jointed wood, so that when August comes a good display of bloom is likely to be the result. Guard against the increase of earwigs, which the dry weather is likely to favour.

Hollyhocks.—Continue to put in eyes from short side shoots until the requisite number is secured. A small piece of stem one to two inches long, with a bud to it is all that is necessary. The blade of the leaf should be cut off, and the eyes dibbled firmly into boxes of sandy soil, and the boxes stood in a shady position even under a tree and kept moist till they begin to grow. No frames or handlights are necessary, for plants raised in this manner are of stronger constitution than those put in heat or even kept close.

Pansies.—Plants for early spring flowering, but especially for pot culture, may be taken and put into boxes to root. A shady and cool position behind a north aspect wall is the best place for them at present. All they want is shade from brilliant sunshine, and moisture. They will soon commence to take root.

Pinks.—Those who have not yet commenced to put in the cuttings or pips for next year's plants should lose no time in doing so. The largest flowers are always obtained from young plants, so that this preparation is of importance to exhibitors. A large number of smaller flowers can be obtained from two pear old plants either for ordinary garden decoration or for cut flower purposes.

QUESTIONS AND ANSWERS.

NAMES OF PLANTS.—*R. M.*: 14, Eucalyptus globulus; 15, Croton variegatum; 16, Hoffmannia Ghiesbreghtii; 17, A garden Dracæna we do not recognise; 18, Croton picturatum; 19, Revina lævis; 20, Capsicum Little Gem; 21, Hibiscus Rosa-sinensis; 22, send this when in flower; 23, Statice profusa; 24, Clematis Jackmanni; 25, Delphinium formosum double garden var.

NAME OF PEAR.—*E. H. Adcock*: The fruit was much damaged in the post, but appears to be Citron des Carmes. *Janin.*—Apple: Early Harvest. *** Owing to the drought and the early season, fruits are not quite in full character, and consequently will be the more difficult to recognise. The Editor will therefore be much obliged if readers sending fruits to be named will be careful to send as characteristic specimens as possible, and in boxes that will not get smashed in the post.

FEEDING CHRYSANTHEMUMS.—*Croton*: The Chrysanthemum is not very fastidious in the matter of stimulants, but all natural manures should be given in a clear liquid form, but however or whatever may be applied to them, weak and often should be the golden rule, and do not overlook the fact that a frequent change of diet is most beneficial. If you can get clear urine from the stables or cow byres use that well diluted with water; or, failing this, put a shovelful or two of cow manure with a few handfuls of soot into a closely woven bag and sink it in your tank for twenty-four hours. To make a change use horse, sheep, or deer droppings in the same way. If you can get any of Clay's, Thomson's, Beeson's, or Standen's Manure, Ichthemic Guano, or any other good fertiliser of a similar character, sprinkle a little on the soil from time to time and water it in with clear water.

ROOKWOOD LILY.—*Ebor*: It is a magnificent New Zealand Buttercup, with porcelain white flowers, and is known under the botanical name of Ranunculus Lyalii. Your townsmen, Messrs. Backhouse, & Son, may have it.

DUPLEX CUCUMBER.—*W. R. B.*: Twin Cucumbers, such as the specimen sent, are by no means rarieties. We must have seen dozens of them in our time.

BOOKS.—*J. S. C.*: Mr. Warrington's, "The Chemistry of the Farm," published by Bradbury, Agnew & Co., will suit you the best.

NOTICE TO QUIT.—*G. Smith*: If you have no agreement to the contrary, but are simply a yearly tenant, paying your rent quarterly, you are entitled to six months notice to quit on the corresponding quarter-day to that on which you took possession. The question of the fixtures is not quite so simple, and you would do well to consult a respectable local solicitor.

VINES.—*Foreman*: Certainly not the leaf form of the Phylloxera, nor anything like it. The warty excrescences are simply the result of imperfect ventilation. Give more air and earlier in the day, and they will do little harm.

ALEXANDER PEACH.—*Pomona*: It was sent out originally in this country, so far as we know, by Messrs. Rivers & Son, of Sawbridgeworth, who received it from America. We have never seen it called Alexandra.

COMMUNICATIONS RECEIVED.—L. Ainti.—L. L.—W. & S.—P. W.—M. & S.—A. J. B.—W. C.—T. R.—T. A. D.—Omega.—S. C.—W. C.

TRADE CATALOGUES RECEIVED.

JOHN LAING & SONS, Forest Hill, S.E.—General Plant Catalogue.

W. B. HARTLAND, Patrick Street, Cork.—Irish grown Daffodils.

LONDON SEED TRADE.

July 11th, 1893.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a slow trade for Mustard, Rape, and Trifolium incarnatum. This latter article is now offering from France on easier terms. New English Italian Rye-grass is of good quality.

COVENT GARDEN MARKET.

July 12th, 1893.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d	s. d.
Tasmanian Apples per case	5 0	10 0
Cherries ½ sieve	5 0	12 0
Grapes, per lb.	1 0	2 6
Peaches ... per dozen	3 0	8 0
Red Currants, ½ sieve	1 3	2 0
Melons ... each	1 6	2 6
Strawberries, per lb.	0 0	0 0
Pine apples. —St. Michael's, each	2 6	6 0
Black Currants, ½ sve	4 0	4 6

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.
Asparagus per bundle	1 6	5 0
Artichokes Globe doz.	3 0	6 0
Beans, French, per lb.	1 6	2 0
Beet ..... per dozen	2 0	3 0
Cabbages ... per doz.	3 0	4 0
Carrots ... per bunch	0 6	
Cauliflowers, Eng. dz.	3 0	5 0
Celery ..... per bundle	2 6	
Cucumbers ..... each	0 4	0 8
Endive, French, doz.	2 6	3 0
Herbs ..... per bunch	0 2	0 6
Horse Radish, bundle	2 0	4 0
Lettuces ... per dozen	2 0	3 0
Mushrooms, p. basket	1 3	2 0
Onions ..... per bunch	0 4	0 6
Parsley ... per bunch	0 6	
Radishes ... per dozen	1 6	
Seakale ..... per bkt	0 0	0 0
Small salading, punnet	0 4	
Spinach ... per strike	4 0	
Tomatos ..... per lb.	0 9	1 0
Turnips ..... per bun.	0 6	

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d
Arum Lilies, 12 blms.	2 0	4 0
Bouvardias, per bun.	0 6	1 0
Carnations ... per doz.	1 0	3 0
doz. bunches	4 0	8 0
Cornflowers, dz. bun.	1 6	3 0
Eucharis ... per doz.	3 0	6 0
Gardenias 12 blooms	2 0	4 0
Gladiolus White, dzbn	12 0	18 0
Heliotropes, 12 sprays	0 4	0 6
Lavender ... doz. bun.	4 0	6 0
Lilium Harrisii, doz. blooms	2 6	5 0
Lilium Lancefolium doz. blooms	2 0	3 0
Maidenhair Fern, 12 bs.	4 0	6 0
Marguerites, 12 bun.	2 0	4 0
Orchid Bloom in var. per bloom, from	0 3	1 0
Mignonette ... 12 bun.	2 0	4 0
Pelargoniums, 12 sps.	0 6	0 9
— scarlet ..... 12 bchs.	3 0	6 0
Pinks, doz. bunches ...	2 0	6 0
Pyrethrum doz. bun.	1 6	4 0
Primula, double, bun.	0 6	1 0
Red Roses, doz. bhs.	3 0	8 0
Roses, yellow, dozen	2 0	4 0
— Red ..... doz. blms.	1 0	1 6
— Saffrano ... per doz.	1 6	2 0
— Tea ..... per dozen	0 6	2 0
Stephanotis, dz. sprays	2 0	3 0
Sweet Peas, doz. bhs.	3 0	6 0
Sweet Sutton, dz. bhs.	2 0	4 0
Tuberoses, per doz	0 4	0 9

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Cissus discolor ... each	1 6	2 6
Cyperus ..... per doz.	4 0	12 0
Dracæna term., doz.	18 0	36 0
Dracæna viridis, doz.	9 0	18 0
Erica, various, doz.	12 0	24 0
Evergreens, invar. doz	6 0	24 0
Ferns, invar., per doz.	4 0	18 0
Ferns, small, per 100	4 0	8 0
Foliage Plants, doz.	12 0	60 0
Fuchsia ..... per doz.	6 0	12 0
Hydrangea, per doz.	9 0	18 0
Ivy Geraniums ... doz.	4 0	6 0
Liliums, various, per doz.	12 0	24 0
Lobelia ..... per doz.	3 0	6 0
Marguerites, per doz.	6 0	12 0
Nasturtiums, per doz.	3 0	4 0
Mignonette, per doz.	4 0	8 0
Palms in variety, each	2 6	10 0
Palms, Specimen ...	15 0	63 0
Pelargoniums ... doz.	6 0	12 0
— scarlet ..... per doz.	4 0	9 0
Saxafrage ... per doz.	12 0	18 0

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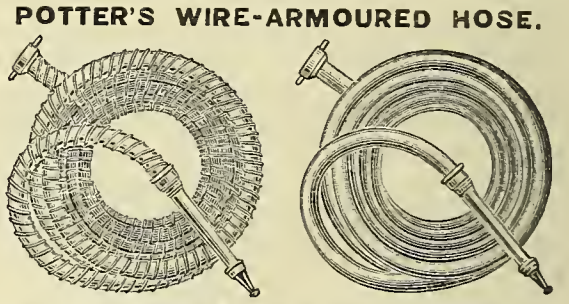
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"I fully agree with Mr. Dean in his estimate of these Strawberries. They travel well, and are in colour, shape and flavour excellent. They are worthy of a trial in large and small gardens."—*John Andrews, Hon. Sec. to the Woodbridge Horticultural Society in Journal of Horticulture.*

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For Index to Contents see page 746.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, July 25th.—Royal Horticultural Society, meeting of Committees at the Drill Hall.
Tibshelf Rose Show.

WEDNESDAY, July 26th.—Carnation Show at Earl's Court (2 days).
Liverpool Horticultural Association, Annual Show (2 days).
Acton Flower Show.

THURSDAY, July 27th.—Sleaford Flower Show.
Southwell Rose Show.
Salterhebble and District Rose Show.
Waltham Abbey Flower Show.
St. Ives' Flower Show.

FRIDAY, July 28th.—Orchid Sale at Protheroe & Morris' Rooms.

SATURDAY, July 29th.—Bedale Rose Show.
Wakefield Cottagers' Window Garden Competition.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, JULY 22nd, 1893.

THE FRUIT CROPS OF 1893.—We shall venture to forecast the result of the returns that doubtless will presently be published, collected from all parts of the kingdom, with respect to the fruit products of the year, because enough has been learned already to admit of a fair judgment being formed. Taking the hardy fruits in their order of ripening, we found Strawberries to have been early beyond precedent, but all the same a comparatively brief crop because of the exceeding heat and drought which prevailed. All the same on fairly holding soils there have been good crops and good returns, indeed the result of the season rather has been to make the Strawberry even more popular as a market crop.

Bush fruits on the whole have been fairly abundant, and if less fine than usual they have at least been very sound and well ripened. The Black Currant has on the whole given the shortest crop, but Red Currants and Gooseberries have done fairly well in spite of the abundance of red spider. Cherries have been generally a grand crop, though the fruits were not quite so large as usual; but the weather being so dry, they did not suffer depreciation through cracking and consequent decay. The Morello, especially on standards, has given a wonderful crop. Raspberries have been but a moderate crop, as the plants seem to have suffered more from the drought than almost any other fruit, and the young canes are still comparatively weak. Such a season should help to make the autumn

fruiting varieties all the more popular, as they should fruit early this season.

Plums have been moderately good, but in many districts the aphides have done the trees great harm, and drought at the roots especially has caused the fruit to fall. We shall find probably that some districts will show heavy crops, others very light ones. Both Apples and Pears, especially on tall trees, will be heavy crops, and the recent rains will do enormous good. In some districts these fruits are wonderfully plentiful. Walnuts and small nuts are heavy crops, and stone fruits on walls are generally very abundant.

THE RAIN.—Happily for our gardens the rain, so long looked for and so sadly needed, did not wait for the traditional wet Saint's festival, that of St. Swithin, ere it came to refresh the parched soil. Oddly enough, in the Southern area, St. Swithin's Day was comparatively fine and dry, but there may have been some little mistake as to the date, for a truly grand rain fell the following day, and did an incalculable amount of good. Of course it will require a large rainfall ere the ground is thoroughly saturated, indeed, that desideratum may hardly be looked for until the winter comes. Just now, perhaps, heavy and persistent rains would be as great an evil as the previous drought has been.

Already in the South we are in the midst of harvest. The corn is not only ripe for the sickle, but is being everywhere cut and stacked. With so moderate a corn crop, and straw especially so thin and short, it would not help the agriculturist to find that what he had of grain and straw had been spoilt by rain. Then we may fear, as well, that continuous rain may promote the Potato disease, and the tubers on the late breadths, because of the previous drought, are none too large now. On the other hand, good showers may promote the growth of autumn grass and thus largely recoup the loss incidental to short feed and summer hay. Also the ordinary root crop may be thus wonderfully helped.

The Rosarian is regarding the showers with equanimity as he perceives his plants are putting forth strong growths and will doubtless in the autumn carry very fine flowers. What a chance is thus offered for an autumn Rose Show, only no one seems to think it worth while to promote one! Fruit trees are benefiting from the rains immensely, indeed, the crops on trees are swelling at a great rate, and whatever may be the general product, at least, Apples and Pears should be most plentiful later.

WINTER GREENS.—Assuming, we trust rightly, that the recent rains were general, and that all parts of the country have shared in them, we can at least congratulate gardeners of every description on the splendid assistance thus given to garden crops, and especially to newly planted Winter Greens. The importance of these for winter use cannot be too highly estimated, as without the help of the Brassica family our gardens in winter and our dinner tables would be bare indeed. Where plants had not been got out prior to the rain, we can well imagine that no time since has been lost in planting, and that now there is a wealth of all kinds put out for the purpose of giving the needful winter supply.

What wonderfully good things we now have in all the varied sections into which Brassicas are divided! The term "Winter Greens" may seem to comprise only Kales, but we use it in its widest or most homogeneous sense. There is, to begin with, the Giant Cauliflower, that seem to have in it a spice of the hardier Broccoli. This gives heads, under ordinary conditions, from the beginning of September till Christmas if sown for successional cutting, and includes such fine varieties as Magnum Bonum, Veitch's Giant, and Self-Protecting. Then the Brussels Sprouts, if they have been got out early, give of their delicious stem heads from the middle of October until the end of March at least, and some sweet Asparagus-like Sprouts well into April. It is indeed a first-class vegetable that is thus so serviceable all through the long, hard winter.

White Broccolis are more or less useful as they are hardy, but they, too, where they do well, present us, in return for trouble taken, a liberal supply of heads ranging over several months, and the hardy Purple Sprouting is not less useful, whilst to the market grower it is invaluable. Savoy Cabbages of the smaller sorts are really delicious, and give a long season, whilst the Curled Kales in their great variety help also to furnish very tender and acceptable leafage, while Cabbages run over a long season, and the Coleworts are tender and delicious eating. The list is a long one, and it is full of valuable winter produce.

CATCH CROPS.—Although there is in this term some idea as to making the most of a chance given by a short season, the term may hardly be so expressed, especially this year. Really we have such a very early season, it seems difficult to realise that, now the rain has fallen so refreshingly, we are still only a couple or three weeks or so beyond midsummer, and that there is yet a growing time of fully three and-a-half months, during which wonders, literally, may be accomplished to recoup gardeners for their early summer losses.

We have noted that the Agricultural Department of the Government has recently issued advice to farmers as to what they should do in regard to catch crops in the present emergency. Does it not occur to the Department that thus to waste money and paper in telling the farmers of the country what are the most elementary facts in Agriculture, is as absurd as it is insulting to the farmers who are thus instructed? We hear sometimes clamour, and exceedingly foolish clamour too, as to the absence of any Government Department of Horticulture. We should like to see any Government Department issuing such schoolboy instructions to gardeners as to what they should do, now that rain has fallen, to replace spent crops or so far as possible utilise the remainder of the season to secure other late crops. The doing so would create a roar of ridicule.

Happily, gardeners know what to do; they are not waiting to be told. Even the modest cottager seems to know so much, for on every hand we see the sowing of various hardy crops proceeding, the putting out of plants, and much useful and important work being done without the need of outside pressure. Farming must indeed have got into second childishness when its professors look to a Government for help and advice in such case. The rains have already worked wonders, grass and roots are growing apace, so also will all kinds of catch crops that soon will make the autumn green and luxuriant.

Gardening and Forestry Exhibition.—At the suggestion of the Directors, a committee of ladies organised a Rose Sale at the Earl's Court Exhibition on Saturday evening last in aid of the Victoria Fund. A number of stalls were arranged in the centre of the building around the band of the Hon Artillery Company, and after eight o'clock a scene of busy excitement ensued. Although the idea was hastily developed, upwards of £40 was realised. Among those who rendered valuable assistance were the Misses. Milner, Mrs. and the Misses Dodson, and Mrs. Harry Turner.

Death of Miss D'Ombrain.—The many Floricultural friends of the Rev. H. H. D'Ombrain will regret to hear of the death, at Westwell Vicarage, Ashford, on the 14th inst., of his eldest daughter, Jane Margaret Stevenson, aged 44 years.

English Gardeners for India.—The Government of India have under consideration (says the *Bombay Gazette*) a scheme by which European gardeners for gardens in the various provinces will be regularly supplied from Kew, and will be retained on conditions more satisfactory that at present.

A Dundee Picnic.—The employés of Messrs. W. P. Laird & Sinclair, of Dundee, had their annual picnic on the 5th inst., Auchmithie being the place selected for the outing The party drove to the rendezvous by way of Arbroath, and the day was spent in a very enjoyable manner.

Mr. Inglis, cashier to Messrs. W. P. Laird & Sinclair, of Dundee, was presented on the 10th inst. by his fellow employés of the firm with a beautiful silver dessert stand on the occasion of his marriage. The presentation was made at the Crown Hotel by Mr. D. D. Smith, and Mr. Inglis suitably acknowledged the compliment paid to him.

The New Allotments Garden Association, Paisley, held their flower show on Saturday last under very favourable circumstances as regards weather. We hope by another year they will be able to have all their exhibits under cover, as unsuitable weather would completely spoil the show if held in the open. Perhaps the most interesting exhibit at this show was the extensive display of herbaceous cut flowers from Mr. M. Cuthbertson, florist, Rothesay, consisting of 125 tubes of beautiful specimens from his fine collection, for which he was unanimously awarded a handsome Silver Medal and the thanks of the association.

Royal Horticultural Society of Aberdeen.—The arrangements for this society's annual floral fête, which is to take place in the Central Park, Aberdeen, on the 17th, 18th, and 19th of August, are well advanced. Judges have been appointed, and the subjects of tabling and staging considered. The services of the splendid band of the 42nd Royal Highlanders (the famous Black Watch) has been secured. In addition, the band of boy pipers from Liberton School, Edinburgh, has been engaged. The directors are at present considering the question of providing additional entertainment for the public. Altogether the gala promises to be a most successful one. Competitors are reminded that entries close on the 14th August at twelve noon. The schedule of prizes contains the following special intimation, which gave so much satisfaction last year:—"In the event of the fête being a financial success, 50 per cent. will be added to the prize money offered in this schedule."

The Chrysanthemum in Victoria.—A writer in the *Melbourne Leader* of June 3rd, discussing the subject of Chrysanthemum culture and Chrysanthemum shows in the distant colony of Victoria, remarks that the rage for the flower continues to increase, and that there is not now in the Colony a horticultural society, however small or recently formed, which does not hold a Chrysanthemum show in the season. Says the writer:—"That our climate suits them and our gardeners understand their culture we have the evidence of Mr. James H. Veitch, of the great nursery firm of that name in London, that we are able to grow equally well, if not better than English growers, for he states that the flowers shown by Messrs. Brunning & Sons in the Horticultural Hall a fortnight ago exceeded any he had seen in England. Regarding the plants in pots he says they grow them larger in England, though he does not say they are grown better, and size of plant is merely a question of size of pot."

Wood Green Horticultural Society.—The eighth annual exhibition of the Wood Green and District Horticultural Society was held on Saturday last, in the grounds attached to the Town Hall, Earlham Grove, Wood Green. The exhibits generally, were of an excellent character. The prizes were presented by the Rose Queen, who was elected by the visitors by ballot, and was selected from the following candi-

dates:—The Lady of the Carnation, the Lady of the Cornflower, the Lady of the Daisy, the Lady of the Heartsease, the Lady of the Lily, the Lady of the Marguerite, and the Lady of the Poppy. The Queen was then installed in her bower, and with becoming grace and dignity performed the ceremony of distributing the prizes. A variety of sports followed for the children, and there was a gymnastic display by the members of the Wood Green Club.

The Tomato a Vegetable or a Fruit?—The question is frequently asked, "What is the Tomato, a vegetable or a fruit?" and the answer is as frequently, "Either one or the other, according to circumstances," but the United Sates Supreme Court has decided, after lengthy consideration, that for the purposes of import duty the Tomato is a vegetable, and not a fruit. The question came before the Court in an action, brought February 4th, 1887, against the collector of the Port of New York, to recover back duties, paid under protest, on Tomatos imported by Nix Bros. from the West Indies in the spring of 1886, which the collector assessed under "Schedule G, provisions," of the Tariff Act of March 3rd, 1883, chap. 121, imposing a duty on "vegetables, in their natural state, or in salt or brine, not specially enumerated or provided for in this Act, 10 per cent. *ad valorem*," and which the plantiffs contended came within the clause in the free list of the same act, "fruits, green, ripe, or dried, not specially enumerated or provided for in this Act." On May 10th, 1893, Mr. Justice Gray delivered the opinion of the Court, in which it was stated "there being no evidence that the words 'fruit' and 'vegetables' have acquired any special meaning in trade or commerce, they must receive their ordinary meaning. Botanically speaking, Tomatos are the fruit of the vine, just as are Cucumbers, Squashes, Beans, and Peas. But in the common language of the people, whether sellers or consumers of provisions, all these are vegetables, which are grown in kitchen gardens, and which, whether eaten cooked or raw, are, like Potatos, Carrots, parsnips, Turnips, Beets, Cauliflower, Cabbage, Celery, and Lettuce, usually served at dinner in, with, or after the soup, fish, or meats, which constitute the principal part of the repast, and not, like fruits generally, as dessert. The attempt to class Tomatos as fruit is not unlike a recent attempt to class Beans as seeds, of which Mr. Justice Bradley, speaking for this court, said: "We do not see why they should be classified as seeds, any more than Walnuts should be so classified. Both are seeds in the language of Botany or natural history, but not in commerce nor in common parlance. On the other hand, in speaking generally of provisions, Beans may well be included under the term 'vegetables.' As an article of food on our tables, whether baked or boiled, or forming the basis of soup, they are used as a vegetable, as well when ripe as when green. This is the principal use to which they are put. Beyond the common knowledge which we have on this subject, very little evidence is necessary, or can be produced."

National Chrysanthemum Society.—The members of this society, with their friends, had their annual outing on Monday, the 17th inst., when the weather proved fine and bracing. The company travelled by two trains from Paddington to High Wycombe, Bucks, the destination being Wycombe Abbey, the noble residence of Lord Carrington, in whose beautiful grounds a cricket match was played between the Aylesbury team and that of the National Chrysanthemum Society. The early train was meant to accommodate those who intended to play cricket, but by far the greater number travelled by it. About 145 sat down to dinner in the spacious Abbey Hall, but the number was subsequently augmented, beating the record of all previous outings of the society. The chairman, Mr. R. Ballantine, in an after-dinner speech, proposed "The health of Lord Carrington," thanking him for the use of his fine grounds, and this was replied to by Mr. G. T. Miles, the able gardener, who a few years ago was one of our best growers of exhibition fruit and vegetables. The cricket match was resumed after dinner, some inspected the chairmaking factories of Messrs. Beech & Sons, and a large party drove to Hughenden Manor, the seat of the late Lord Beaconsfield, returning to tea in the Abbey Hall at six. Most of the party returned by the 8 p.m. train for London, just as it commenced to rain, after having spent a most enjoyable day.

GLOXINIAS AND STREPTOCARPUS.

THE early batches of old plants of Gloxinias are now out of bloom in the nursery of Messrs. J. Veitch & Sons, Chelsea, but their place is taken by seedlings now flowering. They are only in small 60-size pots, but the flowers are well in character, and in many cases even of large size. Most of the very select varieties are named; and although the bulk of them have erect flowers, a few of the nodding and tubular sorts have been selected, owing to the beauty of their colour. A fine crimson-scarlet variety is Hector; and Cicely has crimson-purple segments, with a broad white margin. The segments of Zalima are rosy-scarlet, with a broad white edge. By way of contrast to this type, we have another in which the segments are white, with a broad, deep mauve border, like a heavy edged Picotee. This has been named Cygnet, and was the most novel variety we noted as well as the most attractive. Spotted, as well as self and banded flowers, are well represented. Ismenes is densely and beautifully dotted with rose on a white ground. On the contrary, Cordelia is marked in the same way with violet-purple. A tubular drooping flower is Miss H. de Rothschild, resembling a magnified Streptocarpus. The lamina is of a delicate blue or lavender, and the lower side of the tube internally is of a uniform blackish violet-purple. When placed in a position on a level with the eye, so that its beauty could be seen, the value of this old type would be better realised.

There is a large batch of seedlings of Streptocarpus in cold frames which, however, at the time of our visit might well have been considered equal to artificially heated ones, owing to the intense heat of the sun. Cooler weather has supervened since then and the Streptocarpus will like it all the better. The seeds of this batch were sown in December and planted out in March. By forcing on the plants the great heat has reduced the flowers in size, but we expect to see a great improvement on this state of matters presently. Many pleasing shades of lilac-purple, sky-blue, and white might be noted, all having rich violet-purple bands in the throat. In marked contrast to the others was an unusually large-flowered form, which must become even more marked when the plant attains its full vigour. It was white with three branching violet-purple bands in the throat. Another set of seedlings was planted in frames in June, and each would have a large leaf with two smaller ones. They will commence flowering in a week or two. Some that were flowering at the Temple Show are still in bloom. With batches of old and young plants it is now possible to keep up a succession of bloom for nine months of the year.

PLANTS RECENTLY CERTIFICATED.

THE undermentioned plants were certificated by the Royal Horticultural Society at the meeting held at Chiswick on the 11th inst.:—

LILIUM ALEXANDRÆ.—This new Lily is evidently a hybrid between L. longifolium and L. auratum, taking more after the former than the latter parent, but intermediate in many respects. The stems are 12 in. to 20 in. high, and furnished with lanceolate, shortly stalked leaves that are certainly closely akin to those of L. auratum. Those of L. longifolium are sessile and clasp the stem. Then the tube of the flower is shorter and the lamina widely funnel-shaped, showing the pale green tint in the throat, otherwise the flower is pure white externally and internally, and delightfully fragrant. In this spreading character of the flower we see evidence of L. auratum, and the long orange maroon anthers are those of the latter parent. Thus we see L. auratum in the leaves, wide perianth and anthers; the latter are yellow in L. longifolium. It was exhibited under this name by Messrs. Wallace & Co., Colchester, and by Messrs. J. Veitch & Sons, Chelsea, under the Japanese name of L. Ukeyuri. Their flowers were more expanded than in the other case, thus taking more after L. auratum. We uuderstand that the names are provisional, and that Mr. J. G. Baker, F.R.S., of Kew, is to decide the case. A First-class Certificate was awarded in both cases.

LILIUM LOWII.—The stems of this Lily are 3 ft. to 4 ft. high, bearing scattered leaves along most of their length. The leaves are linear, deep green, and 2 in. to 2½ in. in length. The bell-shaped flowers are revolute at the apex and white, dotted with purple along the centre on each side of a pale green midrib. On the whole it is a distinct and very pretty Lily, of the Himalayan type or somewhere near that region. First-class Certificate. Exhibited by Messrs. Hugh Low & Co., Clapton.

FERRARIA ANTHEROSA.—In this we have a singular looking plant belonging to the Irideæ or Iris family. The leaves are equitant, ensiform, and moderate in length, while the flower stem is 18 in. to 20 in. high, and branched towards the top, bearing large flowers with six segments that are singularly wavy at the edge and brown with a pale yellow base and edge, and more or less blotched with violet. The lacerated stigma is brown and yellow. Botanical Certificate. Exhibited by Messrs. J. Veitch & Sons. Botanists accept the name of F. Ferrariola for this plant.

NICOTIANA COLOSSEA VARIEGATA.—This Tobacco plant is now getting pretty well known for the huge size the leaves attain, especially when the plant is put in the ground either under glass or out-of-doors. We have no experience of the variegated form under notice, but should imagine that it is more suitable for pot culture than the green one, that is, would show itself to best advantage under those conditions. The edges of the leaves are irregularly splashed with creamy-yellow, with gray splashes occasionally running inwards, while the central portion is paler than usual. Award of Merit. Exhibited by M. J. Sallier fils, Neuilly, near Paris.

DRACÆNA INDIVISA AUREA VARIEGATA. — The leaves of this plant are lanceolate, arching and variegated by stripes or bauds of various shades of yellow along the centre. When once it has begun to vary in this way we may expect improvements upon the original. Award of Merit. Exhibited by Messrs. J. Laing & Sons, Forest Hill.

CALADIUM BARONNE DE MAIMORE.—The leaves of this variety are as yet moderate in size, sagittate, and slightly united at the base in the sinus. The centre is red, with the midrib and principal branches radiating from it of a bright crimson. On each side of the red the ground colour is splashed and variegated with white, and the edge is green. Award of Merit. Exhibited by Messrs. J. Laing & Sons.

ALSTRŒMERIA AURANTIACA.—An Award of Merit was accorded this fine old herbaceous plant when shown by G. E. Cammell, Esq., Brookfield, Hathersaye, Sheffield. The plant varies from 2 ft. to 3 ft. in height, bearing orange-yellow flowers at the top, and they are further ornamented by crimson spots and stripes on the two upper segments.

The new border and other Carnations recorded below were awarded First-class Certificates by the National Carnation and Picotee Society, at their show held in the gardens of the Royal Horticultural Society, Chiswick, on the 11th inst.

ROSA BONHEUR.—This is heavily flaked with scarlet on a white ground, and belongs to the section known as flakes. If, as we understand, it was an English-raised variety, why the French appellation?

SIRIUS.—In this we have a yellow ground fancy variety, spotted and mottled with scarlet, on a pale yellow ground, and very pretty.

AUDREY CAMPBELL.—The flowers of this variety are similar to those of Germania, but a paler shade of yellow, somewhat less refined, and the petals are slightly toothed at the edges. The petals are also more numerous.

SIR GAWAIN.—Like the last, this also is a self of a pale buff-yellow, that is, the buff shade is not strongly pronounced. The flowers are of good size, and do not split, while the petals are somewhat incurved at the edges.

TOM SAYERS.—This is a terra-cotta, fancy variety, with a few crimson spots on the edges of the petals.

BENDIGO.—The flowers in this case are large, with a moderate number of broad, almost entire petals of an intense purple. It is a good self and does not split the calyx.

GEORGE CRUICKSHANK.—This is a fancy yellow ground with rich scarlet flakes uniting with one another and extending from the edge inward.

WATERWICH.—The self-coloured flowers of this variety are large, with broad, nearly entire petals of a flesh colour, ultimately shading to a creamy-white at the edges of the outer petals.

MEPHISTA.—Here again we have a self-coloured variety, with maroon-crimson, broad, and nearly entire petals, slightly incurved at the edges, and not crowded.

THE DEY.—This is a fancy with a soft yellow or primrose ground, slightly flaked, blotched, and edged with rose-purple.

ELLEN TERRY.—The flowers of this sort are pure white, of huge size, with enormous petals that are nearly entire. The calyx does not seem to split, and the flowers for border work may be regarded as handsome.

CARDINAL WOLSEY.—This also is a fancy, with a soft yellow ground, and heavily striped with crimson-scarlet.

DUKE OF ORLEANS.—The flowers in this case are large, self-coloured, and clear yellow. The outer petals are reflexed, and the inner ones incurved at the edges, and slightly toothed there.

HAYES SCARLET.—In this case the flowers are flat, and circular, with nearly entire petals of a brilliant red or scarlet, and the calyx does not split.

THE PATRIOT.—This would be termed a crimson bizarre by the florist, as the flowers are flaked with crimson-purple and rose on a white ground. All of the fifteen above described were grown in the open border and exhibited by Martin R. Smith, Esq (gardener, Mr. Chas. Blick), Hayes Common, Beckenham.

MRS. ANSTISS.—This may be described as a pale terra-cotta or Apricot self of beautiful form, with very finely toothed petals, slightly incurved at the very edge. It was exhibited by Mr. Thomas Anstiss, Brill, and again at Earl's Court on the 12th inst., it received a First-class Certificate on both occasions.

AGRICOLA.—The flowers of this variety have broad purple flakes on a white ground, and would be described by the florist as a purple flake. It was shown by Mr. J. Douglas, gardener to Mrs. Whitbourn, Great Gearies, Ilford.

PELARGONIUM DUCHESS OF YORK.—This belongs to the tricolor section, and when shown in good condition has a fine appearance. The centre of the leaf is green more or less splashed with creamy-yellow; this is surrounded by a zone of varying tones of red, according to age, and more or less tinted with bronze; the outer edge of all is creamy-yellow. It was exhibited by Mr. I. Prewett, Swiss Nursery, Hammersmith, at the Earl's Court show on the 12th inst., and received a First-class Certificate.

DESTRUCTIVE HAIL-STORM IN YORKSHIRE.

A BRADFORD correspondent kindly sends us a cutting from the *Bradford Observer*, which gives particulars of the destructive rain and hailstorms which visited that part of the country on the Sunday and Monday of last week. The thunderstorm on the Monday in Bradford and other parts of Yorkshire was of an exceedingly destructive character, and the hail in many places was responsible for a great amount of damage. The destruction during the storm experienced at Harrogate on the 8th inst. was of an extraordinary character, glass and vegetation being damaged to an enormous extent. Says a correspondent writing on the 10th inst.:—Favoured by natural facilities and the description of visitors by whom the town is frequented, the industry of gardening has attained considerable dimensions in the vicinity of Harrogate, and the damage to greenhouses, plants, flowers, and fruit has been very extensive. Mr. E. J. Batchelor, of Harlow Heath Nurseries, is probably the severest sufferer in this line. He roughly estimates his loss at £1,600. The nurseries are situated at the summit of Harlow Heath, whence a panoramic view of Harrogate is obtained, with line after line of tree-dotted hills rolling away in the distance, sometimes gleaming a faint green in the sunlight, and sometimes dyed a deep indigo by the shadow of a passing cloud. On this eminence the storm appears to have expended its utmost fury. Altogether Mr. Batchelor has fourteen glasshouses, and of these very little remains but the bare skeleton of the wooden framework. Twenty-five thousand feet of glass have been smashed to pieces, and it would be difficult to find a score panes intact anywhere about the place. Only by walking through the glass-houses successively can any adequate idea of the fury of the storm and the devastation which it wrought be obtained. The floors and the shelves are as thickly strewn with broken glass as a gravel walk is with gravel. The flowers have been dashed to pieces, the plants broken and snapped, the fruit bruised by hailstones and slashed by falling glass. A lot of valuable Orchids have been knocked to pieces. A house 90 ft. long by 20 ft. wide is crowded with 2,500 Tomato plants full of green fruit, nearly the whole of which is expected to rot through having been cut and bruised. Out of another Tomato house about 1,000 lb. of fruit had already been cut, but about the same quantity remained, and has been spoiled. In another two thousand Gardenias have been seriously damaged, but a second lot of Gardenias fared rather better, the roof being overrun with Stephanotis, which partially screened the plants below.

Among other valuable plants spoiled were a number of stove-climbers worth a guinea a pot, and a tub of Adiantium farleyense, valued at five guineas. When the storm broke some window frames not in use were lying in the garden piled upon one another to the number of six, and the hailstones went through the half-dozen thicknesses of glass. Plant pots were also broken in large numbers. The Strawberry crop has been completely destroyed. Luckily, £50 worth was gathered a week ago, but as much was left ungathered. Mr. Batchelor's son, Mr. Arthur Batchelor, and a number of boys were engaged in picking Strawberries when the storm came on, and took shelter in one of the greenhouses, where they were accidentally locked in. The hailstones crashed through the glass and the fragments fell all round them, and no doubt some personal injury would have resulted if an overcoat had not been left in the place, with which the refugees covered themselves. Mr. Batchelor states that he has been to Leeds to order 10,000 panes of glass, and that he found that two other orders for similar quantities had been given previously. The greenhouses in the Valley Gardens have been smashed, and numerous conservatories adjoining private houses show holes made by the hailstones. No doubt the law of chances is on the side of those Harrogate people who say that such another storm will not be seen by anyone now living.

BAMBOOS FOR DECORATIVE PURPOSES.

THE Bamboos form a sub-order of the extended natural order of the Gramineæ, and contain in several genera, at present, about 200 species, which grow mostly in Asia, America and Africa, but the true Bamboos are indigenous to Asia and the Moluccean Islands. The following Bamboos have for a long time been tested for gardening purposes, and can be obtained by importation from Yokohama or from the "Jardin d' Acclimatisation de Hyeres," Department Var. France: Bambusa gracilis, B. Himalayensis, B. Mazeli (Quihoi), B. mitis, B. quadrangularis, B. scriptoria, B. Simonii, B. spinosa, B. striata argentea, B. sulphurea, B. variegata (Japonica), B. verticillata, B. viridi-glaucescens, B. violascens, B. nigra, B. Metaka, and Arundinaria falcata. Some of these kinds, like B. gracilis, exhale a fine fragrant odour, but all are well adapted for window boxes, jardinieres, flower tables, and for all kinds of indoor decorations. A few species of Bamboos, such as the Chusquea abietifolia from the West Indies; Ch. simplicifolia from Panama; Ch. scandens, from the mountains of Central America; Bambusa marginata, from Tennasserim; Oxytenanthera albo ciliata, from Ava and Pegu; Dinochloa Tjankorreh from the Phillipines, and Auleonema Quexo from New Granada, are tall, climbing plants, and form with their foliage, beautiful festoons. This class of plants cannot be too highly recommended on account of their exquisite and unrivalled decorative character. The use of Smilax, some kinds of Asparagus and Lygodium is very practical for small decorations, but the above mentioned Bamboo vines, cultivated in pots, can be placed on high columns, arches, balconies, ballusters, railings, and large trellis work, and will produce an unrivalled effect, while Plantonia insignis, and Pl. nobilis, from the mountains of Colombia and New Granada, with leaves 12 to 15 ft. long, and 12 to 15 broad; Schizostachium brachycladum, from the Sunda Islands, with bright yellow stems; Bambusa vulgaris variegata from Bengal, with deep green leaves and yellow stems and branches; Phyllostachys bambusoides and Ph. nigra (Bambusa nigra) from Japan, with brown and black stems, and Dendrocalamus flaggellifer from Malacca, with beautiful palm-like leaves, for scenic effects and for contrasts in the combination of large foliage, serve as the most desirable plants.

The following species of Bamboos from countries with a temperate climate, and from high mountains, can be used for sub-tropical groups in gardens and lawns, and for general embellishments of parks and gardens in a landscape style: Arundinaria Japonica, 10 to 15 ft. high, from Japan; Ar. verticilata, 15 ft. high, from mountains of Brazil; Ar. debilis, 20 to 30 ft. high, from mountains of Ceylon; Ar. acuminata, 20 ft., mountains of Mexico; Ar. tesselata, 15 to 20 ft., mountains of South Africa; Ar. callosa, 15 ft., Himalayas; Ar. Khasiana, 15 ft., from Himalayas; Ar. Hookeriana, 15 ft. high, from Sikkim; Ar. suberecta, 15 ft., Himalayas; Ar. falcata, 30 to 40 ft., Himalayas; Ar. racemosa, 15 ft., Himalayas to the snow line; Ar. spathiflora, 2 5ft., Himalayas to the snow line; Ar. macrosperma, 20 to 30 ft, Mississippi and Southern States; Thamnocalamus Falconeri, 30 to 50 ft., Himalaya Mountains; Thamnox spathiflorus, 30 to 50 ft., high points of the Himalaya Mountains; Phyllostachys bambusoides, 15 ft., Japan and China; Ph. nigra, 15 to 25 ft., Japan and China; Arthrostylidium longiflorum, 30 to 40 ft., high mountains of Venezuela; Arth. racemiflorum, 20 to 30 ft., high mountains of Mexico; Chusquea Culcou, 20 ft., Chili; Ch. montana, 12 ft., Andes, of Chili; Ch. Fendleri, 20 ft., Andes, mountains of Chili; Ch. Quila, 20 to 30 ft., Chili; Ch. Gaudichiana, 30 to 50 ft., South Brazil; Plantonia insignis and P. nobilis, 30 to 50 ft., Colombia and Central America; Bambusa nutans, 15 to 20 ft., Himalayas, high mountains; B. tuldoides, 30 ft., China and Formosa; B. flexuosa, 15 ft., China; B. Beecheana, 20 ft., China; Cephalostachyum capitalum, 30 ft., Himalaya Mountains; Pseudostachyum polymorphum, 50 to 60 ft., high Himalaya Mountains; Dendrocalamus Hookeri, 30 to 50 ft., high Himalaya Mountains; Dendroc. Hamiltoni, 50 to 60 ft., Himalaya Mountains; Schizostachyum elegantissimum, 20 to 30 ft., and stout habit, from the high mountains of Java, etc.

Finally, some samples of harmonious combinations for imposing and sub-tropical groups, with various kinds of Bamboos, tall and ornamental grasses and other plants, with a grass or reed-like habit, etc., may here find place as a guide for gardeners and decorators who are not thoroughly acquainted with the growth and arrangement of suitable species:—

First group.—For the centre large specimen of Arundo donax, surrounded by Arundo conspicua and Ar. versicolor; next circle Bambusa gracilis, B. Metaka and Bamb. nigra, followed by various kinds of Sorghum; then Elymus glaucophyllus, Iris pseudo-corus, Iris Japonica, Lilium, various kinds; Gladiolus, Phalaris arundinacea, fol. var.; Uniola latifolia, Bromus brizæformis, etc. The margin might be made up of Briza maxima, Lagurus ovatus, Yucca filamentosa and Amaryllis formosissima, Globba minor (Zingiber) and Maranta, dwarf species.

Second group.—A centre of Arundinaria falcata or Ar. macrosperma surrounded by Sorghum cernuum, S. saccharatum, S. rubrum, followed by Saccharum Maddeni (ravennæ), Andropogon formosum, elegans or Schimperi with tall plants or various kinds of Phormium; then Dracænas indivisa, australis and Charlwoodia congesta, followed by the Hemerocallis Quanso fol. var.; Hem. fulva, fl. pl., Tritoma uvaria, etc., and with a margin of Funkia sub-cordata, F. Fortunei and F. Sieboldiana.

Third group.—For a centre Zea gigantea surrounded by Ricinus Gibsoni; then Bambusa gracilis, B. Mazelii, B. Metaka, B. viride-glaucescens, followed by Zea Japonica fol. var. and Zea gracilis fol. var., Panicum plicatum, Panicum palmæfolium, Cyperus alternifolius, Pardanthus chinensis, Iris Japonica in sorts; and for the margin Acorus Japonicus fol. var., Iris fœtida fol. var., Stipa pennata and Acorus graminifolius fol. var. and Carex Jap. fol. var.

Fourth group.—Central plants: Bambusas scriptoria, Himalayensis and B. mitis surrounded by Eulalia zebrina; then followed by Bocconia cordata, Cleome speciosissima, Flumena elegans; next circle: Coixlachryima fol. var., Bambusa striata argentea Lygeum spartum, Phalaris arundinacea fol. var., Gladiolus various kinds, Iris Japonica, and for the margin: Funkia undulata fol. var., or various kinds of Ophiopogon.

Fifth group.—For the centre: Imperata armidinacea, surrounded by Bambusa nigra, B. gracilis and B.

violascens; next circle: Helianthus orgyalis, H. augustifolious, H. maximiliani; then Eulalia Japonica var.: Andropogun Schœnanthus, Ardr. Schimperi, Andr. formosus; then: Hedychium gardnerianum, H. albiflorum, H. flavescens and Yucca angustifolia, Dianella australis, D. cærulea, Gladiolus, Ferraria trigrida, Richardia maculata, Schizostylis coccinea, Hyacinthus candicans, with a margin of Convallaria majalis, Scilla peruviana, Ornithogalum, various kinds, Zephyranthus candidus and Bambusa Fortunei fol. var.

Sixth group.—Centre of Gymnothrix Japonica, G. latifolia, surrounded by various kinds of Sorghum and Eulalia japonica zebrina, E. j. fol.var., then Bambusa Simonii, B. quadrangularis, B. spinosa, followed by Cyperus alternifolius, Alstrœmeria chilensis, Alst. aurantiaca, Phædranassa chloracea, Crocosmia aurea, Iris florentina, Hemerocallis flava, Iris anglica, and I. hispanica, Arthropodium fimbriatum, fancy Caladiums, and the margin of Carex japonica fol. var., Car. acutifolia fol. var., Rhodea japonica fol. var., and Maranta Buchaneana.

Seventh group.—Have for the centre Bambusa Himalayensis, B. Mazeli (Quiholl), B. scriptoria, surrounded by Arundo conspicua and Ar. versicolor; then Canna flaccida, Canna Ehemanni, Canna liliiflora, Canna lagunensis and C. discolor, this surrounded by Andropogan, Panicum sulcatum, Elymus glaucophyllus, and Cyperus alternifolius, followed by dwarf large-flowering Cannas (Crozy's), Begonia discolor, dwarf Gladiolus, Iris Germanica, Hemerocallis rutilans fl. pl., Juncus effusus aurea striatus, J. zebrinus; Agapanthus umbellatus, and for the margin: Allium Moly, Agapanthus minor fol. var., and various kinds of Calochortus.

Eighth group.—Centre, Bambusa quadrangularis, B. spinosa, B. verticillata, surrounded by Saccharum Maddeni, S. violaceum, Gynerium argenteum and Festuca dives; for next circle tall plants of Renealmia nutans, Dracæna ensifolia, Charlwoodia, congesta, and all sorts of dark foliaged cannas, followed by Zea. jap. fol. var., Dracæna indivisa, Dr. australis, Curculigo recurvata, Pincenectitia glauca, P. tuberculata (Beaucarnea), Uniola latifolia, Cyperus alternifolius, C. Paramatta, C. Natalensis, C. japonicus, dwarf Liliums, Zephyranthes atamasco, dwarf Gladiolus, Bessera elegans, Cyclobothra flava, Hemerocallis Middendorfiana, Schizostyllis coccinea, Tricyrtis hirta, and margin of Triteleia uniflora, Stenotaphorum glabrum fol. var., Convallaria majalis fol. var., and Ophiopogon jaburan fol. var.

Ninth group.—A composition of grasses and other imposing plants representing a sub-tropical character for larger places, etc. For centre, a fine tall specimen of Musa, Strelitzia, augusta or Pandanus, surrounded by tall Bambusa and Arundinaria falcata, Ar. macrosperma, Ar. tecta, Ar. Jurfoota, Ar. Khoptus, Ar. debilis, Ar. suberecta, Zea maxima (white Virginia maize), then Fices elastica, F. macrophylla, F. Bengalensis (Australis), F. Cooperi, Uhdea pimatifida, Verbesina alata, V. gigantea, Montagnea Heracleifolia, Schiftocarpus bicolor (perimenium), Amicia cygomeris, Bambusa gracilis, B. nigra, B. violascens; next circle, Eucalyptus cordatus, Cosmophyllum cacaliæfoliæ, Sinclairia discolor, interspersed with Papyrus antiquorum (Cyperus pap.); next row, Canna Ehemanii, C. glaucescens, C. lagunensis, C. nepalensis, Tritoma uvaria and T. Roeperi, Yucca flaccida, Y. aloe fol. var., Y. gloriosa quadricolor, Prionium palmita, Amorphophallus Rivieri, and with a margin of Agapanthus umbellatus, ferns, various species fancy Caladium, Acalypha and Aspidistra fol. var.

Tenth group. Of similar character; for centre; large specimen of Yucca. Dracæna indivisa, Cocos, Aletris, Grevillea robusta, or Eucalyptus globulus, surrounded by Bambusa arundinacea, B. tuldoides, B. vulgaris variegata, Platonia insignis and Imperata arundinacea; next circle: Ricinus Gibsoni, Aralia papyrifera, A. quinquifolia, A. crassifolia, A. Sieboldii (tatsia), Ar. palmata (Sciadophyllum), Ar. leptophylla, etc., Brachychiton acerifolium, Sterculla platanifolia, Lavatera arborea, fol. var., Solanum quitense, S. Warscewizii, Melianthus major, Helianthus augustifolius, H. orgyalis, various kinds of sorghum, Andropogon Eulalia and papyrus antiquorum; then: Canna Achiras, C. lagunensis, C. flaccida, C. discolour, C. nigricans, mixed with Panicum, various kinds, Curculigo, Renealmia, phrynicum, Hedychium and Thalia dealbata, followed by Cleome, Acalypha, Crotons, various kinds, Amaranthus salicifolius, Begonia heracleifolia, Rizinifolia, carolinæfolia, B. jatrophæfolia, B. hernandiæfolia, B. palmata, B. tomentosa, Echium creticum, E. arboreum, Aphelandra speciosa, interspersed with Phalaris arundinacea; Cyperus alternifolius, Elymus glaucophyllus. Andropogon argenteus. Bromus brizæfomi, Lasiagrostis argentea, Pennisetum villosum (longestylum), Stipa pinnata, Tripsacum, dactyloides, Cocos Weddeliana. Next circle: Ruellia maculata, Cineraria maritima, Iresine, Acalypha, Dasylirion, Yucca, etc., with a margin of Centaurea candidissima, Tussilago japonica, Ligularia Kæmpferi albo, var; Farfugium grande luteo maculata, Nardosmia fragrans (Tassilago), Ophiopogon, Reineckea, Bambusa Fortunei var., etc.

The shape of all of these groups should be circular or oval, and with a diameter of 10 ft. to 25 ft., according to the extent of the site and the distance to the observer. In order to obtain the highest effects of such plantings, it is advisable to excavate the ground for the groups about three feet deep and fill it with fresh horse manure and wet leaves for light bottom-heat; over this material the soil, very rich, sandy loam, should be placed.

We are sure that groups arranged in the above style, being so seldom produced in this country, will, for their scenic and picturesque effect, be highly appreciated by everybody.—*R. Demcker, in the Florist's Exchange.*

THE VEGETABLE GARDEN.

The Rain and the Crops.

On several occasions recently when opening The Gardening World on its arrival, my mouth has in a sense been made to water by the accounts of the refreshing showers which have fallen in most parts of the country, and made us long for the time when they would reach this locality. The suspicion almost crossed one's mind that you might have been deceived as to these showers by the frequent passing of the water cart in front of your office and the greenness of the grass opposite your windows, thanks to a liberal use of the hose, and certainly gardeners in the metropolis, with plenty of water and the means to apply it, have had this season a great advantage over us provincials. We have had but very slight showers here, though there have been storms very near to us, and the effects of the long drought is a very serious matter. I have sown Mangel, Swedes, Carrots, Beet, and other seeds, but scarcely any have come up. The Onion seed germinated, and have done fairly well, but they are small, notwithstanding the applications of nitrate of soda and manure water. As for blight, in the form of aphides, it is dreadful, and there is not a Cabbage but that is infested. Potatos are small, and many will not pay for the trouble of planting and lifting, but what we have are good in table quality. We are now using Sutton's Regent, the flavour of which is specially good, as also is that of Sharpe's Victor. Most of our Potatos are ripe, or nearly so, and will be taken up forthwith, and, what there are of them, stored while they are sound. The effects of a short crop on a place like this is very serious, making the expense of keeping our lads very great, and thereby increasing the need of extended support for all such philanthropic institutions.—*A. J. Brown, School of Handicrafts, Chertsey.*

Winter Greens.

Now that we have had such nice rains, and the ground is in such good working order, no time must be lost in planting all late Winter Greens and Spring Broccoli. All spare ground should be filled up. Coleworts may be planted for some time yet, on ground that is being cleared of Peas and Potatos.

Turnips.

Make a good sowing now for winter use; thin out earlier sowings, and keep the hoe constantly going amongst them.

Carrots.

When there is likely to be a thin main crop, owing to the drought, a sowing may be made now on a border. Sow one of the early varieties and they will be found very useful during the winter.

Lettuce.

Sowings should now be made every fortnight, and care should be taken that some of the Cos varieties are tied regularly every few days to keep up the supply of good white heads.

Celery.

Keep the Celery well watered, and give a little nitrate of soda occasionally, if it is not growing fast enough.—*G. H. S.*

Gleanings from the World of Science.

The Bud Moth.—This is an insect closely allied to the Codlin Moth (Carpocapsa pomonella), but too well known on both sides of the Atlantic. Its scientific name is Tmetocera ocellana, and is a European insect having been named and described in Austria in 1776; it made its appearance in the United States in 1840, and is now committing serious ravages in many counties of the State every year in May and June, when the leaf and flower buds are about to open. Its origin is credited to this part of the world, as in the case of the Codlin Moth and American Blight. It commences by eating the young leaves of the opening buds, webbing them together to secure shelter and fresh food. After this it very often burrows down the centre of the young shoot causing it to die back for several inches. In July a second brood of caterpillars commences work on the underside of the leaves near the midrib, eating away the parenchymatous portion, but leaving the ribs and upper surface intact. These injured leaves soon turn brown showing where the pest has been at work.

A curious fact about the insect is that though it may hibernate upon the trees in large numbers in the caterpillar state, during the leafless condition of the trees, it is so securely hidden that ordinary observers fail to detect it.

The Winter Home of the Bud Moth.—Until as recently as 1885 it was supposed that the moth passed the winter in the egg stage; but about that time it was believed to pass the winter on the branches of the trees under a covering of silk. During 1891 and 1892 experiments and observations were made by the professors in charge of the Cornell University Experiment Station, as recorded in *Bulletin* 50, and the moth was carefully watched through all its stages. By the 1st November of last year not a single larva could be discovered upon the leaves, but upon carefully scrutinising the twigs which bore infested leaves, larvæ were almost invariably found nestling in little depressions of the bark and neatly covered with a silken web. Several twigs were enclosed in nets to make sure whether these were the larvæ of the Bud Moth or not, and the larvæ left these silken cells on May 15th, and between that time and July 15th they had passed through all their stages to the perfect stage. The insect emerging from the pupæ proved to be the typical Tmetocera ocellana; so that the question of its manner of passing the winter has been satisfactorily settled. When no cavities exist in the bark the larvæ make one to secure the silken case for the winter. These cases are usually placed quite near a bud.

Remedies and Preventions against the Bud Moth.—Previous to 1887 the only method of attacking the insect was to hand pick and destroy the nests containing the larvæ in spring; but by this time the leaves and flower buds had been greatly destroyed. The eggs cannot be destroyed by any application of an insecticide which would not destroy the leaves at the same time. When the larvæ are feeding or sally forth to fresh ground they are protected by a silken web underneath which they carry on their work of destruction securely. Some of the larvæ could be destroyed, however, by the use of Paris green at this stage at the rate of one pound to 200 gallons of water.

The Paris green could be used in July in combination with the Bordeaux mixture when spraying for fungi. In this case one pound of the Paris green to 150 gallons of water in conjunction with the Bordeaux mixture would be sufficient. The most effective method of destroying it, however, as recorded by *Bulletin* 50 of the Cornell University Agricultural Station, is by spraying the trees with Paris green or London purple just as the buds are unfolding in spring and the larvæ are leaving the silken cells in which they hibernated. Paris green is the best insecticide, and when used alone on the tender young foliage should not be made stronger than at the rate of one pound to 250 or 300 gallons of water.

FLORICULTURE.

Carnation and Picotee Union.

Owing to the excessive earliness of the season the annual gathering of the Carnation Clan at Oxford had to be brought forward a fortnight earlier, and even then was a week or more too late for the majority of growers south of the Trent. The annual show held in Mr. Dodwell's garden on Tuesday was much smaller than usual, but exceedingly good for the season. To say that it was the northern men's day, and that it was a Picotee day par excellence about describes the salient points of the day's work, for the lovely Picotees, large, pure, bright, and strong in numbers, certainly took a strong lead over their more highly coloured compeers, and as regards the successful competitors, Mr. Tom Lord, of Todmorden, and the Birmingham growers practically carried all before them. As illustrating the character of the season, the alteration of the date found even Mr. Dodwell, with his 6,000 pots, quite a fortnight behind the fair, while in the case of Mr. Tom Lord, only for the second time in nine years has he had a chance of competing with any degree of strength. On this occasion it must be said that he made good use of his opportunity by securing first honours for twelve Carnations, distinct, besides taking a number of other awards, showing the premier Carnation and gaining four First-class Certificates. The Birmingham men held a strong hand, as the prize list will show, and they brought with them a new hand who promises to be a thorn in their side at future shows.

It was a delightful gathering, as usual, but the change in the date was responsible for the absence of many familiar faces, and this was all the more to be regretted inasmuch as the meeting partook somewhat of the character of a Jubilee festivity, the many friends of Mr. and Mrs. Dodwell in the floricultural world taking advantage of the occasion to offer them a sensible token of their respect and esteem, and as a memento of the recent celebration of their golden wedding, a handsome silver tea and coffee service and a silver salver, accompanied by the following address beautifully illuminated in album form:—

"Very many friends throughout the Kingdom, as well as abroad, desire, upon the occurrence of the fiftieth anniversary of your wedding day, to offer you their warm congratulations on this memorable and happy occasion, and to add their earnest hope that, surrounded by those you love and who so dearly love you, much length of days may yet be granted to you.

"And they gladly avail themselves of this opportunity to give expression to the feelings of respect and admiration with which they have long watched Mr. Dodwell's floricultural work, and to record their sense of his unvarying kindness and courtesy among his fellow florists.

"They wish then, as a mark of their regard, and of the gratification they feel that you have been permitted to reach this crowning point of your wedded life, to beg your acceptance of the accompanying tea and coffee service and salver—the produce of many subscriptions purposely limited in amount—assuring you that it is a souvenir of widely-felt loving regard, and equally assured that you will find in that feeling the chief value of this gift."

The address was signed by Mr. Robert Sydenham on behalf of 228 friends whose names were given in the album. The presentation took place at the luncheon which was again presided over by Mr. Alderman Buckell, in his usual genial and kindly manner, and in the absence of Mr. Sydenham the spokesman for the subscribers was the Rev. Mr. Collier. Mr. Dodwell most feelingly acknowledged the compliment and thanked his friends for this mark of their goodwill after sixty years of floricultural work.

Carnations—Flakes or Bizarres.—In the class for twelve dissimilar Mr. Tom Lord, Hole Bottom, Todmorden, won the premier prize with a bright fresh lot of blooms, which included three most promising novelties in Bruce Findlay, C.B., Duke of York, S.B., and Thaddeus, C.B., and fine blooms of Thalia, Master Fred, Gordon Lewis, Admiral Curzon, George, Sportsman, J. B. Hextall, and Robert Houlgrave. The second prize went to Mr. J. Whitham, of Hebden Bridge, who put up Thalia, Master Fred, Gordon Lewis, George, Joe Edwards, William Skirving, Robert Lord, Joseph Lakin, Oscar Wilfred, Admiral Curzon, and two seedlings. Mr. R. Sydenham, Birmingham, came in third; Messrs. Thomson & Co., Birmingham, fourth; Mr. G. Chaundy, Oxford, fifth; Mr. A. R. Brown, Handsworth, Birmingham, sixth; Mr. W. Reed, gardener to Mr. Dodwell, seventh; and Mr. J. Walker, Thame, eighth. With six blooms Mr. Joe Edwards, Blackley, Manchester, came in first, showing good examples of Master Fred, Teddy, Sporting Lass, Guardsman, and two seedlings. The second award also went to the Manchester district, the successful exhibitor being Mr. E. Shaw, Thorn Bank, Moston, who had nice blooms of Edward Adams, Thalia, Richard Dean, William Skirving, and Robert Houlgrave. The other awards went to Mr. J. S. Hedderley, Bulcote, Notts; Mr. C. Phillips, Reading; Mr. Arthur Medhurst, Oxford; Mr. W. Bacon, Derby; and Mr. T. Anstiss, Brill, in the order named.

Picotees.—For twelve blooms, dissimilar, Messrs. Thomson & Co., were first with Mrs. Sharp, Amelia, Nellie, Dr. Epps, Mrs. Chancellor, Thomas William, Little Phil, Zerlina, Campaninni, Mrs. Payne, Lady Louisa, and Mrs. Gorton; Mr. R. Sydenham coming in second with Mrs. Payne, Jessie, Amy Robsart, Rosie Sydenham, Ne Plus Ultra, Little Phil, Norman Carr, Lena, Lady E. Van de Weyer, Zerlina, Favourite and a seedling; Mr. J. Whitham was third, Mr. Tom Lord fourth, Mr. A. R. Brown fifth, Mr. Joe Edwards sixth, Mr. E. Shaw seventh, Mr. C. Phillips eighth, and Mr. W. W. Reed, ninth. For six blooms, Mr. A. W. Jones, Birmingham, came in first with Mrs. Payne, Nellie, Favourite, Thomas William, Brunette and Campaninni; Mr. J. P. Sharp, King's Heath, Birmingham, being second with Mrs. Sharp, Nellie, Amy Robsart, Edith, Brunnette, and Rosie Sydenham; Mr. J. S. Hedderley, third, Mr. W. Bacon, fourth, Mr. A. Medhurst, fifth, and Mr. T. Anstiss, sixth.

Selfs, Fancies, or Yellow Grounds.—Mr. R. Sydenham was first for twelve, dissimilar, with Romulus, Tournament, A. W. Jones, Gladys, Stadtrath Bail, Dodwell's 5167, Germania, Janira, Victory, Mrs. R. Sydenham, Mrs. Jameson, and Brochaus. Messrs. Thomson & Co. secured second honours with Annie Douglas, Germania, Negress, Romulus, King of Purples, Mrs. R. Sydenham, Annie Lakin, Terra Cotta, Van Benningsen, Richard Tryon, Mrs. Henwood, and Parsifal. Mr. G. Chaundy was third; Mr. A. R. Brown, fourth; Mr. W. W. Reed, fifth; Mr. J. Walker, sixth; Mr. T. Anstiss, seventh; and Mr. C. Phillips, eighth. In the six bloom class, a young recruit among Carnation growers, in the person of Mr. W. Spencer, junr., Wylde Green, Erdington, Birmingham, came well to the front with Mrs. R. Sydenham, Schlieben, Theodora, Madame Van Houtte, Stadtrath Bail, and Van Dyke; Mr. C. Harden, Ashe, Sandwich, being second with Germania, King of Scarlets, Duchess of Sutherland, Alfred Grey, Heinrick Engel, and Salamander, the other awards going as placed to Mr. Hedderley, Mr. E. Shaw, Mr. A. Medhurst, Mr. T. E. Henwood, Mr. J. Edwards, and Mr. W. Bacon.

Yellow Grounds.—For six Kilmurry Seedlings Mr. W. Reed secured the premier award with a dark sport from Tournament, Queen of Hearts, Nora, Tournament, Ursula and Nancy, Mr. A. Medhurst coming in second with Queen of Hearts and a lighter sport from it, Exile, Ursula, Nora, and Alfred Grey. Mr. G. Chaundy was third, Mr. T. Anstiss fourth, and Mr. W. Bacon fifth. The six bloom class for any raisers' varieties was a grand one, fifteen stands being staged. Here Mr. A. W. Jones again came to the front, showing superb blooms of Stadtrath Bail, Germania, Almira, Mrs. R. Sydenham, Countess of Jersey, and Atalanta. Messrs. Thomson & Co. were a good second, with Prof. Vichow, Mrs. R. Sydenham, Rosalinda, Stadtrath Bail and two pretty seedlings. Third, Mr. W. Reed; fourth, Mr. C. Phillips; fifth, Mr. C. Harden; sixth, Mr. T. E. Henwood; seventh, Mr. A. R. Brown; eighth, Mr. Hedderley.

Single Specimens — Carnations. — Scarlet Bizarres: first, Mr. J. Whitham with Robert Houlgrave; second, third and fourth, Mr. Tom Lord with Admiral Curzon and two blooms of Duke of York; fifth, Mr. C. Phillips with Robert Houlgrave. Crimson Bizarres: first, Mr. J. Whitham with Master Fred; second and third, Mr. R. Sydenham with Master Fred and J. D. Hextall; fourth and fifth, Mr. Tom Lord with Thaddeus and J. D. Hextall. Pink Bizarres: first, second and third, Mr. Tom Lord with Bruce Findlay, and two blooms of Arline; fourth and fifth, Mr. G. Chaundy with Mrs. Barlow. Purple Flakes: first and third, Mr. Tom Lord with Mayor of Nottingham; second, Mr. R. Sydenham with Charles Henwood; fourth, Mr. J. Whitham with Oscar Wilfred; fifth, Mr. R. Sydenham with Gordon Lewis. Scarlet Flakes: first, Mr. G. Chaundy with Richard Dean; second, Messrs. Thomson & Co. with J. P. Sharp; third, Mr. E. Shaw with Richard Dean; fourth, Mr. Tom Lord with Dan Godfrey; fifth, Mr. Hedderley with Sportsman. Rose Flakes: first, Mr. Reed with one of Mr. Dodwell's seedlings; second and third, Mr. Tom Lord with Sybil and Thalia; fourth, Mr. J. Edwards with Teddy; fifth, Mr. E. Shaw with Thalia.

Single Specimens.—Picotees.—Heavy-edged, any colour: first, Mr. A. R. Brown, with Little Phil; second, Mr. R. Sydenham, with Pollie Brazil; third, Messrs. Thomson & Co., with John Smith; fourth, Mr. R. Sydenham, with Amy Robsart; fifth and seventh, Mr. J. Whitham, with Little Phil; and sixth, Mr. E. Shaw, with Brunette. Medium-edged: first, Messrs. Thomson & Co., with Zerlina; second, Mr. R. Sydenham, with Mrs. Payne; third, Mr. J. Edwards, with Miriam; fourth, fifth, and seventh, Mr. A. W. Jones, with Madeline and Mrs. Payne; sixth, Messrs. Thomson & Co., with Mrs. Payne. Light-edged: first, Mr. A. W. Jones, with Elizabeth; second, Mr. A. R. Brown, with Thomas William; third, Mr. A. W. Jones, with Mrs. Gorton; fourth and fifth, Mr. Tom Lord, with Clara Penson; sixth and seventh, Mr. R. Sydenham, with a seedling and Anne Lord. Any colour: first, second, and fifth, Mr. A. W. Jones, with Germania; third, Mr. Chaundy, with a white seedling; fourth, Mr. Hedderly, with Royalty.

Fancy Classes.—First and second, Mr. Reed with seedlings; third, Mr. Medhurst with a sport from Othello; fourth, Mr. E. Shaw with Van Dyke; fifth, Mr. Hedderley with Schlieben. Yellow Grounds: First, third, and fourth, Mr. W. Spencer, jun., with Mrs. R. Sydenham; second, Mr. A. W. Jones with Stadtrath Bail; and fifth, Mr. Sydenham with the same variety.

Premiers.—Carnations: Mr. Tom Lord's Master Fred Picotee: Mr. J. Whitham's Little Phil. Yellow Ground: Mr. W. Spencer, jun's, Mrs. R. Sydenham.

First-class Certificates were awarded as follows:—To Mr. Tom Lord, for Duke of York, a very bright scarlet Bizarre; Bruce Findlay, a very fine crimson Bizarre; Thaddeus, another first-rate C. B., and Arline an exceedingly good P. P. B. To Mr. E. Shaw, for Lillie Shaw, an exceedingly pleasing flesh-pink self Carnation, with a very good smooth petal. To Mr. G. Chaundy, for Ferow, a deep-coloured and very good purple flake; and to Mr. Anstiss, for Mrs. Anstiss, a promising terra-cotta coloured self.

DRACÆNA COULINGII.

For table decoration and many other forms of furnishing, the narrow leaved and more graceful varieties of Dracænas are most in request by the public generally. These conditions are amply supplied by D. Coulingii which is a hybrid between D. Mooreana and D. terminalis alba. It takes after the latter considerably, but has narrower, lanceolate leaves, narrowed at the base into a deeply channelled petiole. They are of a deep shining green margined and flamed with a silvery white variegation, and more effective than that variety on account of the well-defined contrast of colours. The polished and glossy surface also enables the grower to keep it clean and shining as a new pin, with a small amount of trouble. Occasionally some of the leaves, especially those of the crown, are wholly of a silvery white, and in this respect they resemble D. terminalis alba. The variegation in the present case extending to all of the leaves, lends value to the plant as a decorative subject and those who like colours of a quiet tone will find in this plant a valuable addition to their collection by way of contrast with the more highly-coloured Crotons. It was unanimously awarded a First-class Certificate by the Royal Horticultural Society on the 3rd May, 1892. We are obliged to Messrs. B. S. Williams & Sons, Upper Holloway, for an opportunity of illustrating it.

The Carnation: its History, Properties, and Management, with a descriptive list of the best varieties in cultivation. By E. S. Dodwell. Third edition, with supplementary chapter on the Yellow Ground. London: Gardening World Office, 1, Clement's Inn, Strand, W.C. 1s. 6d.: post free, 1s. 7d.—Ad.]

A GARDENERS' OUTING IN DEVONSHIRE.

The members of the flourishing Devon and Exeter Gardeners' Mutual Improvement Association had their annual summer outing last week, when over sixty turned up at the rendezvous—Streatham Hall, near Exeter, the seat of Mrs. Thornton West. Under the guidance of the gardener, Mr. Franklin, and his foreman, Mr. Triscott, the party proceeded up the avenue, on both sides of which are some capitally-grown Coniferæ of the better kinds. In passing, two grand specimens of Oak were noted, one having a spread of more than 100 ft., and perfect in its symmetry and every other respect. The conservatories were inspected, the forcing-pits and stoves, the excellence of cultivation in the Pine-pits being a general subject of remark. The principal conservatory is 60 ft. by 50 ft. In the orchard houses the state of the trees, Peaches, Nectarines, and the like spoke well for the credit of those in charge of them, while foliage plants, Crotons, Allamandas, Oranges, etc., were in the pink of condition.

The flower-garden was next visited, and although there were no new features in their laying out, everything was neat, trim, and full of flower. Flanked by two golden yews, the huge Palm-house, recently erected, was much admired. It measures 71 ft. by 40 ft., and is 45 ft. in height. It reminds one of Kew. Bananas were well fruited, and indeed everything showed skilful cultivation. Dicksonia antartica, and such other tall subjects were well grown, some of the plants running from 25 to 30 ft. in height. In the large stove (80 ft. x 25 ft.), Anthuriums, Crotons, Cyanophyllums, Marantas, and Medinillas were fine. Vines, Melons, and Cucumbers were all equally well done. Passing through the Diana wall, down the terrace, we came to the pond, in which were some good Nymphæas, and other aquatics. Taken all in all, the visitors were charmed with the place.

Killerton Park.

Proceeding in several four-horse breaks a drive of six miles landed us at Killerton Park, the seat of the Right Hon. Sir Thomas Acland, Bart., noted for its coniferæ and referred to in that connection in Veitch's "Manual on the Coniferæ." Mr. Garland, well known as one of the best gardeners in the county, was waiting to receive his *confréres* and was a most entertaining and instructive cicerone. The first thing to catch the eye was a magnificent Tulip-tree girthing 15ft. 6in. and as healthy as a trout. It has flowered most profusely this season. On the lawn were fine specimens of Rhus cotinus, conspicuous by their fluffy inflorescence. (Why is this shrub not more generally grown? It is a fine shrub for a lawn!) Hard by the mansion were a pair of Chamærops Fortunei, 13 ft., high and clothed to within 3 ft. of the ground. They have stood there in the open, without protection, for 25 years. Dracæna australis is planted out, too, and does equally well.

The vegetable and fruit gardens were eagerly scanned, for Mr. Garland has a big reputation as a fruit and vegetable grower. Here again the skill of a master hand was visible in every yard of ground. The trees were healthy and laden with the choicest of fruit, and vegetables were super-excellent. A house full of Tomatos grown to absolute perfection made some of the visitors stare. The varieties were—Perfection, Challenger, Veitch's Flying Dutchman, and other leading sorts. Leading away from the house was an exquisitely kept lawn, on the borders of which were some good things. Amongst them we noted Desfontainea spinosa, 6 ft. high and as much through in full flower, Coletia Bictonensis and C. horrida, Bambusa metake, Retinospora plumosa aurea, and many other good things. The Coniferæ proper are numerous and valuable, many of them being among the first specimens imported into England. Many of the Cupressus run from 70 ft. to 80 ft., Thuja gigantea over 70 ft., Taxodium, 80 ft., and so on.

Dracæna Coullingii.

Climbing over the Rhododendrons and Laurels was the Tropœolum speciosum almost smothered with the profusion of its glowing scarlet flowers. Before leaving Killerton Sir Thomas Acland invited the party to inspect the family painting, many of them being the work of Sir Joshua Reynolds and other eminent painters. Refreshments on a liberal scale were also provided for the visitors.

Escot.

Resuming seats the party next drove across country to Escot, the seat of Sir John Kennaway, Bart., M.P., where an equally hearty reception awaited them. Sir John waited to receive his visitors, and gave them *carte blanche* to go where they pleased. Led by Mr. Underdown, Sir John's head gardener and bailiff, the dining-room and drawing-room were visited, and from there on to the flower gardens and terrace. Here was a much less formal treatment of the parterres than one generally meets with, and there was a happy blending of the ribbon-bedding with the variety of the herbaceous border. The effect is most pleasing. Fringing the flower garden are some fine shrubs—Kalmias, Indian Rhododendrons, and similar specimens, marvels of luxuriant growth and skilful training.

Escot is famous for its timber, and the long drive through the woods, and the noble park gave the party the opportunity of seeing some fine specimens. Amongst them were a fine Cedrus deodara, planted at Sir John's birth in 1837, and now 70 ft. in height with a girth of 9 ft., and a spread of 44 ft.; Abies grandis, planted by Mr. Underdown in 1870, has now a height of 70 ft., and a girth of 6 ft. 7 in.; Araucaria Cunninghami, 30 ft.; Abies Douglasii, 75 ft.; an iron wood tree (Acacia) 80 ft., and a Liquidambar of the same height. We also noted two Lucombe Oaks, planted by the late Mr. Pince, both about 80 ft. in height, and a grand bit of Pinus insignis, planted in 1850, and which now tops 60 ft., and has a spread of over 60 ft.

The fruit and kitchen garden was next visited, and also the wilderness; but there being a temperance fête in the park, and the day wearing on, our visit had to be somewhat shortened. The gardens, however, bore unmistakeable evidence of good cultivation, everything being in fine order.

Abundant refreshments were provided and freely partaken of after so long a drive and ramble.

Sidmouth.

From Escot the drive was continued to Sidmouth, where the members dined. Mr. Andrew Hope (of Messrs. Veitch & Sons) occupied the chair, the vice-chairman being Mr. Powell, of Powderham, and Mr. Lonsdale, of Exeter. After the usual loyal toasts, "Success to the Devon and Exeter Gardeners' Association" was heartily pledged, and a pleasant hour was spent. The return journey to Exeter in the evening—a drive of about twenty miles—brought a most enjoyable day's outing to a close.

VILLARSIA OVATA.

In this we have an aquatic belonging to the Gentian family, and somewhat similar to our British plant Limnanthemum nymphæoides, but has smaller leaves and branching flower stems. The leaves are roundly cordate, and float on the surface of the water or are erect and elevated above the surface as in the case of Nuphar advenum and others of the Water Lily tribe. The flowers are borne in branching cymes, yellow, and consist of five crisped segments, and are bearded in the throat with yellow instead of white hairs such as occurs in the case of the Buckbean (Menyanthes trifoliata) a near relation. Being of small size it is suitable for culture in small tanks or tubs in the open air, where it is pretty during the summer months. It may be seen in the nursery of Mr. T. S. Ware, Tottenham.

THE HERBACEOUS BORDER.

Choice Plants in Flower.

ECHINOPS RITRO.—The Globe Thistles are all very ornamental in their way, but the dwarfer and more richly coloured forms are best suited for cultivation in the herbaceous border proper, or as cut flowers for exhibition. That under notice is one of the best and usually grows from 2 ft. to 3 ft. high, according to the nature of the soil, which should be well drained but rich in quality. The deep steel blue Thistle-like heads are highly ornamental.

DELPHINIUM GRANDIFLORUM.—Notwithstanding the many fine garden Delphiniums which have been raised, the species under notice, one of the parents of the hybrid progeny, is a beautiful border plant with large and brilliant blue flowers with two small, yellow bearded spots on two of the petals. The stems have the recommendation of being dwarf (about 18 in. high), and the leaves are cut into narrow, slender segments. The flowers are thinly arranged on slender branching stems.

LYSIMACHIA CLETHROIDES.—The stems of this plant are somewhat dwarfer than usual, being only 12 in. to 18 in. high on the drier and poorer soils, but the spikes of bloom in most cases are still very handsome, pure white, and in fact the best of the white species in cultivation. It is a plant which likes plenty of moisture when making its growth, as most of the species of Lysimachia do, but good tilth will generally stand it in good stead.

COREOPSIS LANCEOLATA.—Taking an all-round view of the case, this may be regarded as the best of the perennial species of Coreopsis, and grows from 18 in. to 2 ft. high, producing a display of large, golden yellow flowers that make themselves conspicuous in the border during July and August. This also repays for good tilth by larger flowers and a greater quantity of them produced over a longer growing season. Trenching the border every three or four years is a great advantage.

HELICHRYSUM LANATUM.—In general appearance this is like a tall H. arenarium, but the individual flower heads are much smaller, though this is compensated by the greater number of them arranged in corymbose cymes. The bracts, which make the plant what is termed an everlasting, are deep canary yellow, while the florets are golden yellow. It would make a good companion plant for the well-known old-fashioned everlasting Antennaria margaritacea with pearly heads.

HELIANTHUS DECAPETALUS MULTIFLORUS.—The single-flowered form of this Sunflower is a handsome plant with numerous, long, overlapping, yellow rays. The plant grows 2 ft. to 3 ft. high, and is of sturdy upright habit. It is one of the best of the dwarf perennial Sunflowers and should be in every collection.

CAMPANULA LACTIFLORA CÆRULEA.—The nature of the season and the character of the soil in which it is grown greatly affects the stature of this plant. It may bloom while the stems are little over a foot in height, but in good soils and fairly moist seasons it runs up to 4 ft. or 5 ft. and flowers in proportion. The upper part of the stem branches produce a profusion of bell-shaped flowers of moderate size, but effective in the mass and of a bright blue. It is deserving of good culture, which it will repay.

MONARDA DIDYMA.—The Oswego Tea, as this plant is called, is the best of the genus, and always a conspicuous object in the border during July, or later, according to the season and in proportion to the treatment it receives. It delights in an abundance of moisture, but deep and friable soil will answer the same purpose.

ŒNOTHERA MISSOURIENSIS.—This is perhaps best known under the name of Œ. macrocarpa in private gardens, but in any case it is a handsome plant at the present time, and amongst the largest flowered species we have. The stems do not as a rule much exceed 9 in. to 12 in. in height, but the individual blooms are bright yellow, and measure 3 in. or more across. The best place for it is the front line of the herbaceous border, where it will thrive well in any fairly good garden soil.

RUDBECKIA PURPUREA.—The heads of this fine species are rose-purple, and often measure 3 in. across. The disc is rendered very prominent by the long, projecting, orange-brown bracts. The stems grow from 2 ft. to 3½ ft. high in good soil, terminating in single heads. It increases very slowly at the roots, and never therefore becomes weedy. Every collection should include it.

SUSSEX HORTICULTURISTS ON TOUR.

ON Tuesday, the 11th inst., the members of the Brighton and Sussex New Horticultural and Mutual Improvement Society, to the number of about sixty, enjoyed their annual summer outing, and it is described as having been a real outing, the party driving through a beautiful country and visiting some of the finest private gardens and pleasure grounds in the country, to wit, Warnham Court, Denne Park, Coolhurst, South Lodge, and Leonardslee. The majority of the party left Brighton by the 8 15 train for Horsham, two large saloon carriages having been specially reserved for them. On arriving at Horsham they were accommodated in five brakes, in which they drove first to Warnham Court, which was thrown open to them by the kindness of Mr. C. T. Lucas. Under the guidance of Mr. G. Duncan, the gardener, the company then explored the very extensive gardens and hot-houses. The variety and beauty of the plants, for which this fine country seat is famed, were viewed with delight, for it is seldom that one can see so large a collection of all the most beautiful flowers and fruits usually grown under glass. The beautiful landscape gardening in the grounds was also greatly admired, while the stately avenue of trees, the lakes, and the hills in the distance together made a lovely bit of scenery. The party were fortunate in being allowed to look through the conservatory and the principal rooms in this fine old mansion, the paintings and the carved oak work in the dining-room being remarkably fine.

Leaving Warnham Court the party next drove to Denne Park, where they arrived shortly before midday. Here the remarkable display of fine Roses and the delightfully old-fashioned gardens were viewed with great interest by the kind permission of Mrs. Eversfield. Mr. H. Harris, the gardener, made an excellent cicerone, and afterwards accompanied the party through the Park in their walk back to Horsham. At Denne Park, as elsewhere during the day, the wealth "of beechen green and shadows numberless" was extremely pleasant in the warm weather which prevailed during the greater part of the day. After a look-in at the parish church, the whole party sat down to an excellent luncheon at the King's Head Hotel, Horsham. By half-past one they were again driving out of Horsham *en route* for Coolhurst Park, the grounds of which were thrown open for the occasion by Mr. C. R. Scrase-Dickins. The gardens and greenhouse were visited and admired by all, under the guidance of the gardener, Mr. A. Kemp, but the smooth lawns and the great wealth of fine timber stretching down to the lake formed a lovely picture, which to most was the chief attraction. St. John's Chapel, which stands a short distance from the house, was also visited.

The next place to which the party drove was South Lodge, Mr. F. D. Godman's seat, where permission to view the gardens and grounds had also been granted. Mr. Moody, the gardener, led the way over the extensive and well-kept gardens and hothouses, where there was much to see and admire, after which many strolled about the beautiful grounds which are admirably planned and kept. Tea followed at the Old Crab Tree Inn, and then the visitors were afforded an opportunity of walking about the fine domain of Leonardslee, by kind permission of Sir Edmund Loder. The visit formed a fitting termination to so notable a day, for the striking beauties of this lovely place came as a surprise to most of the party, who all agreed in considering it the finest bit of scenery in Sussex. Mr. G. Goldsmith, the gardener, took the utmost pains to point out and explain everything of interest about the grounds, and a delightful hour-and-a-half was spent here. The emus, the wild goats, the Patagonian conies, the antelopes, the kangaroos, the splendid museum, the American gardens, and the unique rock gardens, were all viewed with the keenest interest, and the only regret expressed was that the time was all too short to permit of the countless beauties and the endless number of unique objects to be found within the grounds being properly seen. But to do that would have taken some days, and after all the view of hill and valley, of lake and river to be obtained from the front of the house is the chief glory of Leonardslee, and that will be "a joy for ever" to most of those who saw it for the first time. After a short rest at the Crab Tree Inn the company once more mounted their vehicles, and a pleasant drive brought them to West Grinstead Station, where they joined the last train home, arriving in Brighton shortly after ten o'clock. Everyone was thoroughly pleased with their day's outing and the arrangements made by Mr. Longhurst and his committee were throughout all that could be desired.—*Sussex Daily News.*

EULOPHIELLA ELISABETHÆ.

WE have received the following communication from M. Hamelin with regard to the statements of M. Lucien Linden, which were published in our issue for July 8th, p. 709:—

THENON (DARDAGNE), *11th July*, 1893.

I have seen a letter in your paper from M. Linden, of Brussels, relating to the discovery of the Eulophiella Elisabethæ, but being away from Thenon for a few days I could not sooner reply.

I knew of the Eulophiella Elisabethæ long before its introduction to Brussels (although not knowing its scientific name). I am the discoverer, and M. Linden knew it, as is proved by Sallerin's letter, which I quote below. Poor Sallerin begged a few plants of me, which I gave him, but I never told the secret of its haunt, and had I, no European could have collected the plants and brought them out of the country. Sallerin was massacred, but not in M. Linden's service; he was not his collector, but was an independent correspondent only. Of this I have proofs in my possession which are both ample and conclusive.

Copy of Sallerin's letter which is in my possession.

"ST. MARIE, *12th February*, 1891.

"Dear Mr. Hamelin,

I hasten to let you know something about the few specimens of the plant you remitted to me, and considered new. The plants are now in the hands of a specialist, Monsieur Linden, of Brussels. I told him they came from you. By what you tell me, the plant must be magnificent, with its white flowers and dark carmine flower spikes, the big long leaves which resemble somewhat those of Phaius grandifolius, and the annular bulbs. We must therefore have the botanical description. I hope you will furnish me with this plant, and I propose to go half share in this transaction between us. What do you think of it?

"Yours sincerely,

(Signed) "AL. SALLERIN."

M. Linden wrote me a great deal about the plant, but I was vexed at receiving a report in 1892 from M. Linden, that 2,283 Orchids I had sent him, had all arrived dead, or in a very bad state.

At Marseilles, M. Van Mohl, a representative of the house of Linden, told me quite another tale about the discovery of Eulophiella Elisabethæ—he assured me that it was not M. Sallerin who sent those plants, but a rich gentleman accompanied by his two little girls, who brought them from Madagascar with them; he was a big planter, etc., etc.! But he would not tell me his name. This gentleman was offered 300 francs for a number of pieces, but he generously refused the money and asked M. Linden to give it to the poor. M. Van Mohl assured me he was present when this business was transacted.

Have I not heard that M. Linden also introduced this plant from the Congo? Was it not recorded on his label when the plant was exhibited?

This account is decisive, and I need not add anything to it. I leave the reader to appreciate it. I regard this incident as closed, and I shall not take up my pen any more to continue a question which cannot but degenerate into absurdity.—*L. Hamelin.*

OXALIS BOWIEANA.—Notwithstanding the large number of species of Oxalis, there are few of them cultivated outside of botanical gardens, which would mean generally speaking that they hardly deserve cultivation from a horticultural point of view. This objection cannot apply to O. Bowieana, which has large and very showy flowers; they are produced in umebllate cymes, salver shaped, and of a deep uniform rose, fading slightly with age. The leaves are also large and consist of three large, obovate, emarginate Clover-like leaflets of a dark green. A batch of plants may be seen in the succulent house at Kew, where they are planted along the front of one of the side benches.

GARDENING MISCELLANY.

POPPIES AND DAISIES.

MINE is a new garden, only just reclaimed from what may be called the wilderness state, and what with repeated failures and disappointments my only successful crop has been—wild Poppies! These were, of course, self-sown, and I carefully left the seedlings while weeding, and now they form patches of scarlet here, there, and everywhere. Remembering how well ox-eyed Daisies and Poppies mix in bunches of wild flowers, it occurred to me to intermix plants of the well-known white Marguerite or Paris Daisy with my weedy but picturesque Poppies, and the combination is so effective that possibly some of the readers of the GARDENING WORLD may like to know of it, for there must surely be other gardens in which wild Poppies come of their own accord, and they may be practically turned into garden flowers by being associated with the white starry blossoms so popular with us all.—*G. L.*

OUR GARDEN LILIES.

IT is quite true, as mentioned in your issue of July 1st, that we seldom see permanent clumps of Lilies, even of the hardiest varieties, now, whilst some years ago they were common, but it seems to me that the reason is that we are too fond of transplanting, a practice to which Lilies do not lend themselves readily. In the days of our fathers Lilies were planted and then let alone, and flourished accordingly, but somehow we do not seem to be able to leave them in one place for two seasons together, we either want them in some other part or we want the space for something else, and the result is that they dwindle away and gradually die out altogether. I have had bitter experience on this point myself, and should have got into sad trouble about it if I had been a professional gardener. In a country garden I once had, I found old-established clumps of white Lilies in first-rate condition; but I could not let well alone, I must need go moving them about for picturesque effect and to increase my stock, and the consequence was that in the course of a few seasons there were no Lilies left.—*G. L.*

MARICA CÆRULEA.

THIS is a stronger growing plant than M. gracilis, with large and showy, although somewhat ephemeral, flowers that are cupped at the base and open above. The falls are deep sky blue; the standards are erect in the lower half, sharply revolute above the middle, and of a deep blue shaded with purple at the point where they are revolute, and striped with white along the centre. The basal concave portion of all the six segments is pubescent and transversely banded with brown and yellow. The stigmas are pale blue and end in two small arrow-like heads each. The leaves are of considerable length and resemble those of some of the broader-leaved Irises. It is not difficult to grow and flower in a stove or intermediate temperature.

STROBILANTHES DYERIANUS.

ALREADY has this plant given evidence of its utility as a stove decorative plant, of free growth, and comparatively easy culture. It reminds us somewhat of the kinds of colour to be met with in some of the Bertolonias, without the delicacy of those plants. There is no telling what size the leaves will ultimately attain, but already they measure 6 in. to 8 in. long on dwarf plants, by 3½ in. wide, and may be described as elliptic, stalkless, clasping the stem at the base, and of a deep purple, with green veins and margin. The colour becomes more distinct and clearly defined as the plants get older. A batch of comparatively small plants may be seen in the nursery of Messrs. J. Veitch & Sons, Chelsea, and is quite a new plant, having received a First-class Certificate a few weeks ago.

TROPÆOLUM PENTAPHYLLUM.

SEVERAL of the perennial species of Tropæolum have given great satisfaction during the past summer, the heat notwithstanding. This applies more particularly to the tuberous rooted species, of which the plant under notice is one. The perennial rootstock consists of a large round tuber, which may be easily protected with a heap of ashes during winter in well-drained soil. It has been very floriferous in the nursery of Mr. T. S. Ware, Hale Farm Nursery, Tottenham. The flowers have a red tube, and sepals which are reddish externally and green spotted with red internally. The petals are small and of a deep red. The leaves are in themselves ornamental, consisting of four or five lanceolate-elliptic segments. The stems are very slender and climb by means of the twisting stalks of their leaves. As in the case of T. tricolorum this can be grown in pots for cool greenhouse decoration, training the stems over stakes or a wire trellis or framework of any desirable shape.

SEEDLING BORDER CARNATIONS.

I SEND you examples of this popular hardy old favourite. The plants have been planted some nine months, and were protected during the winter with dry leaves collected in the autumn—Nature's protecting material. My object in submitting the blooms to you is to show what a wealth of beauty may be secured by the annual raising of seedlings when a judicious selection of varieties for seedling purposes is made and attention is paid to hybridizing. The mixing of plant-blood, if I may so speak, brings into existence a variety of colours little anticipated by the operator. In my fertilising operations I employ only a very few of the cardinal colours and as few varieties. From yellows fertilised by other colours I have succeeded in obtaining a vast difference and clear, brilliant hues such as I did not possess in my small collection, and I have been agreeably surprised, if not astounded, at the result of my manipulation. The bed from which I have taken the blooms does not contain one single seedling, and very many of the plants have upwards of fifty buds and blooms on each plant, and all are remarkably free from the splitting of the calyx, hence I opine that my humble endeavours to produce good border varieties for my own gratification has been amply rewarded.—*George Fry, Lewisham.* [A well-varied and interesting gathering, amply bearing out our correspondent's remarks.—ED.]

A DWARF LEGUMINOUS PLANT.

WHAT is the name of the plant, apparently a Cytissus, which I saw growing a few days since by the road-side near Esher Common. It is when in bloom about 12 in. in height, not branching, or but little so, as the shoots seem to come direct from the roots. They are very slightly spiny, have small leafage, and when I saw the plants these stems were thickly clothed with Pea shaped flowers of rose coloured hue. It was really a beautiful plant, one of the most charming of wild flowers I have seen, and far prettier than are many things classed as hardy and grown in gardens. It is so rare that I don't recollect having seen it before. As the road here abuts on to the South-Western Railway, I have wondered whether the plant had come from some of the chalk deposits of which the line is constructed. I am morally certain that were this pretty Leguminose an imported plant it would have been put into commerce with a big flourish of trumpets.—*A. D.* [The plant you describe is not particularly rare, although local perhaps in its distribution, and usually affects sandy and chalky places. It grows in quantity upon Salisbury Plain and elsewhere, and had probably been brought with the ballast in making the line, but possibly from some neighbouring field in the locality you name. It is the Spiny Restharrow (Ononis spinosa), and is similar to O. arvensis, except that the latter has no spines.—ED.]

ORCHID NOTES AND GLEANINGS.

Orchid Growers' Calendar.

EAST INDIA HOUSE.—During the past week we have been favoured with a good quantity of rain, and as is often the case dull days have followed, necessitating the use of fire heat in the daytime, and the suspension of the usual syringing overhead. A low temperature heavily charged with moisture would cause spotting in the leaves, and the damping off of young growths. Cattleya Dowiana and C. aurea are pushing spikes and will require careful watering. C. gigas Sanderiana, as they go out of flower, if located in this division, should be placed in the Cattleya house, where they can enjoy all the light possible, and any requiring it may now be repotted. Very little water will be required after being repotted other than is supplied by the syringe when damping down, as they root more freely into a compost that is kept, comparatively speaking, dry, without shrivelling much, and will, when the proper time comes, make strong flowering growths.

CYPRIPEDIUMS that require plenty of heat find in the warm division genial quarters. They are now growing fast, and should be encouraged by being afforded weak doses of manure water occasionally.

MILTONIA ROEZLII does best in this house during winter, but if a sufficiently moist place could be found in the Cattleya house, it would suit them much better during the summer months. We have tried them in the cool house with M. vexillarium, but they did not make much headway, so that it would seem they require a few degrees more warmth than do M. vexillarium. The best grown plants of M. Roezlii or, for the matter of that, M. vexillarium, I ever saw were grown and shown by Mr. J. Douglas some few years ago. I have good cause to remember them, as it was through the fine plants put up by him of this species that I had more than once to take a back seat when exhibiting at Regent's Park. They do not do well for long as specimen plants, and should be broken up into smaller pieces and grown on again on their exhibiting the least signs of going back. Good peat and moss, with pieces of potsherds intermixed, grows them well. If the atmosphere is at all dry thrips will attack the young growth, and must be kept under by fumigation or by dipping the plants in tobacco water, but given a moist place and frequent syringings overhead during the summer will keep them in check.

CATTLEYA HOUSE.—But for C. Gaskelliana and a few C. gigas this house would be rather dull. The former fine Cattleya will carry us well on into the autumn, when the autumn-flowering C. labiata will step in and carry us on through the early winter months. These are making up their growths very fast and must receive every encouragement by keeping them well supplied with water. They cannot stand being dried off at anytime. We have done without fire heat in this division for a few nights when it was so hot, but this week we have been compelled to light the fire in the evening to prevent the temperature falling below 60°'—*C.*

Cypripedium Stonei Cannartæ.

THE upper sepal of the flowers of this fine variety are creamy-white, with a few brown lines or veins towards the sides; the outer face of both is nearly covered with an overlaid layer of a bronzy, shining, metallic brown, which gives them a fine appearance when seen from the back or when in bud. The petals are heavily shaded with this hue on the inner face, and spotted with prominent, nearly black markings. The lip is also more or less shaded with brown. An Award of Merit was accorded it by the Royal Horticultural Society, at the meeting held at Chiswick, on the 11th inst., when exhibited by Thomas Statter, Esq., (gardener, Mr. R. Johnson), Stand Hall, Manchester.

Cypripedium Massaianum.

THE parents of this hybrid were C. superciliare and C. Rothschildianum, the latter being the pollen bearer. It is the first hybrid that has appeared in which C. Rothschildianum has been concerned with the parentage. The upper sepal is broadly ovate with deep brown nerves and more slender green ones between. The petals are declinate, oblong, acute, and pale green with deeper veins, spotted all over with brown and of a rosy shade at the tip. The lip is of large size and deep brown. It was exhibited by Messrs. F. Sander & Co., St. Albans, at the meeting of the Royal Horticultural Society, held at Chiswick on the 11th inst., and was accorded an Award of Merit.

A pigmy piece of Oncidium splendidum.

USUALLY this should have a tall flower stem, but we noticed a small piece scarcely yet established in Messrs. Veitch's nursery, Chelsea, which bore a single bloom on a scape only 2½ in. high, and arising from the crown of a young pseudo-bulb. There were two other small pseudo-bulbs belonging to the piece and bearing leaves about 3 in. to 4 in. long. The sepals and petals are oblong and brown, banded transversely with yellow. The lip has a large terminal obreniform, yellow lobe, and a brown spot at the base of the lateral lobes.

Odontoglossum crispum.

A FINE variety of this cool Odontoglossum may now be seen in the nursery of Messrs. J. Veitch & Sons,

Chelsea. No special name has been given it, although many less important forms have been considered worthy of this distinction. The large, round flowers have elliptic white sepals with a few large chocolate blotches in the centre. The petals are ovate with numerous purple-brown blotches arranged round each side of the central line, and in this respect the variety differs from O. c. guttatum, which has a few large blotches in the centre of the segments. The lip is yellow with a white tip and a large brown blotch in front of the crest.

Saccolabium curvifolium.

Of the smaller species of Saccolabium, this is one of the prettiest on account of the bright scarlet colour of the flowers. The leaves are curved as the name implies, but rigid, arranged in two ranks, and about 6 in. to 8 in. long. The flowering racemes are erect, and arise in the axils of the leaves, bearing a large number of flowers. The lip is the smallest organ of the flower, and is yellow tinted with scarlet, while the sepals and petals are bright scarlet. The spur is golden-yellow and longer than the lip. It has been flowering for some time with Messrs. J. Veitch & Sons, Chelsea.

Vanda Parishi.

This curious Vanda is by no means common. At a short distance off it resembles some of the Sundaic species of Phalænopsis, such as P. sumatrana, though structually very different. The broad, green leaves also heightens the resemblance. The sepals are short, broad, and blotched with brown on a yellow ground; the petals are nearly round and similar in colour, except at the very base which is white. The lip is a curious organ with the terminal lobe concave, and a slender ridge along the centre, shaded with purple on a white ground, and the kneed base is white with two yellow spots. A fine and well-flowered piece may be seen in the nursery of Messrs. J. Veitch & Sons, Chelsea.

Disa Veitchii.

This hybrid was obtained from D. racemosa, fertilised with the pollen of D. grandiflora. It is a vigorous plant, ranging from 2 ft. to 3 ft. in height, and bearing five to eight flowers each. The leaves are of a light shade of green, and mostly produced in rosettes at the base. Offsets or suckers arise freely from the old plants or crowns, so that it can be readily increased. The upper sepal is large, concave, roundish, spurred behind, and of a rich rose, but deeper externally. The lateral sepals are oblong-ovate, broad, and of a deep purple rose. The petals are much smaller, partly enclosed in the hood of the upper sepal and of a deep purple above, spotted with crimson on the inner face, while the small front lobes are pale in hue. The lip is a curious, miniature organ of a rose colour. A batch of it in the nursery of Messrs. J. Veitch & Sons, Chelsea, who were the raisers of it, has just flowered finely. Many of the spikes were cut to do duty at the Royal Wedding.

SOCIETIES.

Royal Caledonian Horticultural.—The summer show of this society was held in the Waverley Market on the 12th and 13th inst. The miserably wet weather which prevailed on the opening day was unfortunate, and caused the attendance of the public during the afternoon to be smaller than usual. The entries were this year very large, but many of the intending exhibitors did not come forward, and, combining this with the fact that everything on the south side of the market had to be shifted during the night for the market gardeners' convenience in the morning, the Arrangement Committee again gave proof of their ability and taste. Viewing the scene from the gallery the raised-up Palms and tree Ferns scattered over the market showed lines of beauty and gracefulness, which broke the back of what they had good reasons for making the north side heavier than the south. The exhibits staged were all highly creditable, and in many of the classes were of more than ordinary merit. The Roses formed one of the principal features of the show, and in the gardeners' and amateurs' classes one would have liked to have seen a few more of those who entered coming forward to add to the display.

The blue ribbon in the class for the best thirty-six Roses, distinct varieties, was awarded to a well-known amateur, the Rev. W. Thompson, Kinglassie, Fife, who had a very fine lot; and for the best twenty-four he secured the second ticket, and in the other classes he was awarded a number of firsts. Mr. W. Parlane, Rosslea, Row, gained the second ticket for the best thirty-six; Mr. Harper, Perth, was first for the best twenty-four; and Mr. Parlane and Mr. Harper were also awarded prizes in some of the other classes. In the nurserymen's class for Roses there was a magnificent display. It was evident that a keen bid was being made by the rival firms for the coveted place of honour. The ticket for the forty-eight distinct varieties the judges awarded to Messrs. D. and W. Croll, Dundee, and as they secured this honour for the first time it increased the interest of all in their victory. Mr. Hugh Dickson, Belfast, made, as is his usual custom, a heavy bid for this prize, but had to content himself this time with the second. Messrs. Cocker & Sons, Aberdeen, were third. They were first, however, for twenty-four h. p. Roses, and for the twenty-four Teas. Messrs. Croll also gained many honours in other classes; and Messrs. Smith & Son, Stranraer, were first for twelve Duke of Edinburgh, and first for twelve new Roses.

In the fruit section there was a very fine display, and for the best collection of eight dishes, Mr. Kirk, Norwood, Alloa, was first by a long way, included in his collection being two bunches of Black Hamburgh and two of Madresfield Court Grapes, big in the berry; dish of Waterloo Strawberries—extra fine and large; a splendid Windsor Castle Melon, Hale's Early Peach, &c. Mr. Smith, Oxenford, was second; and Mr. McIntyre, The Glen, third. For four bunches of grapes, two blacks and two whites, first, Mr. Murray, Parkhall, Polmont; second, Mr. Kirk. Two Pine Apples, Mr. McIntyre. One Queen Pine Apple, first, Mr. Murray, Culzean Castle. Mr. Macintosh, Kingsmeadow, was first for six Peaches and first for six Figs. Mr. Angus Dalzell, first for one Melon.

Mr. D. Melville Elliston, St. Boswells, was awarded a special prize for a collection of fruit. For the best table of plants: first, Mr. Wood, Oswald House; second, Mr. Crichton, Southfield. Mr. Crichton was also first for foliage plants in four classes, and had a number of other prizes. Mr. Napier, Rockville, was first for three Adiantums, first for three filmy Ferns, and first for eight British Ferns. Mr. McIntyre, The Glen, was first for six table plants, and Mr. A. Laing, Salisbury Green, for two Palms, first for two Gleichenias, and first for one Tree Fern. Mr. Cropper, Faldonside, was first for ten dwarf Ferns, a very fine and healthy lot.

The competition in Orchids was not strong. Mr. Sharp, Freelands, showed for the four, and Mr. Wood, Oswald House, for two, and both for the single specimens, Mr. Sharp being first and Mr. Wood second. The cut flowers, as usual, attracted a great deal of attention, especially the bouquets and sprays, some of them being very fine and graceful in arrangement, Mr. Johnstone was first for one hand and one bride's bouquet, and Mr. Cossar was first for one lady's spray. Mr. Sharp was first with a splendid lot of twelve trusses of Orchid flowers, and Mr. McIntyre was first for twelve trusses of stove or greenhouse flowers.

In the miscellaneous class Messrs. Dickson & Co., Waterloo Place, showed a table with a centre built up with their tufted Pansies and Roses. They also showed a very fine lot of Carnations on another table. Messrs. Methven & Son, further up the market, had a table of Figs in varieties, grown in 6-in. or 7-in. pots, some of them having fourteen fruits. It is not saying too much to add that they were a feature of the show. The same firm had also a table of Clematis, about twenty varieties being shown, many of them being large specimen plants. Messrs. Laing & Mather, Kelso, had a fine show on their table of Carnations. Mr. Downie, Edinburgh, had a splendid table studded with fine single and double Begonias and other flowering plants amongst finely coloured Crotons and Palms, very attractive and telling, and it is quite evident he has entered the field as a decorator. He also scored a victory for twelve table plants, which were a very fine lot. Messrs. R. B. Laird & Sons, as usual, took a few of the leading honours with their fine selections of Dracænas and Japanese Maples, and their Conifers, which were grand plants in size and symmetry. Messrs. Dickson & Co., Waterloo Place, topped the list with their splendid Palms, lofty and graceful Tree Ferns, etc. Mr. Phillips, Golden Acre, had a beautiful table of Araucaria excelsa. Mr. M. Cuthbertson, Rothesay, contributed a superb show of herbaceous stuff, having over 100 varieties.

Vegetables were very good, and Mr. Harper, Perth, was first for the collection, and Mr. Davidson, Trinity, first for the collection of Salads.

Chiswick Show, *July 11th.*—A local show was held by the Royal Horticultural Society in place of that formerly held by the Chiswick Horticultural Society. Prizes were offered as usual in various classes, both for gentlemen's gardeners and for cottagers. There was a considerable falling away in the number of exhibits, to be accounted for by many of the gardens in the locality being laid out for building purposes and other causes. The first prize for a group of plants was awarded to Messrs. W. Fromow & Sons, Sutton Court Nursery, Chiswick. The Palms and Lilies were the most attractive feature in the centre of the group, and small fine foliage plants round the edges. The first award for a group of plants in another class was made to E. H. Watts, Esq. (gardener, Mr. Porteous), Devonhurst, Chiswick. Lilies and Palms were here again prominent. The second prize went to Dr. Tuke (gardener, Mr. H. Aspland), Chiswick House. The first prize for a group of Pelargoniums was awarded to Mr. C. Turner, Slough. The Silver Cup for twelve tuberous Begonias was awarded to Sir C. Pigott (gardener, Mr. J. Ford), Wrexham Park, Slough, whose plants had large flowers well placed above the foliage. The first prize for Coleus was awarded to A. Russell, Esq., Woodlands, Isleworth. Col. The Hon. W. P. Talbot (gardener, Mr. C. J. Waite) Glenhurst, Esher, took the first prize for nine hardy Ferns. The first award for zonal Pelargoniums was taken by T. E. H. Hodgson, Esq., Ranelagh House, Chiswick. A Silver Cup was offered by J. Mantell, Esq., Gunnersbuy, for twenty-four Roses, three blooms of each, and this was taken by Messrs. Harkness & Sons, Bedale, who had fine samples of Horace Vernet, Alfred Colomb, Gustave Piganeau, E. Y. Teas, Marie Baumann, and others. Mr. Benjamin R. Cant, Colchester, was second with considerably smaller blooms, but in some cases good notwithstanding. Mr. Frank Cant, Braiswick, Colchester, was third with small blooms likewise. There were six entries in this class, showing that the Cup was keenly contested. Messrs. Harkness & Sons again came to the front for twenty-four distinct blooms, showing large and fresh blooms. The second award went to Mr. Geo. Mount, Canterbury, who had fresh, although not very large, blooms. Mr. B. R. Cant was third. The first prize for twelve bunches of stove or greenhouse flowers was taken by E. H. Watts, Esq. Dr. Tuke was second, and T. E. H. Hodgson, Esq., was third. The latter had the best bunches of zonal Pelargoniums. The first award for twelve bunches of hardy herbaceous flowers was taken by Mr. Sage, gardener to Earl Dysart, who had massive and handsome looking bunches. Dr. Tuke was second. The first prize for herbaceous plants in another class went to Miss R. Debenham, St. Peter's, St. Albans. Mr. J. Hudson, Gunnersbury House Gardens, was second.

Mr. Thomas Osman, The Gardens, Ottershaw Park, Chertsey, had the best black Grapes and likewise the best white bunches. J. T. Hodwood, Esq., (gardener, Mr. Divers), Ketton Hall Stamford, had the only dish of Strawberries. Col. The Hon. W. P. Talbot, was first for Nectarines. A. Pears, Esq., (gardener, Mr. Debnam), Green Bank, Isleworth, had the best Peaches. The Earl of Dysart (gardener, Mr. G. H. Sage), Ham House, Richmond, took the first prize for three dishes of Tomatos. T. E. H. Hodgson, Esq., was first for Cucumbers. Col. The Hon. W. P. Talbot had the best three dishes of Potatos. Some prizes were offered by Messrs. J. Carter & Co., High Holborn, for six dishes of vegetables and the first award was taken by Col. The Hon. W. P. Talbot. The second place was accorded to W. A. South, Esq. (gardener, Mr. C. Payne), Neasden House; and A. Russell, Esq., was third. Messrs. Sharpe & Co., Sleaford, offered prizes for three dishes of Peas and the first award was accorded to Mr. H. Balderson, Hemel Hempsted: Col. Talbot was second, and Mr. T. Watkins, Grove House, Merrow, came in third. Mr. C. Osman, South Met Schools, Sutton, Surrey, was disqualified for having an alleged duplicate Pea. Fruit and vegetables, plants, window boxes, &c., were shown by cottagers in several classes, some of the vegetables being good.

LAW NOTES.

ROYAL HORTICULTURAL SOCIETY OF ABERDEEN v. MESSRS. JAMES COCKER & SONS, ABERDEEN.—In our issue of April 8th last, we gave the decision of the Sheriff-Principal of Aberdeen, Banff, and Kincardineshires, in the case of Messrs. James Cocker & Sons, Aberdeen *v.* the Royal Horticultural Society of Aberdeen, in which the Messrs. Cocker sought to have the society ordained to receive various exhibits sent in by them, and intended for exhibition at the grand floral fête to be held in the Central Park, Kittybrewster, Aberdeen, in August last year, and to submit the same to the judges, in order that the pursuers might get such of the prize-money as might be awarded them. The Messrs. Cocker had been connected with the society for many years, but in the spring of last year, Mr. Cocker, sen., disapproved of the new departure the society was making in taking their show from the Duthie Public Park, and holding it at Central Park, ultimately resigning his position as a director, and intimating his withdrawal of a contribution which his firm had promised towards the expenses of the show. The pursuers tendered their subscription some days after the last day fixed for payment, but it was returned to them by the directors, who further informed them that they could not accept their exhibits. Sheriff-Substitute Robinson found that the pursuers were barred from competing at the competition, as they had not paid their subscription within the stipulated time. He expressed his doubts as to the remedy sought, but explained that the defenders had waived that point. Defenders were found entitled to expenses. Sheriff-Principal Guthrie Smith, on appeal, recalled the interlocutor of the Sheriff-Substitute, and, although it was too late to pronounce an operative decree, he thought the action was properly brought, and found the defenders liable in expenses.

The society carried the case to the Court of Session in Edingburgh, and the Second Division has just given their decision, dismissing the action with expenses. The Lord Justice Clerk, who gave the leading decision, said the Messrs. Cocker had not sought the proper remedy, which was one of damages. An application before a Sheriff to have it ordered that certain plants should be put into a certain competition was unprecedented. As this show was to be held within six days of the application, it was quite impossible, even if the Court had jurisdiction, that any judgment could have been given effect to in time. Lord Young, who followed, remarked that, if the pursuers were wronged, they had their remedy in an action of damages. He did not see how the Court could deal with an application for specific performance. It was manifest that to have an order for specific performance carried out in this case was an impossibility. He hoped, however, that the pursuers would not carry the action any further.

WHAT TO DO IN THE GARDEN.

Poinsettias.—Cuttings for late blooming plants of Poinsettias may now be put in to root. They will make but small bracts as a rule unless the cuttings are very strong, but they will be very useful for the front benches of the conservatory or greenhouse where the temperature is kept up at night.

Winter-flowering Begonias.—Such things as B. semperflorens, B. s. gigantea carminea, and others of that class, as well as B. insignis, B. ascotensis, and the varied garden hybrids should now be in their flowering pots if a good display is expected from them. Growers would do well to turn their attention to Gloire de Sceaux as a winter-flowering subject, in view of the grand effect produced by some growers with them last winter.

Jasminum gracillimum.—Encourage good growth in this plant, for the stronger the shoots are at present, the greater the quantity of flowers they will produce in winter. After the terminal shoots are cut off, side branches will shoot out and furnish very useful cut flowers.

Allamandas.—A supply of flowers will continue to be produced up to autumn by A. Schottii Hendersonii if well situated with regard to light, but more particularly if planted out. Give it liberal supplies of weak liquid manure, and do not allow the branches to become overcrowded.

Celosias and Globe Amaranthus.—Late batches of these should be encouraged to make growth by plenty of heat and moisture, but at the same time free ventilation. They could be best managed in a pit where they would be near the glass.

Campanula isophylla.—The trailing habit of this plant makes it excellent for the front of the conservatory. The white variety C. i. alba is even more choice; but both may now be propagated by cuttings of the short, flowerless shoots under a hand glass. Keep the cuttings moist, but not too close, till they make roots, when they may be potted off separately.

Peaches.—All the ventilation possible should be given to trees in the early houses from which the fruit was gathered some time ago. By the end of this month the lights may be taken off altogether, if they are moveable, in order to expose the foliage and wood to the sun by day and the dews by night. Do not neglect them in the matter of watering at the roots whenever they require it. Tie down all the extension shoots as well as those necessary for next year's fruiting in the later houses, exposing the fruits as much as possible in order to colour them.

Cucumbers for winter.—If these are to be grown in a house at present occupied by Cucumbers about past profitable bearing, the house should be cleared out, more especially if insects have become unduly established during the dry weather. Inside and out should have a thorough cleansing—glass, wood, and walls—using paraffin in the interior to get rid of the insects. Any necessary repairs, including the heating apparatus, that may be needed should be done at once, and the house left open night and day for two or three weeks, unless some other plants are to be accommodated there for a time. But in any case thorough ventilation should be given.

Winter Onions.—Ground should now be got ready for sowing this important crop. This may be done in the space from which an early crop has been gathered of anything except the Onion tribe. Trench the ground and manure heavily at the same time. It must be remembered that winter Onions do best in a perfectly exposed position, and the ground should be selected accordingly. After trenching, tread it firm and make a sowing about the first week in August in the north, and from the middle to the end of the month in the south.

Vegetable seeds.—A sowing should be made in the first week in August of Ellam's Early or Sutton's Imperial Cabbage for early spring use. Other kinds may be grown for succession where the requirements of the place demand it. Sow also Bath Cos and Hardy Green Hammersmith Lettuces, as well as curled Endive for autumn and early winter use.

Planting Vegetables.—With the abundant rain brought by thunder storms the ground is now in suitable condition for planting, so that no time should be lost in getting in good breadths of late Brussels Sprouts, Broccoli, Cauliflower, Savoys, and Coleworts. Earth up the earlier plantings of the same.

Parsley.—Sow Parsley in sheltered positions for winter use. A sandy soil suits it best in winter, as the roots are liable to die off in heavy clay soils. In the neighbourhood of smoky towns and iron smelting works, Parsley can hardly be depended upon for a supply in the open air, so that the sowing may be made anywhere, lifted in the autumn and put in frames or potted up.

Late Peas.—These are thriving under the cooler, moister weather, but in case we should have a repetition of sunshine and wind it would be well to mulch the rows with some fairly decayed cow manure, which will not be blown about by the wind, making the place untidy.

QUESTIONS AND ANSWERS.

ANNUALS FOR SPRING FLOWERING.—*Omega*: For cut flowers in spring, sow in the first week of August such things as Myosotis dissitiflora; M. d. alba, M. sylvatica, and M. s. alba, both Forget-me-nots with blue flowers and white varieties of each. Others are Brompton and East Lothian Stocks, to be planted in sheltered positions in the autumn; also some of the strains of dwarf yellow and brown Wallflowers, mixed Polyanthus, and choice strains of Primulas. The two latter should be sown in boxes and placed in frames, or covered with squares of glass till they germinate. Other things of a useful kind are Iberis amara, I. umbellata, Collinsia verna, C. bicolor, Iceland Poppies in yellow, white, and orange hues. The latter should be very lightly covered. In all cases thin out the plants to proper distances in the autumn, or transplant them.

ALLAMANDAS.—*Croton*: We do not know of a white Allamanda; all that we are acquainted with, except A. violacea and the new A. atro-purpurea, being yellow. A. violacea has reddish purple flowers, but is not so handsome as the others and is not much grown, though as free a bloomer as most of them. You would find Clerodendron Balfourianum keep as free from mealy-bug as the Allamanda. If you were to clear all the other plants from underneath the Stephanotis and syringe it well with a paraffin mixture you can get rid of the mealy-bug. Add a little soft-soap or some new milk to four gallons of water, and then a wine-glass full of paraffin, mixing the whole thoroughly. Keep it well agitated while syringing the plant, and about a quarter-of-an-hour afterwards syringe again with clean water.

LAWN GRASS SEED.—*Delk*: It would not be too late to sow grass seed, even in September; in fact it can be done at any time between this and the end of that month to advantage, provided it is done at a time when the weather is moist and showery, so that the seeds may be able to germinate and make some progress before winter. In dry or sandy soils, autumn sowing is preferable to spring sowing, as the grass gets established before drought sets in.

NAMES OF PLANTS.—*J. E.*: 1, Aconitum variegatum, often called A. Napellus bicolor; 2, Campanula persicifolia coronaria. *Omega*: Knotgrass (Polygonum aviculare). *A. G.*: 1, Echinops Ritro; 2, Centaurea dealbata; 3, Ononis matrix; 4, Centranthus ruber. *Delta*: Enchanter's Nightshade (Circæa lutetiana. *R. C. Kingston*: The Purple-flowering Raspberry (Rubus odoratus). *A. D.*: Spiny Restharrow (Ononis spinosa). *W. Tittering-ton*: 1, Onychium japonicum; 2, Adiantum cuneatum Pacottii; 3, Veronica Andersoni variegata; 4, not sent; 5, Euonymus radicans variegata; 6, Fuchsia procumbens; 7, Artemisia vulgaris variegata; 8, Campanula pumila alba; 9, Veronica repens; 10, Lonicera flexuosa aureo-reticulata. *Henry Clark*: Trichopilia Galeottiana.

NEGLECTED LAWN.—*Ferns*: The plant infesting the lawn is not wild Thyme, but Camomile (Anthemis nobilis). There is no way of killing the Camomile without killing the grass; but if you are resolved to make the best of the present turf, you should go over it when moist after rain and pull out as much of the Camomile as you can with a peg or old knife. Then give it a sprinkling of nitrate of soda to encourage the growth of the grass, and roll it to make it firm and even. In August or September, should the weather be moist, the bare places should be raked up and a good top-dressing of rich soil spread over the whole lawn. Then sow fresh grass or lawn seed, roll it, and keep the birds away till it germinates. It could be done in spring, but you would gain time by sowing in early autumn.

TOMATOS DISEASED.—*W. W. B.*: The specimens you sent were affected with the Black Spot of Tomatos caused by a fungus named Cladosporium Lycopersici. The treatment you have given according to your statement is right with regard to ventilation and watering, but still there will be a few cases of Black Spot notwithstanding the best of treatment. The fungus gets into the fruit by means of the decaying style of the young ovary, aided no doubt by moisture at that time. There is no means of killing the fungus as it lives inside the fruit, and the only thing you can do is to burn the affected specimens as soon as you see evidence of the spot. Nothing is gained by leaving the fruit till ripe, as the fungus is increasing and scattering its spores all the time. It might be of some service to remove decaying blossoms just as the fruit is setting, to prevent the lodgement of moisture about the young fruits and the encouragement of the growth of spores.

DWARF CHRYSANTHEMUMS.—*Delta*; Growers of Chrysanthemums, in order to get dwarf plants, take the tops at various times from April onwards. Tops taken now ought to give very dwarf plants with blooms of fairly large size. You can, of course, increase the size of the blooms by disbudding, whenever you can lay hold of the side buds, leaving only the terminal one. You could strike the cuttings now so as to give them time to fill their pots with roots. Later struck cuttings will have to be bloomed in smaller pots.

MANURE FOR CELERY.—*Delta*: The best all-round artificial manure for Celery would probably be Thomson's. Directions would be given as to how to apply it, but you could not do wrong to sprinkle it on the surface and then water it down with a rosed watering pot. Nitrate of soda would furnish nitrogen and prove a very quick acting manure. It will be in a crystallised state and should be thinly sprinkled over the ground around the plants and then watered as already advised. You may give other sprinklings at intervals of three or four weeks up to the middle of September. The first named manure is an all-round fertiliser and would be most serviceable if the ground is rather poor or in any way light.

DOUBLE ANTIRRHINUM.—*Sydney Dunning*: The doubling is due to what is termed petalody of the stamens, that is, the stamens or part of them become changed into petals or into organs resembling parts of a corolla. Cases of this have been recorded as occurring in Antirrhinum, but we are not sure

whether exactly of the same nature, as we have not seen a description of the recorded cases. In the flowers you send the filaments differ from the normal in being much stouter, but the anthers are petaloid. Those proceeding from the side of the corolla which form the upper lip, have formed segments like those forming the upper lip, but on a smaller scale. On the other hand, the anthers from the lower side of the corolla have attempted to form accessory lower lips, including the palate which closes the mouth, as seen in the normal flower. The colours of the respective parts have also been reproduced by the anthers. From a garden point of view the case is curious, but probably would not be appreciated by the public generally for decorative purposes.

Blue Carnation.—*Wesley Kaye*: The flowers you sent were in better form than they were last year, without having flowers of Van Dycke for actual comparison, we believe yours to be the same variety. At all events you can retain it under that name until it can be disproved by properly authenticated specimens.

Communications Received.—R. E.—G. F.—G. T. M.—J. T.—W. C.—A. D.—J. C.—W. T.—J. G.—Mrs. L. (many thanks)—J. C., Aberdeen.—L. L.

LONDON SEED TRADE.

July 18th, 1893.

Messrs. Hurst & Son, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a slow demand for Trifolium incarnatum, which is held by French sellers for higher figures. Mustard sells freely at slightly higher rates. Rape seed neglected. Rye grasses steady.

COVENT GARDEN MARKET.

July 19th, 1893.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Cherries.....½ sieve	5 0	12 0	Melons ... . each	1 6	2 6
Filberts, per 100 lb.	40 0	45 0	Strawberries, per lb.	0 0	0 0
Grapes, per lb.	1 0	2 0	Pine apples.		
Peaches ... per dozen	3 0	8 0	—St. Michael's, each	2 6	6 0
Red Currants, ½ sieve	1 3	2 0	Black Currants, ½ sve	4 0	4 6

Vegetables.—Average Retail Prices.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Lettuces ...per dozen	2 0	3 0
Beans, French, per lb.	1 0		Mushrooms, p. basket	1 3	2 0
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	3 0	4 0	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng. dz.	3 0	5 0	Seakale .....per bkt	0 0	0 0
Celery.....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers .....each	0 4	0 8	Spinach ... per strike	4 0	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 9	1 0
Herbs .....per bunch	0 2	0 6	Turnips .....per bun.	0 0	
Horse Radish, bundle	2 0	4 0			

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	2 0	4 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Bouvardias, per bun.	0 6	1 0	Mignonette... 12 bun.	2 0	4 0
Carnations...per doz.	1 0	3 0	Pelargoniums, 12 sps.	0 6	0 9
doz. bunches.....	4 0	8 0	— scarlet.....12 bchs.	3 0	6 0
Cornflowers, dz. bun.	1 6	3 0	Pinks, doz. bunches...	2 0	6 0
Eucharis ...per doz.	3 0	6 0	Pyrethrum doz. bun.	1 6	4 0
Gardenias 12 blooms	2 0	4 0	Primula, double, bun.	0 6	1 0
Gladiolus White, dzbn	12 0	18 0	Red Roses, doz. bhs.	3 0	8 0
Heliotropes, 12 sprays	0 4	0 6	Roses, yellow, dozen	2 0	4 0
Lavender...doz. bun.	4 0	6 0	— Red..... doz. blms.	1 0	1 6
Lilium Harrisii, doz. blooms	2 6	5 0	— Saffrano...per doz.	1 6	2 0
Lilium Lancefolium doz. blooms	1 6	3 0	— Tea ..... per dozen	0 6	2 0
Maidenhair Fern, 12 bs.	4 0	6 0	Stephanotis, dz. sprays	2 0	3 0
Marguerites, 12 bun.	2 0	4 0	Sweet Peas, doz. bhs.	3 0	6 0
			Sweet Sutton, dz. bhs.	2 0	4 0
			Tuberoses, per doz	0 4	0 9

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Cissus discolor...each	1 6	2 6	Liliums, various, per doz.	12 0	24 0
Cyperus .....per doz.	4 0	12 0	Lobelia .....per doz.	3 0	6 0
Dracæna term., doz.	18 0	36 0	Marguerites, per doz.	6 0	12 0
Dracæna viridis, doz.	9 0	18 0	Nasturtiums, per doz.	3 0	4 0
Erica, various, doz.	12 0	24 0	Mignonette, per doz.	4 0	8 0
Evergreens, invar. doz	6 0	24 0	Palms in variety, each	2 6	10 0
Ferns, invar., per doz.	4 0	18 0	Palms, Specimen ...	15 0	63 0
Ferns, small, per 100	4 0	8 0	Pelargoniums ... doz.	6 0	12 0
Foliage Plants, doz.	12 0	60 0	— scarlet.....per doz.	4 0	9 0
Fuchsia .....per doz.	6 0	12 0	Saxafrage...per doz.	12 0	18 0
Hydrangea, per doz.	9 0	18 0			
Ivy Geraniums...doz.	4 0	6 0			

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FLOWER SHOWS, 1893.

Revised to date.

AUGUST.

2.—Great Saughall Flower Show.
3.—North Petherton Flower Show.
5.—Midland Counties Carnation Show at Birmingham.
5, 7.—Southampton Floral Fête.
7.—Battersea Summer Show.
7.—Beddington, Carshalton, and Wallington Flower Show.
7.—Duffield Flower Show.
7.—St. Neots Amateur and Cottage Horticultural Society.
7.—Mansfield Flower Show.
7,8.—Northamptonshire Horticultural Society's Show.
8.—R.H.S., Drill Hall.
9, 10.—Flower Show at Earl's Court.
10.—Margam Cottagers' Show.
10.—Maidenhead Flower Show.
10.—Taunton Flower Show.
12.—Ovenden Flower Show.
15,16.—Cardiff Flower Show.
16.—Bishop's Stortford Flower Show.
16—Eling (Hants) Flower Show.
16.—Reading Flower Show.
16.—Kingswood St. George Flower Show.
16.—Salisbury Flower Show.
16, 17.—Bilston Flower Show.
17.—Parsonstown (King's Co.) Horticultural Society's Show.
18.—Devon and Exeter Horticultural Society.
18, 19.—National Co-operative Flower Show at the Crystal Palace.
22.—West Malvern and Mathon Flower Show,
23, 24.—Shrewsbury Summer Show.
23, 24.—Gladioli Show at Earl's Court.
25.—Royal Horticultural Society of Ireland.
29,30,31.—R.H.S., Agricultural Hall.
30.—Easingwold Flower Show.
30, 31.—Bath Autumn Show.
31.—Thame Flower Show.

SEPTEMBER.

1,2.—National Dahlia Society's Show at the Crystal Palace.
2.—Stretford Flower Show.
2.—Bridge of Allan Flower Show.
5, 6.—Brighton Autumn Show.
6,7,8.—National Chrysanthemum Society at the Aquarium.
8.—Bute Rose Show at Rothesay.
12,26.—R.H.S., Drill Hall.
13,14.—Royal Caledonian Horticultural.
13, 14.—Dahlia Show at Earl's Court.
27.—N.C.S. Floral Committee.
27 28, 29.—Hardy Fruit Show at Earl's Court.
27, 28.—County of Gloucester & Cheltenham R.H.S.

OCTOBER.

10,24.—R.H.S., Drill Hall.
11,12,13.—National Chrysanthemum Society at the Aquarium.
25.—N.C.S. Floral Committee.
28,29—Havant Chrysanthemum Show.

NOVEMBER.

1,2.—Kent County Chrysanthemum Show.
1,2.—Battersea Chrysanthemum Show.
1,2.—Barnstaple Chrysanthemum Show.
1, 2.—Steyning Chrysanthemum Show.
2,3.—Forest Gate and Stratford Chrysanthemum Show.
2,3.—Ascot Chrysanthemum Show.
2,3.—Highgate Chrysanthemum Show.
2,3,4.—Cornwall Chrysanthemum Show.
3,4.—Grimsby Chrysanthemum Show.
6.—St. Neots Chrysanthemum Show.
7,8,9.—National Chrysanthemum Society at the Aquarium.
7,8.—Eastbourne Chrysanthemum Show.
7, 8.—Brighton Chrysanthemum Show.
7,8.—Kingston Chrysanthemum Show.
7,8.—Sevenoaks Chrysanthemum Show.
7,8.—Leeds Paxton Society's Chrysanthemum Show.
8.—Evesham Chrysanthemum Show.
8.—N.C.S. Floral Committee.
8, 9.—Bath Chrysanthemum Show.
8,9.—Barnsley Chrysanthemum Show.
8, 9.—Brixton, Streatham, etc., Chrysanthemum Show.
8,9.—Bournemouth Chrysanthemum Show.
8,9.—Bath Chrysanthemum Show.
8, 9.—Dalston Chrysanthemum Show.
8,9.—Guildford Chrysanthemum Show.
8, 9.—Northamptonshire Chrysanthemum Society.
10.—Exeter Chrysanthemum Show
10.—Windsor Chrysanthemum Show.
10,11.—Derby Chrysathemum Show.
10,11.—Bradford Chrysanthemum Show.
11.—Bacup Chrysanthemum Show.
11.—Batley Chrysanthemum Show.
14, 15.—Ipswich and East of England Chrysanthemum Show.
14, 15.—Plymouth Chrysanthemum Show.
14,15.—Croydon Chrysanthemum Show.
14,15.—Hartlepool Chrysanthemum Show.
14,15.—Cardiff Chrysanthemum Show.
14,28.—R.H.S., Drill Hall.
15.—Ealing Chrysanthemum Show.
15.—Reading Chrysanthemum Show.
15,16.—Birmingham Chrysanthemum Show.
15,16.—Bristol Chrysanthemum Show.
15,16.—Cranbrook Chrysanthemum Show.
15,16.—Great Yarmouth Chrysanthemum Show.
15,16.—York Chrysanthemum Show.
15, 16, 17.—Hereford Fruit and Chrysanthemum Show.
16, 17, 18.—Edinburgh Chrysanthemum Show.
16, 17.—Royal Horticultural Society of Ireland.
17.—Crediton Chrysanthemum Show.
21,22.—Manchester Chrysanthemum Show.
22.—Beverley Chrysanthemum Show.
22,23.—Dundee Chrysanthemum Show.
23,24.—Norwich Chrysanthemum Show.
24,25.—Eccles Chrysanthemum Show.

DECEMBER.

5,6,7.—National Chrysanthemum Show at the Aquarium.
12.—R.H.S., Drill Hall.

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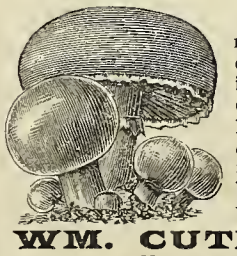

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

WEDNESDAY, August 2nd.—Great Saughall Flower Show.

THURSDAY, August 3rd.—North Petherton Flower Show.

FRIDAY, August 4th.—Sale of new Orchids, at Protheroe & Morris' Rooms.

SATURDAY, August 5th.—Southampton Floral Fête (and following Monday).

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, JULY 29th, 1893.

CANKER IN PEAR TREES.—We were shown the other day, what seems to be a new and somewhat alarming aspect of either canker or some similar disease in the stems of vigorous-growing Pear trees some six years planted. The appearance is one that would not attract the notice of an unobservant person; but those who have practical minds and keen eyes, see in these appearances quite enough to give concern. All that may be seen is burst and lifting rind, for it is rather a disease of the skin than of the solid bark. The rind, in addition to cracking and curling, also dies and turns of a dull leaden colour, very different from the tint seen on healthy, glossy bark; indeed, it is as distinctive one from the other, almost as is a callused sore upon a man's leg from the normal skin.

Curiously enough, so far, this appearance, which was brought to our notice in an extensive fruit garden, and on a sweet, sandy soil, seems to be confined to one or two varieties of Pears and to Pears exclusively, and especially to trees that otherwise seem to be in the full flush of health and vigour. We might have thought it just possible that were the attacks restricted to but one or two trees, that they were rather due to some sort of bruise, as from a kick, because in each case the appearances are found to begin only on one side of the stem, though not always on the same side, and immediately above the junction of stock and scion, developing upwards from ten to fifteen inches.

The matter seems to be one that merits the attention of experts, for it does not

seem at all possible to attribute the appearance, either to fungoid attacks—the stems previously having been so exceedingly clean, firm and glossy—or either to lack of needful food constituents in the soil, as again the entire trees are so very healthy. Perhaps it may be proved to be but a passing cause for alarm, perhaps it may be something very serious. The danger invariably in instituting enquiry is, that the subject is approached with some bias in favour of particular theories. That is a too common failing amongst scientific men. However, if there be any evidence of disease, fungoid or otherwise, the microscope should soon reveal them.

GARDENERS' OUTINGS.—Favoured by most enjoyable weather the National Chrysanthemum Society's annual summer outing last week was, as we then reported, of a most enjoyable kind, and we again refer to it here purposely to draw the moral, which doubtless has occurred to so many others, as to the exceeding value which similar outings of this nature may prove to be to gardeners in all parts of the kingdom, wherever they can be organised. Of course there must be organisation first, and that may be furnished through the agency of gardeners' associations or horticultural societies.

There should now be no centre of gardening or of population in which some such a society should not be found. Then it is essential that the outings should combine pleasure with interest. The pleasure may be easily furnished by associating with the outing some acceptable form of recreation, the interest in seeing good gardening or work of any allied kind from which it should be possible to gather much that is very useful and instructive. Socially, too, these outings have value, as they bring men into pleasant contact with each other, who would otherwise perhaps be comparative strangers, and thus serve to create amongst gardeners a homogeneity or *camaraderie*, the which is at present too much lacking.

We often hear or read of similar outings to the one we have referred to in various parts of the country, and rare is it that they are not made to possess very considerable professional interest. How many beautiful places are there in the kingdom which it would not be profitable to visit? How many of nurseries or similar establishments? Railway fares on these occasions are usually found to be low, an encouraging, certainly an essential, feature so far as gardeners are concerned, as their incomings are so very moderate.

RUNNER BEANS.—Exit Peas—from our markets—and enter Runner Beans; such were the formulas of last week. The Pea season has been an unusually short one because of the drought, and from various causes the Runner crop is not earlier than usual. Still we are now getting an abundant supply in the markets, and, because of the refreshing effects of the recent rains, we may calculate on having that supply maintained for a long season. There is, perhaps, no other summer crop of such importance to the market grower, or the vast army of consumers, as is that from the Runner Beans, and even were there plenty of good Peas still to be had, the demand falls off amazingly as soon as the Runners come to hand.

This crop will have everything pretty much its own way until the autumn Cauliflowers are in. Then the Runner Beans will have to cheapen materially. It is well for us indeed that we have these Cauliflowers to fall back upon in the autumn; for sometimes when we have very early sharp frosts, and Beans, Marrows, or other tender vegetables are prematurely destroyed, we should indeed run short of good vegetables did not the Cauliflowers come in then and give a welcome supply. We have most certainly considerably improved upon our stocks of Runner Beans during the past ten or twelve years. No one now who knows varieties asserts that the old Scarlet or the Painted Lady are the best. We have in the selected varieties, that give such fine pods, and especially in the cross-bred varieties, made very marked advance, beyond which it will be difficult to go.

Ne Plus Ultra, Hill's Prize, Scarlet Champion, A1, etc., whether really very diverse, or only slightly so, at least are all splendid forms, the pods long, straight, handsome, succulent, and very prolific. We may also remind readers that there are some capital strains of what may be called French Runners to be had, and added to these is the old case knife type, and not least, the really delicious Butter Beans, which deserve to be far more widely grown and consumed than is at present the case.

The Newton Abbot Horticultural Society's annual exhibition will be held on Thursday, August 3rd.

Mr. E. F. Hazelton formerly gardener at Highfield Hall, Leek, has been engaged to succeed Mr. Hobday, as gardener to Lord Yarborough, at Brocklesby Park, Ulceby.

Narcissus Exhibition in Birmingham in 1894.—The committee of the Birmingham Botanical Society have decided upon holding a second exhibition of these popular flowers in their gardens at Edgbaston in April next, and schedules will shortly be ready.

The Big Gooseberry Season has hardly commenced yet so far as the ordinary newspapers are concerned, but of the genuine article some fine specimens are making their appearance at the special Gooseberry shows, notwithstanding the drought. The largest berry we have heard of this season yet weighed 24 dwt. 7 grs. and took the premier award last week at Harborne. The variety was "Surprise." The same exhibitor won with this variety last year, the weight then being 23 dwt. 7 gr.

The forthcoming Shrewsbury Flower Show.—The committee of the Shropshire Horticultural Society have recently decided upon adding another important class, which will be an attractive feature of the exhibition, viz., a special class for a display of floral arrangements, in a space 10 ft. by 4 ft. 6 in., a few small plants allowed for effective staging. Any design in flowers admissible, entirely at the discretion of the exhibitor; first prize, £5 and Gold Medal, value £3 3s; second prize, £3 and Silver Medal; third prize, £2. Several prizes of £5, £4, and £3 are offered in the schedule for a collection of Carnations and Picotees in variety, shown with their own foliage and buds, not dressed in any way; and some of the Midland growers were hoping to have staged good exhibits, but in the Midlands and the south Carnations are almost over now, and the northern growers will have the chance of clearing the deck on the 23rd August, for no one else will stand a chance.

Interesting Action by a Gardener.—A joint action, involving a master and servant, has been decided by Sheriff Guthrie, in Glasgow Sheriff's Court. James Downes, gardener to Mr. Geo. Breen, of Broomhill House, Partick, Glasgow, brought an action against his employer for unjustifiable dismissal between terms. Mr. Breen brought a counter claim against Downes, inasmuch as he was responsible for some plants which had suffered deterioration in the hothouses and garden. Under a written agreement Downes was employed as gardener for the year from May, 1890, and continued in the service of Mr. Breen until November, 1892, when he was dismissed. Being a yearly servant the gardener contended that he was entitled to his wages up to Whitsunday, 1893. The Sheriff, in the course of his interlocutor, stated that Downes was employed for a year from May 1890, which agreement was tacitly renewed for another year. In August Breen complained of the way in which Downes did his work, and in October dismissed him as from November 28. He found that the dismissal had not been justified, and awarded £10 damages. He dismissed the counter action. Mr. Breen has intimated an appeal to Mr. Berry, the Sheriff Principal.

National Chrysanthemum Society.—A meeting of the General Committee of this Society was held at the the Royal Aquarium on the 21st inst. to inspect some blooms of Chrysanthemums sent in blocks of ice from Sydney, New South Wales, by Mr. J. L. Faire. The blooms were four in number, frozen in separate blocks, and all Japanese varieties, one reflexed and three incurved, and in size and other characteristics of Japanese varieties were much larger and finer than the flowers received last year from New Zealand, but from want of skill in the freezing process the blocks were not so clearly transparent as they might have been, and consequently the evident beauty of the flowers could not be so easily seen. They were grown by Mr. R. Forsyth, of Sydney, and formed a part of his stand which won the premier cup at the last Chrysanthemum Show of the New South Wales Horticultural Society held four months ago. A Silver Medal was awarded to Mr. Forsyth for the interesting exhibit. Twenty members and two Fellows were elected; and the Cockermouth and North of England Chrysanthemum Society admitted into affiliation at the same meeting. Messrs. Cannell & Sons also received a vote of thanks for a few singularly fine new double Begonias.

London Parks and Open Spaces.—In his annual address delivered on Tuesday, Mr. Hutton, the Chairman of the London County Council, said the work of the Parks and Open Spaces Committee had largely increased. The addition of no less than 1,000 acres to the parks and open spaces during the last four years had been of immense advantage to London. The erection of band-stands and the provision of bands, of bathing shelters, cricket grounds, gymnasia, refreshment houses, lavatories, and the thousand-and-one matters of detail carried out by the Parks Committee in the interest of Londoners, is a record of which the committee and its able and genial chairman, Mr. Torrance, may well be proud. The Council possesses fourteen parks, thirty open spaces, and twenty-two gardens, the annual cost of maintenance of which is £82,992, but there are few items of expenditure devolving upon the Council that receive more general approval than the expenditure in connection with London's open spaces.

The Gardeners of Cornwall.—The rain has done wonders here. Not only has vegetation improved in a way even surprising to the gardeners themselves, but fruit has developed to an extent never, perhaps, formerly known. Apples are prodigous in quantity, and Pears and Plums equally, if not more, abundant. Mushrooms are exceedingly early, and tons upon tons have this week been sent from most of the western railways to the London markets. Tomatos are very fine and numerous, both those grown in the open and under glass. Indeed, the out-of-door growth has superceded in abundance, and certainly in quality, those cultivated under glass. On every hand there are indications that nothing in the future shall be wanting to further the interests of fruit growing in the West of England. Societies are being formed for the purpose of teaching "the young ideas how to shoot," and the various horticultural institutions are going into the subject with an earnestness never before heard of. In order to stimulate further interest in this matter, the Earl of St. Germans has been liberal enough to give five guineas for the best collection of fruit grown in Devon or Cornwall for marketable purposes, and the Mayor of Plymouth, Mr. W. Law, has offered a similar sum for the best arranged dinner table, prizes to be awarded at the forthcoming floral fête at Beaumont Park, Plymouth, in August. There is no doubt the competition for the prizes will be large, as, perhaps, no better year for splendid fruit has been known in the west during the present century.

Wakefield Paxton Society: Roses in the North.—A correspondent writes:—One of the surprises of the exceptional season is the way in which the Roses have withstood the drought. It is true that the June Roses had a short innings, but almost without exception the standard of size, form, and general excellence has been maintained. The drought has not been so severe in the north as in the southern counties, and the northern rosarians have carried off the cream of the prizes at the big shows. In a good many districts Roses have been singularly free from

aphides, caterpillars, etc., and the growth is clean, stout, and well ripened. The national flower was the subject discussed at the meeting of the Wakefield Society on the 15th inst., and Mr. Skinner, the essayist, gave a most instructive and interesting paper. There was more than an average attendance of members, including nurserymen, gardeners, and amateurs, whose contributions of flowers made quite a respectable show. A lively discussion followed the reading of the paper, and at the conclusion of the business of the evening the blooms were sold and over a sovereign was realised, which is to form the nucleus of a subscription to the Royal Gardeners' Orphan Fund.

White Slaves wanted in Ireland.—If there is any poor unfortunate English gardener, married, but "without incumbrance," who would like to serve a compatriot in Ireland, for the bare means of subsistance—himself as garden slave, and his wife to rub the skin off her fingers in the laundry—let him apply to us for the name and address of the person who sent the following recently to a London nurseryman.

"Mrs.——— sends details of cottage laundry, and wages (22s. per week, with coal) she proposes giving for man and wife. She would be very glad to get clean English people, being English herself; there is a great want of labourers, laundresses, and domestic servants, all the best having gone to America. Laundry, cottage, and a little furniture, including bedstead (no bedclothes or chairs), small chest drawers, kitchen cupboard and table, small close-range, &c., *free*. Small wash-room, good ironing-room, boiler, stove for irons, mangle, airer, drying ground in large field. Wages for man, 12s. per week; for woman, if really good laundress, 10s. per week, but to find own soap, soda, starch, and blue, and guarantee to use no washing powders. Coal and coke for laundry provided. Small garden could be made by energetic man at side of cottage. No pigs, poultry, or dogs to be kept but by arrangement (poultry in wire, or dogs in kennels) as the cottage must be kept clean, neat and tidy, and its surroundings of paths, &c., so that the laundry can be seen at any time by friends. Besides ironing room, cottage consists of one good-sized bedroom, kitchen, and small bedroom or lavatory for man, and would only hold comfortably man and wife without incumbrance, or with one young daughter over eight. As stated before, the woman must be a very good laundress, and *strong*, and both must have good characters for being sober, honest, trustworthy, and clean, also industrious." We print the letter *verbatim et literatim*, and would only add that if there are many more of the same sort of employers in old Ireland, one cannot be surprised at "all the best" of her humble sons and daughters having gone to America.

AMERICAN JOTTINGS.

Visitors to Boston.—Notable visitors to Boston during the first week in July were Messrs. Vilmorin, of Paris, and Nicholson, of Kew Gardens, England, both on their way to Chicago. They visited, as does everybody nowadays, the Arnold Arboretum, and spent a few hours among the trees and shrubs.

Ligustrum Ibota.—One of the most beautiful shrubs now in bloom at the Arnold Arboretum is the comparatively recently introduced Ligustrum Ibota. It is impossible to exaggerate the beauty and symmetry of one of these plants in bloom. For decorative cut flower work the long slender branches are particularly adapted, and there is no reason why it would not make a profitable forcing shrub.

Mr. W. Goldring, of England, and more recently of India, brother of the Messrs. Goldring, of Albany, N.Y., honoured Buffalo with a very short visit on Saturday, July 1st, in company with his brother "Sam." Mr. Goldring has just returned from India, where he has been laying out some grand places for some of the native princes. Mr. Goldring is one of England's foremost landscape gardeners, as well as being a horticultural author of wide renown. It was gratifying indeed to hear such unstinted praise of our beautiful park and matchless resident streets from such a travelled man.

Roman Hyacinths from Bermuda.—A few Bermuda grown Roman Hyacinths have arrived in New York. It is not yet known how well they will compare with the French stock when forced.—*American Florist.*

Horticultural Congress at Chicago.—The date for the World's Horticultural Congress at Chicago has been fixed, beginning August 16th, 1893, and continuing four days. Horticulturists throughout the world are cordially invited to so arrange their visit to the World's Columbian Exposition that they may be present on the above date. The Society of American Florists and the American Seed Trade Association and the American Pomological Society will hold their annual meeting during the same months.

Columbus Sighting Land.—Mr. Charles A. Krombach, of Brooklyn, has on exhibition a floral model of "Columbus Sighting Land." The caravel, Santa Maria, is formed of Echeveria, Alternanthera, and Ivy plants. The vessel measures about 8 ft. long by 3 ft. deep, with masts, bowsprit, and sails complete; the colours of Spain and America are waving from the mastheads. Columbus in blue, white, red, and yellow immortelles, stands on the prow of the caravel holding to his eye a miniature telescope. The ocean is represented by a patch of Ageratum.

Retarding Bulbs.—Mr. Benj. Durfee, of Washington, has given considerable study to the cold storage system as applied to retarding or extending the flowering period of certain kinds of plants and bulbs; special attention has been given to Lily of the Valley for one or two seasons, mainly to determine the most suitable temperature for keeping it dormant beyond its natural flowering period. Several large patches have been kept at different temperatures and the results tested in the greenhouse. One small batch has been kept at a temperature of 5° F., and other larger lots from that to 40° F. Mr. Durfee is of the opinion that a very low degree of cold is entirely unnecessary and even hurtful if continued for a long period. The larger part of the stock seldom gets below 24° F., and he thinks 32° F., or a little higher, is quite a safe figure; but a great deal depends upon the condition of the roots when put in. Several other things have been worked upon with more or less success. Roman Hyacinths put thickly in boxes as late in the season as possible for them to make a fair quantity of roots and transferred gradually to a temperature of 24° F., have been brought in flower successfully several weeks after the regular supply has run out. The only trouble is that the number of people who appreciate these flowers out of season is not sufficient to make the work pay.—*Florist's Exchange.*

TOMATOS: WHAT ARE THEY?

When, some time since, the subject of the position of the Tomato on show tables was discussed, it was little imagined that the point would ever be the subject of an important decision in a law court. The report you furnished last week of the very interesting case tried in New York, in which the Tomato figured as the hero, shows that in legal estimation there at least it is regarded as an ordinary vegetable, and probably did a similar case crop up in one of our law courts, it would result in a similar verdict. That is at any rate the recognised legal and also technical position of the Tomato at present. What it may be twenty years hence it is difficult to say, for so rapid are the changes in public taste, and the Tomato as it is now is pretty good evidence of such rapid change, we may see it then elevated to the status of a dessert fruit. Nothing seems more probable, for there can be no doubt but that the popular taste for Tomatos is fast tending in that direction, whilst it may be materially aided if the fruit be so far improved in relation to flavour, that it shall be in that respect made much more palatable and attractive than it is at present.

The Tomato has very much in its favour. It is very easily grown, the fruits are very handsome, of a beautiful colour, soft, juicy, and refreshing, and especially acceptable, because so soft and easy of digestion, to the aged. It is one of the oddities of the classification to which garden products are subjected that whilst a Cucumber is a vegetable, and yet it is invariably eaten when raw, its allied species the Melon is classed as a fruit because it is sweet, and like the Cucumber is not a cooking product. The Tomato certainly seems to be as fit to class with the Melon as with the Cucumber. Except as to its acknowledged position on the show table it matters little what the Tomato is classed with. It has become a wonderful article of commerce, and a most popular product, and for that we are glad.—*A. D.*

SCOTTISH ARBORICULTURAL SOCIETY.

Annual Meeting and Excursion.

The annual meeting of this Society will be held in the Society's rooms, 5, St. Andrew's Square, Edinburgh, on Monday, August 7th, at 11.30 a.m., to elect new members and office-bearers for 1893-4; to receive reports of the auditors and treasurer; and report by the judges on the nineteen essays received in competition. At two p.m. the members will leave the Prince's Street Station of the Caledonian Railway for the annual excursion. Special saloon carriages will be provided for the members, and will be at their service throughout the excursion. Travelling viâ Carlisle and the L. & N.W Railway, Willesden Junction, London, will be reached about 10.38 p.m., and thence viâ Clapham Junction and L. & S.W.R. the party will arrive at Windsor the same night.

The headquarters of the Society during the stay at Windsor will be the White Hart Hotel. Starting from the White Hart at 8.3 a.m. on Tuesday, August 8th, the party will visit Windsor Castle, the Royal Gardens, and the Prince Consort's Shaw Farm. Then after they will drive through Windsor Great Park and Forest, when the following, among other objects, will be seen:—The Flemish Farm, the Prince Consort's Oak, William the Conqueror's Oak, Queen Adelaide's Oak, the Queen's Jubilee Oak, the Prince Consort's workshop, the statue of the Prince Consort, Virginia Water, the Cedar drive, Belvedere Fort, the Obelisk, the Rhododendron drive, and Oak Plantation of 200 years' growth, and thence by the Long Walk to Windsor, arriving there at about 7.30 p.m.

The annual dinner will be held at 8 p.m., at the White Hart Hotel.

On Wednesday, the 9th of August, the members will leave Windsor in carriages at 10 a.m., to visit the Woodlands on the estates of the Duke of Westminster, at Cliveden, and Lady Fortescue, at Dropmore, and to the famed Burnham Beeches. The party will then return to head-quarters to proceed by special train at 7 p.m., from Windsor to Southampton.

The head-quarters of the Society during the visit to the New Forest will be at the South-Western Railway Hotel, Southampton.

On Thursday, August 10th, the excursionists will cross Southampton Water by steamer to Hythe, and thence drive through the southern part of the New Forest viâ Beaulieu to Lyndhurst, where lunch will be served in the Verderers' Hall, in the Queen's House. Afterwards the features of interest around Lyndhurst will be inspected, and the drive continued to Mark Ash, Rhinefield, and Boldrewood, returning to Southampton about 7 30 p.m.

On Friday, August 11th, the drive will be resumed to the northern parts of the New Forest viâ Lyndhurst and Rufus' Stone to Fritham, walking through Bentley's Plantations, Sloden Old Wood, and Island Thorns, Younger Plantations, driving thence to Stoney Cross, where lunch will be served. Resuming the drive through the Forest, Southampton will be reached in time for the 7.25 p.m. train for London. On Saturday, August 12th, the members will go by train from Victoria at 8.45 p.m. to Kew Gardens, returning at 12 44 p.m. to Earl's Court Station, to visit the Forestry Exhibition on the special invitation of the Directors. This will close the programme of this excursion, and those desiring to return to Scotland the same night can catch the 8.50 p.m. or 10 p.m. train from Euston Station for Edinburgh and the North.

COREOPSIS GRANDIFLORA.

It would be extremely useful to the readers of The Gardening World who are interested in hardy flowers if those who have tried this plant would give their experience with it during this summer. I was very much pleased with some flowers I saw exhibited last year, and was very anxious to obtain some plants of what I thought to be one of the most beautiful hardy plants I had ever seen. I was cautioned by several growers of herbaceous plants not to expect too much, and I may say that I have not had a bloom any better than the ordinary C. lanceolata. I have seen it growing in the gardens of two friends, both of whom have got quite a distinct plant to mine, and with rather better flowers, but nothing like what I had hoped for.—*G. H. S.*

FLORICULTURE.

The Bristol and West of England Carnation and Picotee Society.

THE first annual exhibition of Carnations and Picotees by members of this society was held at the Zoological Gardens, Clifton, Bristol, on Wednesday, the 19th inst. The society has only recently been formed, and at present numbers about forty members, the Marquis of Bath, and Sir Michael Hicks Beach, Bart., M.P., being patrons, the High Sheriff of Bristol (Alfred Deedes, Esq.), president, and Messrs. E. J. Lowe (Chepstow) and F. R. Fry (Keynsham) vice-presidents. There were between fifty and sixty entries for the various classes and the competition was very keen, particularly in the white ground Picotee class and for single specimens, the blooms being quite up to exhibition standard.

A new white tree Carnation named Blagdon Surprise was exhibited by Mr. F. R. Robinson, of Sneyd Park, Bristol, and was awarded a First-class Certificate; it was much admired. Mr. F. Hooper, of Bath, showed bunches of Phlox and several spikes of Gladioli not for competition, a Certificate of Merit being awarded same. Mr. F. Farr, Willsbridge, near Bristol, sent a box of cut Begonias (double and single), a Certificate of Merit being given. Mr. Harris, gardener to the Zoological Society, staged twelve pots of seedling Ferns, for which a First-class Certificate was awarded. A small miscellaneous group was staged by Messrs. Garraway not for competition, together with specimen Fuchsias, Begonias, and Ferns by Mr. Harris.

Mr. Ben Simonite judged, and his decisions gave general satisfaction. He expressed his opinion that the show as a whole was very good for a first attempt, and that some of the winning stands were as good as any he had seen this year. It is intended next year, as the subscription list is increasing, to add to the number and value of the prizes.

PRIZE LIST.

TWELVE CARNATION BLOOMS, bizarres and flakes, distinct.—First, Mr. A. R. Brown, Birmingham, with C. H. Herbert, Mrs. Barlow, Tom Pinley, Douglas, No. 37, Ellis Crossley, John Payne, Squire Llewellyn Samson, Tom Macreath (good), Virgil (good), Rosy Morn, and Admiral Curzon (premier Carnation in show); second, Mr. F. Hooper, Bath: third, Mr. H. Hooper, Chippenham. SIX CARNATION BLOOMS.—First, Mr. W. Dowell, Chew Magna, with Dan Godfrey, and five seedlings.

TWELVE PICOTEE BLOOMS, distinct varieties, white ground.—First, Mr. Chas. Turner, Slough, with Morna, Zerlina, Favourite, Princess of Wales, John Archer, Lady E. Van de Weyer, J. B. Bryant, Thomas William, Nellie, Adolphus, Lady Holmesdale, and Mary; second, A. R. Brown; third, Mr. F. Hooper; fourth, Mr. H. Hooper. SIX PICOTEE BLOOMS.—First, Mr. F. W. Baker, Keynsham, with Mrs. Chancellor, Ethel, Edith D'Ombraine, Nymph, and two seedlings; second, Mr. W. Dowell.

TWELVE BLOOMS, YELLOW GROUND, distinct varieties, selfs excluded.—First, Mr. Chas. Turner, with Stadtrath Bail, Mrs. Henwood, seedling (good), Lilian, Countess of Jersey, Agnes Chambers, Edith M. Wynne, Annie Douglas, Mrs. Arthur Barret, Nellie Bath, Magnet, and Mrs. R. Sydenham (grand), premier yellow ground Picotee in the show; second, Mr. A. R. Brown; third, Mr. F. Hooper. SIX BLOOMS, distinct.—First, Rev. G. R. Brown, Iron Acton, with Mrs. Henwood, Lady Edwards, Victory, Mrs. R. Sydenham, Dorothy, and Countess of Jersey; second, Mr. F. W. Baker.

SELFS, FANCIES AND YELLOW GROUND, twelve blooms, distinct varieties. First, Mr. Chas. Turner with Germania (good), Ruby (good), Terra Cotta, The Governor, Konig Albert, Almira, Salamander, Rose Unique, King of Scarlets (grand), Romulus (good), Duchess of Sutherland and Janira. Second, Mr. A. R. Brown; third, F. Hooper. SIX BLOOMS. First, Rev. G. R. Browne with Colonial Beauty, Aureola, Dodwells S588, Mrs. Henwood, Mrs. R. Sydenham, and Annie Douglas; second, Mr. F. W. Baker; third Mr. W. Dowell.

SINGLE SPECIMENS: CARNATIONS, bizarres and flakes.—First and second, Mr. A. R. Brown, with Joe Edwards and Jim's Favourite; third, Mr. F. Hooper, with a seedling Scarlet Flake.

PICOTEES: white ground.—First, Mr. A. R. Brown, with Thomas William (grand), premier Picotee in show; second and third, Mr. C. Turner, with Thomas William and Nellie; YELLOW GROUND, selfs excluded.—First, Mr. C. Turner, with Countess of Jersey; second, Rev. G. R. Browne, with Mrs. Henwood; third, Mr. A. R. Brown, with Queen Boadica. SELFS OR FANCIES.—First, Mr. A. R. Brown, with Rose Unique (grand); second, Mr. C. Turner, with Salamander; third, Mr. A. R. Brown, with Mrs. Fred.

SIX VARIETIES OF CARNATIONS OR PICOTEES, six stems of each variety.—First, Mr. H. Hooper, Chippenham; second, Mr. F. Hooper, Bath.

SIX POTS OF CARNATIONS OR PICOTEES.—First, Mr. H. Hooper, Chippenham; second, Mr. F. Hooper, Bath.

The Silver Medal given by Mr. Charles Turner for twelve Carnations was won by Mr. A. R. Brown, Birmingham, with Aureola, Rose Unique, Blushing Bride, Hebe, Chamisso, Ruby, Wieland, Gustave Freitag, Avalanche, Mrs. Fred, Rose Wynne, and another. The special prize, given by Messrs. Crane & Clark, of Hillside Nursery, March, Cambs, for six blooms of Germania, was won by Mr. F. Hooper, Bath. It may be mentioned that the southern growers were past their best owing to the season, and could have shown much stronger two weeks ago.

Midland Counties Carnation and Picotee Society.

THE third annual exhibition was held in the Botanical Gardens, Edgbaston, Birmingham, on the 22nd inst., and in the face of the very early and trying season, was a success far beyond the expectations of the committee. The classes generally were strongly filled, and in many cases the competitors ran very close together. There was a large attendance of visitors, and the weather was very fine. Twelve Carnations: First, Mr. T. Lord, Todmorden; second, Mr. Robt. Sydenham, Birmingham; third, Mr. John Whitham, Hebden Bridge; fourth; Messrs. Thomson & Co., Birmingham; fifth, Mr. E. Shaw, Manchester; sixth, Mr. Charles Freeland, Larkhall, N.B.; seventh, Mr. Henry Geggie, Bury. The Carnations, generally, were not up to the usual standard, exhibitors having so few blooms left. For twelve Picotees there was a strong competition, eleven exhibits being staged. First, Mr. Robt. Sydenham, and in this stand were very fine blooms of Rosie Sydenham, a new and very fine flower; Mrs. Coldridge, Nellie, Polly Brazil, and Mrs. Payne. second, Messrs. Thomson & Co., with a superb Nellie in this stand; third, Mr. A. R Brown, Pride of Leyton, a fine new variety, Mrs. S. Beal, new and fine, and Mrs. Payne fine in this stand. Fourth, Mr. John Whitham: fifth, Mr. Tom Lord; sixth, Mr. E. Shaw; seventh, Mr. Chas. Turner.

For twelve yellow grounds: First, Mr. Robt. Sydenham with Countess of Jersey, Janira, Romulus, Mrs. Henwood, Stadtrath Bail, Schleiben, Brockham, Victory, Mrs. Robert Spencer, A. W. Jones, and two others; second, Messrs. Thomson & Co. with Romulus, Mrs. Spencer, a very fine new yellow ground, bright lemon, beautifully edged with mauve; Mrs. R. Sydenham, Parsifal, Heinrich Engel, Von Beningen, A. W. Jones, and Old Coin, all fine; third, Mr. Charles Turner, and in this stand were two fine new kinds, Adele, pale cream edged with scarlet, and Miss Proctor, creamy-buff striped with bright scarlet, two good flowers. Countess of Jersey also fine in this stand; fourth, Mr. Arthur Medhurst, Oxford; fifth, Mr. B. Simonite, Sheffield; sixth, Mr. J. H. Wilson, Birmingham. For twelve selfs: First, Mr. Robert Sydenham with Germania, Ruby, Gladys, Justinian, a bright, light pink; Blushing Bride, seedling, scarlet, fine; Annie Lakin, Joe Willett, Queen of Buffs, Theodore, Chaundy's Aureola, and a dark sport from C. H. Herbert; second, Mr. A. Medhurst with all seedlings of Mr. Dodwell's; third, Messrs. Thomson & Co., and in this stand were Gilbert, very fine bright, rosy-pink; King of Purples, a superb purple self; Negress (Thomson's), fine; and Thomson's Mrs. Joseph Chamberlain, soft salmon-pink; fourth, Mr. C. Turner; fifth, Mr. Wilson.

Six Carnations: First, Mr. C. Head, Hebden Bridge; second, Mr. Ben Simonite, Sheffield; third, Mr. A. Medhurst; fourth, Mr. Joe Edwards, Manchester; fifth, Mr. W. Kenyon, Bury; sixth, Mr. C. F. Thurstans, Wolverhampton; seventh, Mr. Jas. Bleakley, Manchester. For six Picotees: First, Mr. C. Head; second, Mr. Thurstans; third, Mr. A. W. Jones, Handsworth; fourth, Mr. W. Kenyon; fifth, Mr. J. P. Sharp, King's Heath; sixth, Mr. Wm. Spencer, Jun., Birmingham; seventh, Mr. James Bleakley. For six fancy yellow grounds: First, Mr. A. W. Jones; second, Mr. A. R. Brown; third, Mr. W. Spencer; fourth, Mr. George Chaundy, Oxford; fifth, Mr. R. Makepeace, Leicester; sixth, Mr. George Eyn, Derby; seventh, Mr. Ed. Hill, Nottingham. For six selfs: First, Mr. W. Kenyon; second, Mr. E. Shaw, Manchester; third, Mr. A. R. Brown; fourth, Mr. Joe Edwards; fifth, Mr. W. Bacon, Derby; sixth, Mr. E. Hill; seventh, Mr. Chaundy. In the maiden exhibition class for six Carnations and Picotees Mr. George Chappell, Birmingham, was first; Mr. J. Lamb, Burton Joyce, second; Mr. Henry Buck, Birmingham, third; and Mr. H. G. Owen, Birmingham, fourth.

Eighty-four prizes in 19 classes for single blooms not only took some judging, but would require some space for reporting, and we cannot spare this room just now. The premiers were:—Bizarre Carnation, Mr. Tom Lord, with Master Fred; flake Carnation, Mr. B. Simonite, with Sportsman; self Carnation, Mr. C. Turner, with Germania; yellow ground Picotee, Mr. W. Spencer, Jun., with Mrs. Robt. Sydenham; heavy-edged Picotee, Mr. A. W. Jones, with Mrs. Payne; light-edged Picotee, Mr. R. Sydenham, with Thomas William.

There were classes for border Carnations: For twelve bunches, First, Messrs. Thomson & Co.; second, Mr. F. Perkins, Leamington; third, Messrs. Hewitt & Co., Birmingham; fourth, Mr. S. Rogers, Whittlesey; fifth, Mr. W. H. Divers, Ketton Hall Gardens. For six bunches there was also a good competition. Bouquets and sprays of Carnations were well competed for, as also baskets of Carnations and Picotees; in the latter Mrs. Herbert, Sparkhill, taking first prize for a beautiful arrangement.

Six Carnations in pots, Mr. R. Sydenham was first; Messrs. Thomson & Co. second; and Mr. E. M. Sharp, Birmingham, third. Bouquets and sprays of Sweet Peas were also invited and well contested. Certificates of Merit were awarded to Messrs. Thomson & Co. for seedling self Carnation Topsy and seedling yellow ground Picotee Mrs. Spencer; and to Mr. George Chaundy for seedling S. B. Carnation Albert Whitham. Certificates to Mrs. Thewles, Floral Depot, Birmingham, for a white wedding shower bouquet; and to Mr. Anstiss, Brill, for Dahlias. The Birmingham Botanical Society's Silver Medals were awarded to Mr. R. Sydenham and to Messrs. Hewitt & Co. for cultural excellence; and their Bronze Medals to Messrs. Thomson & Co. and Miss Perkins, Leamington.

The Midland Counties Pansy Society's Medals were awarded as follows for honorary exhibits of exceptional merit:—

Silver-gilt Medal to Messrs. Hewitt & Co. for fine tuberous Begonias and herbaceous and other cut flowers.

Silver Medal to Mr. J. White, nurseryman, Worcester, for a fine display of herbaceous and other cut flowers.

Silver Medal to Mr. B. R. Davis, Yeovil, for a collection of double Begonia blooms.

Silver Medal to Messrs. Thomson & Co., Birmingham, for a collection of border Carnations.

Bronze Medal to Mr. Henry Eckford, Wem, for new and choice Sweet Peas.

Bronze Medal to Messrs. Jarman & Co., Chard, for herbaceous and other cut blooms.

THE TRADE IN OSIERS.

A large proportion of the osiers grown are sold by the growers in a green state. In the Cambridge district it has become usual to sell by auction at so much per acre, the purchaser cutting the crop and carrying it away. Basket-makers frequently contract with growers to take their green rods at a fixed price for a series of five, seven, or even fourteen years. The most common plan is for the grower to cut and sell green on the spot at the market price of the day. This price has of late years ranged from 1s. 6d. to 2s. 6d. per bunch, and at the present time, the price is 2s. for good rods. Some of the larger growers peel and store the rods, and sell them when there is a brisk demand. Some, and an increasing number, combine the business of growing with that of manufacturing.

White rods are now generally sold by the ton, and the present price is about £18.

Taking the figures and prices given previously as a basis, it would appear that a grower who sells his rods green would receive for an average crop at present prices £15 an acre. A grower who peels his rods would receive for the same crop, at present prices, £34 19s. 1d.—*Board of Agriculture Report.*

THE VEGETABLE GARDEN.

Strawberries.

CLEAR all beds of weeds and runners except such as are required for layering. This work should be got on with as fast as possible. The Noble runners that were layered some weeks since are all well rooted and ready for planting. Plant them on a warm border which has been well manured and deeply dug, and they will make good crowns for next season's crop. Any old beds that are not wanted should be cleared away, and the ground used for Coleworts or some other late crop. Potting for forcing may be now proceeded with as fast as the runners are ready. Some growers like to pot early and get the pots very full of roots; this may be the best for very early forcing, but for late forcing and frames nothing is gained by early potting, in fact, I have seen very good crops obtained from plants lifted from the open ground and potted in the early spring.—*G. H. S.*

Cankered Parsley.

OUR Parsley has gone off, like some directors of rotten building societies, and nothing but bankruptcy and bare beds stare us in the face. True, there are a few plants standing up like sentinels, and proud they seem to be in having plenty of space in which to show off their yellow leaves. As it seem hopeless to think of catching the departed plants, we shall have to try a new prospectus and make a new start with some fresh seed. We propose to get ready some boxes and sow at once for a catch crop to help us through the winter. I like the auriferous colour when allied to the coin of the realm, but when it appears in one's Parsley bed, truly is it the root of evil.—*B. L., Lindley, Huddersfield.*

TRENTHAM FLOWER SHOW.

VISITORS to Trentham last week, on the occasion of the holding of the sixth annual exhibition of the Trentham and Handford Horticultural Society, not only enjoyed the pleasure inseparable from the inspection of a finer show than any which preceded it—which is saying a great deal, considering the high position which the society's shows have attained—but also of observing that in the princely gardening establishment the much-needed improvements are rapidly being taken in hand. During the later years of the late Duke of Sutherland's life Trentham fell from its once proud position and for a time was little better than a market garden. Those degenerate days have now happily passed away, and the glory of Trentham is coming once more into the ascendant. The new Duke and Duchess have decided tendencies in the direction of horticulture, and with such a skilful man at the helm as Mr. Peter Blair, it will not be long before we shall see Trentham as of yore—one of the British Meccas of horticultural pilgrims.

The Trentham executive were again favoured with delightful weather, and the combined attractions of the ducal demesne, the very fine show, and the Royal Engineers' band, drew an immense attendance from all parts of the Potteries. There was also a large attendance of horticulturists, the result, in a great measure, of the doubling of the value of the prizes, which largely increased the number of entries in all classes over those of any previous year. The groups have always been at Trentham one of the special features of the show, and this year there was no exception to the rule. Their quality was very high, as may be gleaned from the fact of such a master of the business as Mr. Cypher being only able to get in third. The premier award was well won by Mr. Edmunds, gardener to the Duke of St. Albans, Bestwood, Notts, whose arrangement was perfect in every way; and second honours were taken by Mr. Webb, gardener to J. H. Manners Sutton, Esq., Kelham Hall, Newark.

Fruit in all sections was well represented, and the number of bunches of Grapes alone was 265. The competition with a collection of nine dishes was very keen, resulting in a win for Mr. McIndoe, Hutton Hall, who had a grand lot. Mr. Goodacre, Elvaston Hall, Derby, was an exceedingly good second, and Mr. Dawes, gardener to Mrs. Meynell-Ingram, third. Mr. G. Reynolds, Gunnersbury Park, Acton, came in first for six dishes, Mr. McIndoe being second, and Mr. Edmunds third. The finest Black Hamburgh Grapes were staged by Mr. Craven, Allerton, Liverpool, and Lord Hotham's gardener showed the best Muscats. The best six dishes of vegetables came from Mr. Wilkins, Inwood House, Henstridge, and the examples staged in the cottagers' classes were better than ever.

The Roses were both good and plentiful, and the Yorkshire growers were again triumphant, the Messrs. Harkness taking first honours for forty-eight, thirty-six, and twenty-four blooms respectively, while Mr. H. Merryweather of Southwell, scored second honours with forty-eight and twenty-four, and Messrs. Cocker & Sons, Aberdeen, with thirty-six, the same firm being also first for eighteen. Messrs. M. Jenkinson & Son, Newcastle, secured several premiers in the cut flower and bouquet classes, and in the latter section, Messrs. Perkins & Son were a good second. Mr. Taylor and his Committee worked hard to ensure the arrangements running smoothly, and as usual succeeded admirably in their efforts.

NEWCASTLE-UPON-TYNE FLOWER SHOW.

THE directors of the Durham, Northumberland and Newcastle-upon-Tyne Botanical and Horticultural Society are to be congratulated upon the success which resulted last week from the amalgamation of their summer programme with that of the Northumberland Agricultural Society, the combination of attractions having drawn a large attendance on both days. This society is the oldest of its kind in England, having been established in 1824, and like many another ancient institution has suffered from the vicissitudes of fortune; but with courage and energy at its business head the society seems to overcome all disasters—and it has had its share of them of late years—and carries on a noble work in the northern coaly sea port. The advancement of the date from August to July naturally upset the calculations of some of the regular exhibitors, but it enabled others to come forward, and the result was a most attractive display.

Mr. Letts, of Aske, was in good form with specimen plants, winning with eight flowering, eight fine foliaged, and three Crotons; his colleague, Mr. Nicholas, of Upleatham, scoring with six flower and six fine foliaged Exotic Ferns, and four Ericas; while Mr. J. Wood, gardener to E. Hoppen, Esq., Morpeth, had the best half-dozen Orchids; and Mr. Stewart, gardener to Sir Wilfrid Lawson, Bart., M.P., Brayton, Carlisle, the best three Dracænas. Mr. J. McIntyre, The Gardens, Woodside, Darlington, contributed the best half-dozen table plants, and secured awards also in several other classes. The Rose classes were of unusual excellence for Newcastle, and here again the Bedale growers who have had such a wonderfully successful innings this season scored heavily, the Messrs. Harkness & Son being first for forty-eight and thirty-six; Mr. H. May first for twelve blooms of any variety; and Mr. A. Whitton first for twenty-four in the amateurs' competition. Messrs. D. & W. Croll, Dundee, had the best dozen Teas, and ran a close second in some of the other classes. The Messrs. Harkness also secured premier honours with cut, hardy, and herbaceous plants; and with twenty-four show Pansies Mr. J. Proudlock, Bate's Cottages, Holywell, came to the front; while Mr. A. Bailey, Jun., Silksworth's Lane, Sunderland, occupied the premier position with a similar number of fancy blooms. Mr. H. Brook, florist, Durham, staged the finest Pinks, and Mr. T. Flowdy, Gateshead, the best Carnations and Picotees.

In the fruit classes Mr. McIndoe, Hutton Hall, came in first with a meritorious collection of eight dishes; Mr. Hunter, of Lambton, coming in second; and Mr. J. McIntyre third; but with four dishes Mr. Hunter turned the tables on the Hutton Hall grower; Mr. McIntyre being again placed third. Mr. Hunter also well maintained the reputation of Lambton for good Grapes by showing the best four bunches; Mr. McIndoe scoring again with pairs of black and white varieties. Mr. Hunter and Mr. Stewart had the best Melons; Mr. Hunter the best Figs; Mr. McDonald the best Peaches; Mr. Marr the best Nectarines; Mr. McIndoe the best Cherries; and Mr. T. Battensby, Hagg Hill, Blaydon, the best Strawberries.

The exhibition was also largely indebted to the non-competitive contributions of Messrs. W. Fell & Co., Hexham; Messrs. Little & Ballantyne, Carlisle; Messrs. Joseph Robson & Sons, Hexham; Messrs. Dobbie&Co., Rothesay, N.B.; Messrs. Kent &Brydon, Darlington; Mr. John Forbes, Buccleuch Nurseries, Hawick; Mr. John Jennings, Haymarket, Newcastle; Messrs. W. Edwards & Son, Sherwood, Nottingham, and others.

Gleanings from the World of Science.

Œdema of the Tomato.—A disease or pathological phenomenon of the Tomato has been making its presence felt in America, in the case of plants forced during winter. We shall not describe it, as a new disease, for it has occurred in this country more often than wanted, and we have had specimens submitted to us by correspondents, and which we submitted to microscopical examination in expectation that the evil was caused by bacteria. This was precisely the view taken by Mr. Geo. F. Atkinson, of the Cornell University Agricultural Experiment Station, as recorded in *Bulletin* 53, in which numerous illustrations of sections of leaves and stems suffering from the evil are given. We did indeed find bacteria in fresh sections of the stems submitted to us, as did Mr. Atkinson. The latter, not content with this discovery, made repeated experiments with diseased tissue and bacteria with the view of communicating the disease to healthy plants, but failed in every case. The negative results induced him to think that the evil was the result of the disturbance of the equilibrium of natural forces and physiological processes.

Appearance of the Disease.—The segments of the leaves affected become recurved and convex on the upper surface instead of being rolled inwards, and the plants on the whole present the appearance of having been recently transplanted. The midrib, petioles, and stems exhibit numerous elevated areas of a frosty or crystal appearance, resembling, on superficial examination, the work of some fungus. Later on the plant suffers great injury, and is unable to ripen fruit, if indeed it bears any at all. Transverse sections show that the epidermal cells take on an abnormal growth, attaining a size many times larger than they ought to be. Generally the cells are brick-shaped and grow out at right angles from the surface; indeed, those we examined were of enormous length, and recall those seen in transverse sections of warted vine leaves, a malady familiar to many vine growers. In some cases the epidermis of the leaves is easily peeled off, as the cells of which it is composed are already mostly separated from the rest.

Production of the Disease by Artificial Means.—Experiments were made with the view of testing whether the same effects could be reproduced by injecting water under pressure in the tissues of Tomato shoots, so as to imitate root pressure. The shoots were connected with a hydrant on the 5th of December, and on the 8th of the same month, some cushions of turgescent tissue began to form, and being examined microscopically were found to resemble closely those produced under natural conditions. The experiments were continued under different conditions, a glass covering being put over the Tomato shoots, so as to confine the moisture and resemble a badly-ventilated house in which the natural and necessary transpiration of moisture is checked. These experiments still more forcibly proved that excessive root pressure and an absence of transpiration were productive of the disease or pathological phenomenon on a still more extensive scale.

Remedies.—There is no doubt that the evil is a complicated one, but if entirely confined to plants being forced under glass, the evidence is pretty clear that the cultural conditions are unsuitable. A close and unventilated atmosphere is maintained with the idea that a rapid growth is being promoted, whereas it usually means an attenuation of the tissues of the stems, till they become lanky, drawn, and entirely unable to produce fruit. If, as frequently happens in our smoky and cloudy atmosphere, we have a dull and sunless time, the natural transpiration is checked to such a degree that the plants not only suffer from Œdema, but fungoid enemies as well. The remedy, therefore, is a drier atmosphere, induced by better ventilation, just as in the case of vines whose leaves have become warted by the same cause.

EULOPHIELLA ELISABETHÆ.

I FIND in your number of to-day (July 22nd) a new proof of the manifest partiality with which you treat me. When you only published extracts from my last letter, thus taking away from it all its bearing, you impressed with entire complaisance the assertions of M. Hamelin, contrary to the truth.

I can no longer discuss to advantage with a person who disguises the facts knowingly. I published in the *Journal des Orchides* the true history of the introduction of Eulophiella Elisabethæ, and it will be reproduced in the next number of the *Lindenia* in English; the persons whom that question may interest can refer back to it, and see by the letters that I published that one cannot have any confidence in the assertions of M. Hamelin. Besides, I have in my possession the entire bundle of papers of that affair, as well as the declarations prepared by two licensed horticulturists of Brussels who were requested to assist at the unpacking of the plants sent by M. Hamelin, verifying the deplorable state in which they found them on their arrival.

I give the most formal contradiction to the singular history attributed to M. Van Mol.

You have already allowed to be disseminated in a preceding number that I indicated the Congo as the place from whence the plant came at the Exhibition at Ghent. That also is inexact. It has been indicated as coming from Eastern Africa (*Afrique Orientale*). I send you enclosed herewith the same card which was used at Ghent, so that you can verify the fact. It is evident that at a time when foreign collectors are intent upon the traces of ours, I am not going to indicate the precise locality of origin.

We have been introducers of plants for fifty years; then we had for contemporaries the honourable firms of Veitch, Backhouse, Bull, and Low. We have never been put to the necessity of making rectifications; but during late years the new proceedings which rule the day oblige us to make contradictions at every moment. It is true that in every one of these discussions—as in that relating to Cattleya labiata for example—the good way is not to our adversaries.

Outside of these rectifications that I have the duty to make, historical and documentary, I can add that the engraving of Eulophiella Elisabethæ published in one of your preceding numbers is a copy of the plate in the *Lindenia*, and for this we ought to receive thanks.

I trust that you will insert in its entirety in your next number this response to the letter of M. Hamelin that you have published.—*L. Linden.*

[We publish M. Linden's letter as close to the text as we have been able to translate it. As regards our correspondent's charge of "manifest partiality" we utterly disclaim anything of the kind. All that we suppressed from M. Linden's letter published in our number for July 8th were some statements with reference to business transactions, which do not affect the point at issue, and which we regarded then, as now, of no public interest. We may add also that we have nowhere stated that M. Linden indicated the Congo as the place from whence the Eulophiella came.—ED.]

OUR FRUIT CROPS.

THE Apple crop is a heavy one in most places for some miles round Preston, the trees as a rule having escaped the attacks of insects. Pears are also a good crop, except on walls. We have two trees of Marie Louise, from 30 to 40 ft. high, nicely furnished, and one of Dunmore quite as large with a good crop on, which is a very rare occurrence.

Plums have been much blighted in places, especially the Damson, and the unusually heavy set of fruit has been much reduced, but we have still a good crop left, Morrello Cherries are a heavy set, but the trees have suffered from drought; the few showers we got from March to July were from the south, and not being sufficiently heavy plants on north borders under walls, fared worse than those in other parts of the garden. The fruit will not be so fine as usual, as it is ripening prematurely. Other Cherries were good. Gooseberries, which have only been a light crop once in a decade, is unusually heavy. I hear that in some parts the caterpillar has stripped the trees of leaves, and in the gardens they have been nearly destroyed by red spider. This is not the red spider which infests our hot-houses and fortunately it takes possession of the upper side of the leaves, so it will be more readily destroyed, though I despair of an insecticide in a liquid form to have any effect on this any more than other mites unless made sufficiently strong to kill the plants. I cut off a few shoots and experimented with some of them, and with the aid of a pocket lens I could see what effect they had. For a time their progress was arrested and they remained still, but after the stuff had dried they were as lively as ever. Sulphur, we know, is an enemy to inhabitants of our glass-houses, but it would be expensive to apply it to some scores of large Gooseberry trees.

I question if sulphur dusted on plants actually kills the red spider, but it makes matters unpleasant and locomotion well nigh impossible, and it becomes exhausted and starves. Holding these views, I was led to think that a substance of a dusty nature would have some effect on the Gooseberry red spider, so mixed a little new slacked lime and soot, and applied it to a shoot, and it was peculiarily interesting to see the spider tumbling and tossing in its efforts to travel. I felt at once that it was my victim, and I lost no time in dusting the whole of the trees (reserving a few for immediate picking), and in two days no one could see an insect. The mixture must be applied in calm weather, as it is soon blown off the leaves, and these must be perfectly dry, because the moisture soon converts the lime into a paste and gives the insect a firm footing.

Strawberries were a good crop on old and young plants, but old plants suffered from the drought. The most serviceable one this year is Latest of All, planted on an east border. The plant is a strong grower with us, and we are gathering nice fruit, and will do so a few days longer.—*R., Preston.*

FROZEN CHRYSANTHEMUMS.

HOME AND COLONIAL.

AN interchange of prize Chrysanthemum blooms between the National Chrysanthemum Society and the Antipodean Societies in affiliation with it appears likely in the future, if the process does not prove too expensive. It will be remembered that in October last some blooms of seedlings raised by Mr. John Earland, Wellington, New Zealand, were sent over to the National Chrysanthemum Society by the raiser, each bloom frozen in ice, and a great amount of interest was aroused by reason of the novelty and success of the experiment. By way of reciprocating Mr. Earland's action, the National Chrysanthemum Society last November sent out to the Wellington Society a dozen blooms each of Japanese and incurved Chrysanthemums, the former from the superb collection shown by Mr. W. H. Fowler, J.P., Mayor of Taunton, with which he won the handsome Holmes Memorial Cup at the exhibition of the Royal Aquarium in November last; and a dozen exhibition blooms of incurved varieties, contributed by Mr. Mease, the well-known grower and exhibitor, Downside, Leatherhead. The flowers were duly frozen in ice and despatched, but arrived too late for the exhibition of the Wellington Society, so a special show was arranged, at which the English blooms were exhibited. Mr. J. J. Kerslake, of Wellington, writing to Mr. C. Harman Payne, Foreign Corresponding Secretary, states: "A large number of persons paid for admission; the English incurved were admired on account of their perfect form; no flowers were ever exhibited in this city so perfect. The Japanese were also much admired; finer blooms of W. W. Coles, Mrs. C. H. Wheeler, and Avalanche have never been seen here. Mrs. Fogg and Ralph Brocklebank were also much admired, they being new to us, and will prove great acquisitions to the show boards. With one or two exceptions the flowers retained their perfect colours; Avalanche was a little discoloured, all the yellow or gold colour had gone out of Edwin Molyneux and Mrs. Wheeler—not a bit to be seen, they were just a dull red. Stanstead White, Mrs. Fogg, Lord Brooke, Sarah Owen, Etoile de Lyon, and Mons. Bernard were just as perfect in colour as when cut. Altogether the exhibit proved very interesting, both to growers and non-growers, and no doubt the sending-out of these flowers from England will be the cause of many taking a greater interest in the Chrysanthemum, as it will operate to establish a system of exchange and comparison of some of the finest flowers grown here with those of the Mother Country." From Wellington the English blooms were sent to Christchurch, and applications were received from several colonial societies for permission to see them.

On Friday last a special meeting of the General and Floral Committees of the National Chrysanthemum Society was held at the Royal Aquarium to examine some blooms of Japanese Chrysanthemums, grown and exhibited by Mr. R. Forsyth, of Sydney, who almost invariably takes the Silver Cup with Japanese blooms annually offered by the New South Wales Horticultural Society. There were four blooms, three incurved and one reflexed Japs. Each had been frozen in a solid block of ice, then wrapped in paper, and packed in cases with sawdust, two blocks in each case. They were very good blooms indeed, but unnamed, though to all appearance well-known varieties. The Silver Medal of the Society was awarded to Mr. Forsyth for his exhibit. The Chrysanthemum season appears to have been a bad one generally in the colonies. Mr. Levick, writing from Sydney, states: "Our season this year has been a disastrous one, rainy and misty nearly the whole time the blooms were out, so that they damped terribly. A few fine ones were, however, shown."—*R. D.*

TINTED LILACS.

AT one of the meetings last spring of the National Horticultural Society of France, bunches of Lilacs invested with unknown colours in the genus provoked the general astonishment of the bystanders. The colours were the most varied. There was azure blue, golden yellow, chrome yellow, gooseberry rose, and salmon red. The colour of the stems prepared was not quite the same as that of the flowers. Stems tinted with rose gave carmine flowers. The colour was obtained by means of rosin.

Stems tinted with orange by means of analine dye, designated in commerce under the name of Orange II., gave thyrses of golden yellow and sulphur yellow; stems coloured with dark violet by means of the violet of Methylanaline gave salmon red flowers; the stems coloured with clear blue by means of methylene blue, gave flowers of a light azure blue.

The flowers so treated were fresh and very beautiful, but they did not preserve their turgescence for a longer period of time than those flowers of Lilac forced in the ordinary way. The *Revue Horticole*, which gives an account of that exhibition, says that the effect produced is very pretty, and it remarks that "the thyrses were entirely uniform in colour, and all the flowers uniformly tinted, from the tube to the lamina inclusively, but that neither the pedicels nor the calyxes any more than the young buds and leaves had lost their natural green colour." The colouration has been obtained by the immersion of the cut stems in the liquid coloured as we have just indicated. There is evidently in that way numerous and curious experiments to make.—*E. Miler, in Bulletin d'Arboriculture de Floriculture, etc.*

CARPENTERIA CALIFORNICA.

MANY of the Californian plants, whether herbaceous or woody, can be grown with tolerable success in this country, but on the whole, it depends very much upon the nature of the plant, the locality from whence it comes, and the elevation at which it thrives in its native home. With Californian annuals we have no difficulty at all; Lilies are a little more troublesome, but evergreen Coniferæ generally thrive satisfactorily. The shrub under notice comes from the Sierra Nevada, and has not proved so resistent to the severity of our climate as we could have desired, considering the beauty of the plant, both as to flowers and foliage. It may pass through several winters uninjured in the environs of London, but a severe frost of no great duration will sometimes seriously cripple the foliage. Had the shrub been deciduous, there is little doubt but that it would have been hardy, and would have quickly taken a permanent position in every garden where shrubs could be planted. It should be extensively planted in favoured localities on the south and west coasts, where semi-hardy subjects of many kinds have already given great satisfaction, as in the Isle of Wight, Cornwall, the Isle of Man, and many other spots favoured with a mild and equable winter. As may be seen by our illustration, the flowers resemble a single Rose of large size, and pure white, with a bold mass of yellow stamens in the centre. It flowers freely when only 2 ft. to 3 ft. high.

EATON HALL.

The annual picnic of the members of the Manchester Horticultural Improvement Society took place on the 13th inst., the place chosen for a visit on this occasion being Eaton Hall, the splendid Cheshire seat of the Duke of Westminster; and, like all its predecessors, it was thoroughly enjoyed. The party numbered some seventy gentlemen, and included the president, the four vice-presidents, the indefatigable secretary, and one or two members of the Manchester City Council.

Starting in special saloon carriages from the Exchange Station of the London and North-Western Railway at 9 40 a.m., a rapid run through the pleasant farmlands of homely Cheshire, where the sickle of the harvester was already at work (July 13!) brought the party to Chester by eleven o'clock. Hence, without delay, they made for Eccleston Ferry, passing through that beautiful park which forms so great an ornament to the ancient city—the "Grosvenor." At the ferry a junction was effected with the Liverpool contingent, and the combined party started by steamer up the Dee, surely—with its wooded banks, frequent bends, and lovely vistas—one of the most charming of English rivers. After a delightful sail—too brief for the pleasure it afforded—the ducal grounds were reached, and a hearty luncheon partaken of (all but *al fresco*) in preparation for the day's fatigues. Here, also, the photographer to the society, who had accompanied the excursionists from Manchester, took a photograph of the party in one large group, amid much pleasant chaff and banter; and, indeed, throughout the day a most infectious good humour prevailed, except during one brief period to which reference will be made anon.

Eaton to be seen aright would take long; to be described aright much longer; and "guide books" are not in our way. To horticulturists proper horticulture is of most interest, and the gardens of Eaton Hall naturally received the party's chief attention. Through these they were conducted by the accomplished head gardener, Mr. Barnes, who, during the afternoon, notwithstanding his multifarious duties, most courteously and kindly devoted a large portion of his valuable time to showing what was notable in the vast gardens and innumerable glasshouses, in the management and ordering of which he is assisted by a staff of forty to fifty men.

There is a large general collection of plants at Eaton, and so far as we could see, Mr. Barnes' subjects were all in perfect health and vigour. In the long glass corridor into which open numerous plant-houses, and itself a sort of extended conservatory, we noticed two plants worthy of special remark, and which indeed excited the admiration of every gardener present. The first of these was a gigantic specimen of that splendid climber, Bougainvillea glabra, whose flowers, with their large mauve-coloured bracts, make it a striking object wherever it is seen. The specimen in question was planted against the wall, in an open border, and was the largest and most abundantly floriferous specimen we have ever met with, yielding thousands of blooms, covering with the utmost grace and abandon, several hundred square feet of wall, and giving one an idea of what this glorious plant becomes in Algeria and the Atlantic isles, not to name its natural home—the Brazils. But indeed this plant, as useful as it is handsome, is as a rule far too much coddled; for it may be grown not only in an intermediate but a greenhouse temperature, and the plant has even been flowered—and well-flowered—out of doors, in the South of England, for a couple of months running. Moreover, the ornamental bracts which give the plant its striking character may, if desired, be preserved for almost any period. Let no one who has the necessary accommodation grow this Bougainvillea in pots, unless for exhibition purposes.

The last remark applies with equal force to the second plant which so specially struck our attention. This was that delightful old subject, introduced from Buenos Ayres about a century ago, and which we distinctly remember as adorning our father's greenhouse fifty years since, Cassia corymbosa. Grown on a wall, and planted in the open border, as at Eaton, this beautiful Cassia, with its countless flowers of a rich golden yellow shining out from a mass of the most graceful bright green foliage, makes an entirely charming and captivating object. And why should a plant so easy of culture be so rare in collections? And so useful, too! for without break or intermission the plant will go on blooming from early summer to Christmas; and one may cut, and cut, and cut from it without ceasing. At the "Feast of Flora" it is a veritable *piece de resistance* at any time within the above period you may cull from this accommodating subject a complete bouquet as graceful in foliage as beautiful in flower.

Both the subjects named are susceptible of greenhouse treatment. Among stove plants proper, grown with conspicuous success at Eaton Hall, is that glorious climber, Allamanda Hendersoni, at this moment in full splendour. Orchids are fairly represented, and a house of Odontoglots were in magnificent health. Among subjects in bloom, perhaps the most striking was Cattleya gigas. In one of the houses a species of Birthwort—Aristolochia elegans, with its curiously "printed" flowers, arrested general attention. In bedding arrangements, an admirable combination was obtained by the employment of the following plants in an extended border, namely, Sweets Peas in colours, for a background, and white Snapdragons, scarlet Pelargoniums, Iresine Lindeni, variegated Jacob's Ladder, Lobelias, and golden Pyrethrums, in the order named.

Our examination of the herbaceous borders was necessarily hurried, but we had the pleasure of renewing the acquaintance with many a charming old favourite, from the brilliant scarlet Lychnis ("Pride of Bristol") to the singular Echinops, with its curious spheroidal inflorescence. Very striking and beautiful were the creamy-white blossoms of the heart-leaved Bocconia (B. cordata), so large as to make it a prominent feature of the border, and abundant use had been most advisedly made of the

Carpenteria californica.

splendid Delpbiniums, in variety, and Phloxes of all colours. But for the herbaceous border here, as elsewhere, our party were "a day after the fair"; in this most phenomenal season, almost everything showy or effective had already bloomed!

In the fruit department, by no means a small one at Eaton, Grapes were well done. Madresfield Court was in fine condition, and the whole of the Muscats and Black Hamburghs left nothing to be desired. Melons, too, were in splendid form. But far and above all other astonishing things in the kitchen and flower gardens at Eaton Hall was the total absence of what the French so aptly term *mauvaises herbes*. On gardeners, as a body, the curse of Cain lies heavy, and heavily do they groan under it, but from the extensive kitchen and flower gardens of Eaton it should seem this curse has been lifted, and they are no longer under ban; or is it through the untiring watchfulness and vigilant care of Mr. Barnes that here absolutely no weed is to be found?

But the charm of Eaton Hall consists not in its gardens, however well tended, nor in the hall itself, which to most people is disappointing, though from many parts of the grounds it makes a noble appearance—not in these lies the charm of Eaton, but in its lovely landscape vistas, in its far-stretching lawns of brightest emerald, in its woodlands, and gleaming lakelets, and beautiful river scenery, in the ensemble of which Art is so cunningly blended with Nature as to make the very perfection of the landscape gardener's skill—the ars celare artem. Through these glades, and "verdurous glooms," and "winding, mossy ways," and by these waters, with their margins of rush, and reed, and flag, and sedge, one might wander in delicious reverie for half a summer's day, nor deem that man's hand had had here any part!

Specially interesting is Eaton to the arboriculturist by the vast variety of its trees and shrubs, about one or two of which the botanists of the party were sorely puzzled, regretting the absence of a certain venerable professor, rich in botanical lore, who, being "called in marriage," could not on this occasion come to their assistance! The collection of oaks, above all, was interesting, and seldom have we seen the common oak and mossy-cupped oak in such splendid condition. Among the beautiful family of the Coniferæ, Cedars and Scotch Firs were distinctly suffering, but the rest of the cone-bearers appeared to be enjoying themselves, and the deciduous Cypress was in exuberant health There were many beautiful varieties of the Maple, and near to these, one of the most vigorous Tulip-trees we have ever seen in these latitudes. Of the trees used for massing, in the pleasure grounds, we noticed that very large use was made of the Acer Negundo variegata, which is always so striking, and the golden Yews and Retinosporas.

Three or four hours had been spent in exploring the beautiful gardens, pleasure grounds, and park (with its fine herd of deer), and at four o'clock, or a little after, the party were seated at a knife and fork tea, in a wooden shed provided for that purpose on the banks of the Dee, and near the landing stage. The shed, being open at the sides, gave free access to those denizens of the air which, though minute, are often troublesome. Wasps were decidedly in evidence, and invited themselves in large and ever-increasing numbers to a share of the viands provided, reminding one of the harpies in Virgil's lines:—

Diripiuntque dapes, contactuque omnia foedant
Immundo

This incident, though in a sense unpleasant, partook of the farcial, through the fact of a famous inventor of insecticides who was present being cast *hors de combat* in a fight with the common enemy!

By six o'clock the party had started on the return journey, by boat on the Dee; nor shall we soon forget the pleasures of the sail down that beautiful river to Chester, in the cool air of the evening of a summer-day that was all but perfect; for although copious rain had descended on the previous night, not a drop had fallen during the journey, and the whole atmosphere had a penetrating freshness that was delightful to breathe. Add to this the charm of music, vocal and instrumental, and the inspiring sight of a hundred gay pleasure boats, with their human freight full of jubilant life, cleaving the quiet waters. Some glance was permitted at the quaint old city; and songs, and lively stories, and many jests, enlivened the journey homeward.—*A. Stansfield, in Manchester City News.*

THE HERBACEOUS BORDER.

Choice Plants in Flower.

HYMENOCALLIS FULVA.—There are several varieties of this grand old border plant, the double one being known as H. Kwanso. This has bronzy-orange flowers, and when in its best condition is very striking. The variegated sub-variety of H. Kwanso is a showy and striking plant when well grown so as to have the foliage in prime condition, and might more often be grown in pots than it is. The typical form has flowers of the same hue as the double one; all may be grown to perfection in good garden soil.

ACHILLEA PTMARMICA, THE PEARL.—The old double form of the Sneezewort has been much lauded for its utility in the cut state; and where white flowers of moderate size and great durability are required, it is certainly a valuable plant. The new variety named The Pearl has much larger flower heads, and requires only to be compared with the old one for its superiority to become evident.

LOBELIA SPLENDENS VICTORIÆ.—It rarely happens that a plant has good flowers and fine foliage at the same time; yet such is the case with the plant under notice. The leaves are of a dark bronzy-red, and the flowers of a brilliant scarlet. The name of the plant is but too frequently interchangeable with that of L. cardinalis in collections. The last-named has narrow segments to the flower and broad leaves, while those of L. splendens and its varieties are narrow and their flowers have broad segments.

DIANTHUS SEGUIERI.—Comparatively few of the species of Dianthus are cultivated to any extent in gardens, especially as a border flower, but D. Seguieri might well be utilised in this way for the quantity of large, rosy-purple flowers it produces. Near the centre is a zone of small carmine spots. The stems grow to a height of 9 in. to 14 in., according to the richness of the soil and the character of the season, and branch freely above the middle.

VERONICA INCANA.—There are several forms of this plant in gardens, the dwarfer ones being the more typical, and although all are more or less hoary, some of the dwarf sorts are quite silvery, and are used for carpet bedding purposes. For the herbaceous border, the taller kinds, generally grown in gardens under the name of V. neglecta, are most suitable. Their foliage is generally greener, and the stems vary from 12 in. to 18 in. high, terminating in racemes 3 in. to 14 in. long of deep blue flowers.

GYPSOPHILA SCORZONERIFOLIA.—The stems of this species are procumbent like those of G. paniculata, but the flowers are decidedly larger, pink in bud, fading to blush and pure white when fully expanded. The leaves are of a deep glaucous hue, and mostly confined to the rootstock, and therefore occupy the centre of the plant while the flowering stems lie all round. It might be grown with great advantage for mixing witb cut flowers in the same way as G. paniculata with a different effect.

STATICE LIMONUM.—The forms of this plant are evidently numerous, more particularly when Continental specimens are included. The typical form which grows upon our shores does not seem to be included. It has a close and compact panicle of flowers, and this condition it would probably retain under cultivation, and if so would certainly form a handsome addition to our border plants. Those forms in cultivation have long loose panicles of small blue flowers, and are certainly graceful.

SAPONARIA OFFICINALIS FLORE PLENO.—The sunny south is more suitable to this plant than the north, where it grows freely enough, but flowers very unsatisfactorily as a rule. The individual flowers are of good size, rosy-pink, and when a number of them are expanded at the same time, they are effective.

CAMPANULA CARPATICA ALBA.—This Bellflower forms a compact tuft 12 in. or more in height, and produces a profusion of bloom for several months together. It thrives well in any good garden soil, and the flower stalks are long enough to enable them to be cut for mixing with other flowers, for which purpose they are very effective.

VERONICA VIRGINICA.—The stout habit of this plant enables it to be grown with a minimum of staking or without stakes at all in dry seasons like what the present has been. The lanceolate leaves are produced in whorls of five all up the stem to the point, from whence the racemes of flowers arise. The flowers are pink in bud and white when fully expanded with yellow anthers. The terminal raceme varies from 3 in. to 12 in. long, according to the strength of the stem, which, when strong, gives rise to an additional raceme in the axil of each of the leaves of the uppermost whorl.

ADENOPHORA LILIIFLORA.—The species of this Campanulaceous genus are not very often seen in gardens, but that under notice is well worthy of cultivation for its elegant upright habit, and pyramidal panicle of drooping, bell-shaped, fragrant, light blue flowers. The species is a native of Central and Eastern Europe, and grows to a height of 2 ft., bearing ovate, dark green leaves.

PLATYCODON GRANDIFLORUM MARIESI.—Every collection of herbaceous plants should become possessed of this plant, and particularly those with pretentions to a good representation of the Campanula family. The large, and widely-campanulate flowers are of a rich dark blue with a slight shade of purple, and darker veins. The stems are 6 in. to 9 in. high, and furnished with rich, dark green foliage. The plant is a native of Japan and perfectly hardy.

CAMPANULAS FOR THE ROCKERY.

THERE is a charm about many of the Bellflowers that is ill supplied with other hardy plants at this season of the year. Many of the prettier ones of the smaller kinds never seem to get into general cultivation for some reason or other, but why, it is difficult to say. When once established, the most of them are able to take care of themselves, and if unsuitable for cut flowers, as a rule, they serve to keep the rockery gay for weeks together, and for that reason should be encouraged. The modern idea of growing flowers is for the purpose of cutting them, but the primary idea of a garden, or at all events, the ornamental part of it, should be to have it gay for as many months of the year as possible. Flowers tbat are grown in quantity for cutting purposes should be planted in the reserve garden only, so that whatever was cut, it would have no prejudicial effect on the ornamental part proper of the garden.

The small or dwarf Bellflowers are numerous, but it is only necessary to mention the leading kinds now in bloom. One of the most widely distributed in gardens is Campanula pumila and its white variety C. p. alba, with blue and white flowers respectively. They do not exceed 4 in. to 6 in. in height, and bear racemes of drooping flowers not unlike those of the Harebell of our Heaths, but smaller. The radical leaves are numerous, ovate, and form a close cusbion or carpet upon the ground, from which the flower stems arise, bearing narrower or lanceolate leaves. The white variety is perhaps the choicest, as blue kinds are more numerous. Somewhat akin to this species is C. pusilla with smaller blue flowers, but the leaves are not very numerous, and are mostly confined to the base; the stem leaves are smaller and fewer, so that the flower scape seems to be leafless. It produces suckers freely, by which the plant may easily be propagated. The short shoots that arise from the base of C. pumila may be used as cuttings in pots beneath a frame or hand-glass.

Nothwithstanding the bushy, floriferous character of C. Waldsteiniana, it is comparatively an unknown plant in private gardens. The flowers are bell-shaped, purplish blue with a dark blotch at the base, and are produced in greater profusion than in the case of C. pumila, for they almost hide the foliage when seen at its best. The leaves are small and lanceolate, while the flowers are produced in a short leafy raceme. The plant varies from 3 in. to 6 in. in height according to its vigour. There appears to be some affinity between this species and C. Thommasiniana, and indeed some authorities regard it as a variety of the former. The habit of the two is the same, and if there is any difference C. Thommasiniana is the stronger grower of the two under certain conditions, attaining a height of 9 in. to 12 in., and when planted on the edge of the pocket it gets borne down over the ledge by the weight of its own blossoms. The latter are much more tubular than those of C. Waldsteiniana, lilac, and produced in remarkable profusion. It will also grow in any ordinary soil if well drained, but if planted in the border proper it should be confined to the front row. The wild plant is a native of Italy and should be more freely planted here.

Quite of a different type is C. alpina, which is generally considered more difficult to preserve in

health after having flowered. It is easily raised from seeds, however, and might therefore be treated as a biennial. The bell-shaped flowers vary in number according to the strength of the plant, but as a rule the latter is very dwarf. The flowering season varies from May to July according as to whether it is grown in a cold frame in pots or planted out.

BATTERSEA PARK.

The great heat which prevailed throughout the month of June and early part of July has been favourable to the growth of certain kinds of plants and less so to others, chiefly owing to the aridity of the atmosphere. The sub-tropical garden is now so closely hemmed in by trees that the sun raises the temperature as in an oven, and the shelter to some extent prevents the moisture from being carried off by prevailing winds, so that on the whole the garden has not suffered to any appreciable extent, and in the course of a month's time will be at its best as far as present appearance goes. Of course, the carpet bedding is as fresh now as it will be, although in our opinion the Alternantheras are not yet so highly coloured as they might be.

The corner bed at the east side of the sub-tropical garden Mr. Coppin has filled again with tall standard specimens of Datura Knightii which are not yet in flower, but showing well. The ground between them is interspersed with dwarfer plants of Erythrina Crista-galli, Petunias, and Lantanas, the two last of which have only made moderate growth as yet. The quadruple edging consists of Amarantus melancholicus ruber, bronze Pelargoniums, blue Lobelias, and Echeveria glauco-metallica, the latter being outermost. A little behind this on the grass are two large circular beds, one of which is very effectively filled with Wigandias, Ricinus Gibsoni, Aralia papyrifera, and an outer line of Solanum robustum, all on a groundwork of white and scarlet Verbenas. The edge consists of bicolor Pelargoniums and Sempervivum tabulæforme. The other bed has a large Yucca gloriosa recurva in the centre, surrounded by Y. aloefolia variegata, Dracæna indivisa, and Aralia Sieboldii variegata on a groundwork of Coleus Verschaffelti and Begonias. An oblong bed to the right is also bold and effective with the broad-leaved Musa ensete with Dracænas between them, and flanked by Ricinus Gibsoni, edged with Verbenas. The centre is not yet well filled, however, as the Zinnias, Helichrysums, and Plumbago capensis have not grown much.

There is a circular bed of yellow Calceolarias and an oval one, in both cases surrounded by a broad band of Coleus Verschaffelti. The latter, owing to its solid and metallic-looking appearance is rather overpowering for the Calceolarias, notwithstanding their floriferous character. The combination, however, is a change from the beds of previous years, and which were entirely occupied with Coleus. A half-moon shaped bed of Ricinus Gibsoni and a green variety intermingled with variegated Maize and Marguerites will be pretty when the last named come into bloom, as they are only yet in bud. A bed of Lilies is very effective a short way off, and consists of Lilium longiflorum Harrisi, mixed with L. speciosum, to take its place presently on a groundwork of mixed Stocks. The edgings are of red Coleus and Centaurea ragusina candidissima. A mixture of Eucalyptus globulus and Abutilon Thomsoni variegata tells by the striking contrast of colour; but the fore part of the bed is somewhat marred by a hedge of late-flowering Phloxes hiding the Pentstemons and other low plants behind them. A circular bed of Fuchsias and Heliotrope will tell better when the former come better into bloom. Gourds trained on stakes in another bed have not succeeded well this year. A large bed, shaped like a pair of spectacles, aims at boldness by the plants with which it is filled, comprising a large Dracæna indivisa in the centre of each half, surrounded by Polymnia grandis and Ricinus Gibsoni, the latter of which has hitherto grown too rapidly for the former overtopping it. Outside of them comes Solanum robustum. The groundwork consists of Petunias and Verbenas which must become entirely hidden by foliage later on in the season. A bed of tuberous Begonias on a groundwork of Sedum glaucum looks fresh, but the plants have not yet made much growth; more effective are two other beds of them on a groundwork of Dactylis glomerata elegantissima. In each case plenty of space has been accorded the Begonias, so that they have a chance of showing themselves off individually later on when in full bloom.

Succulents are not so numerous as they have been here, but a large bed of them occupies a side position Of several Dasylirions, one of them is about to flower with a stem 6 ft. to 8 ft. high. The groundwork is done up with Mesembryanthemums, Pilea muscosa, and Herniaria glabra. There are numerous relief plants, and many long-legged specimens of Sempervivum canariense, bearing a single crown on the top. The latter are very grotesque, but on the whole, the bed has a quiet and cool appearance. The large clump of Gunnera scabra in the hollow behind the main group of beds, looks bold and healthy, although dwarfer than usual. A mixed bed on the west side of the garden is rather pretty in its way, and consists of bronzy-red leaved Cannas, Lilium Harrisi, and Abutilon Thomsoni variegata, on a ground work of variegated Cocksfoot grass. Another side bed not far from here is occupied with a mass of Vitis heterophylla variegata, with various edging plants, but the Vine might have been allowed the whole of the space, and the bed would be seen to better advantage if made to slope towards the walk, so that the eye could see the whole of it.

A circular bed of bronzy-red Cannas and white Lilies appears to great advantage a little way off on the grass. Another, close to the walk, has a rich appearance at present, and consists of Carnations, mixed with Lobelia splendens Victoriæ, and Stocks, on a ground of Ivy-leaved Pelargoniums also in flower. A bed of the Blue Gum, 4 ft. high, and mixed with Abutilon Thomsoni variegatum will be more effective later on, when the groundwork fills up better. The bold edging of Coleus fulgens, and bicolor Pelargoniums, gives an effective front to the bed.

What are generally known as the coffin beds are occupied with carpet bedding as usual. They have been got up with the usual neatness, and consist of two oblong pieces with a small circle between them. The two larger ones are filled with similar plants, but different in design. The centre of one of them is occupied with Agave filamentosa in a diamond of Mesembryanthemum cordifolium variegatum, edged with Alternanthera versicolor and Mesembryanthemum tigrinum. Then comes a scroll work of Golden Feather, Alternanthera versicolor and Echeveria secunda glauca. Then comes a sunk ground of Mentha gibraltarica, surrounded by a raised edging of Alternanthera paronychoides aurea, with Echeveria secunda glauca on both slopes of it. All through the salient and raised parts of the bed are numerous dot plants of Yucca aloefolia quadricolor, Gasteria verrucosa, Rochea falcata, Portulaccaria pulverulenta, Aloe mitriformis, Agave filamentosa, Aloe subulata, and others of a similar nature. On the north side of the garden, and facing one part of the lake, are two large kidney-shaped beds of carpet bedding, the best of their kind this season. One of them is intricately laid out in angular patches of various forms, mostly filled with four varieties of Alternanthera, variegated Mesembryanthemums, and Coprosma Baueriana variegata pegged down. The groundwork consists of Mentha, and the dividing lines of yellow-leaved Fuchsia, Kleinia repens and Golden Feather. The other bed is even more attractive and simpler in design, consisting of a scroll-work of Alternanthera running nearly the width of the bed on a ground of Mentha. The figures have scarcely any angular points, but are mostly rounded and more informal than in the other case.

The Palm and Fern dell is planted much on the same lines as on previous occasions, but in the case of the grass has suffered much on account of the drought. Some of the finer plants are a noble specimen of Pritchardia pacifica, Areca lutescens, Cycas revoluta, Encephalartos Lehmanni, and a tall green plant of Pandanus Veitchii. The tree Ferns have very small heads, but the smaller Ferns are in better condition. There are also numerous small and medium-sized Palms which are in good condition where they are at all well sheltered and shaded by trees. The Alpine garden is planted with Lilies, Palms, Araucaria excelsa, tall standards of Datura Knightii, and several herbaceous plants on the upper reaches. The groundwork consists of Heliotrope, Pilea muscosa, and Mesembryanthemums. The short but tall hedge of Clematis Jackmanni is very floriferous and effective this year.

GARDENING MISCELLANY.

PANSIES AND VIOLAS IN HAMPSHIRE.

Notwithstanding the long protracted drought, these have grown at our Hampshire farm in such a way as to quite surprise us. At present we have hundreds of plants with from fifty to sixty flowers on each. We send you a sample herewith. The plants are from cuttings put in last September and planted out in March. They are growing in a stiffish clay soil, and have received no special attention beyond occasional waterings during the dry weather. Not one in fifty has gone off, and the beds are masses of bloom with every appearance of continuing. It seems to us, from several years experience of Pansy and Viola growing in this district, that they will do well even as far south as within a mile of the Solent, if planted early and in a retentive soil.—*Dobbie & Co., Beaulieu and Rothesay.* [The plants received were all that could be desired, having made a grand growth, and were carrying a mass of blooms quite up to the best standard of size and brightness of colour. —Ed.]

CALOCHORTUS ALBUS.

This is also known under the name of Cyclobothra alba, but Cyclobothra is now dropped as a mere sectional name. The plant in question closely resembles C. pulchellus in habit and belongs to the same section; but the colour is different. The outer segments of C. albus are white, netted with green; the inner segments are snow white and bearded on the upper two-thirds of the inner face. On the contrary the anthers are yellow and the ovary pale blue. The flowers are pendulous so that the ovary cannot be seen till they are lifted up, but on the whole it is a curious combination of colours. The species is a native of California but as rare as it is pretty. It flowered w recently in the nursery of Mr. T. S. Ware, Hale Farm Nursery, Tottenham.

CALOCHORTUS SPLENDENS.

In this we have a plant belonging to the typical form of the genus, with large, erect, cup-shaped flowers. They are of a soft lilac purple, fading to lilac with age. The three inner segments are bearded at the base only. The species is a native of California, growing to a height of 18 in. as a rule and flowering in August, but the early season has advanced it considerably, for it flowered with Mr. T. S. Ware, Tottenham, in the end of June and the beginning of the present month.

DELPHINIUM VESTITUM.

Several species of Delphiniums come from the Himalayas, the home of the present one, many of them having large and even showy flowers. The sepals are oblong, grooved or even concave and violet purple. The four small petals are black and the two lower ones are bearded. The five-lobed leaves are of a leathery texture, giving an appearance of robustness. The flowers have the peculiar smell of soap-suds, and in that respect resemble the leaves of Rubus delicious, one of the showiest of spring-flowering Brambles. It may be seen in the herbaceous grounds at Kew.

STREPTOCARPUS DUNNII.

The brick red, tubular flowers of this species are produced in great numbers on each stem, and several of these stems arise in succession from the same plant, in fact from the base of the same leaf, for the plant has only one. The interior has darker red lines on a white ground in the throat. This is one of the original parents of the hybrid Streptocarpus now in commerce, and might still be employed to infuse fresh blood, so to speak, into the numerous plants that are annually being raised by intercrossing. There is a considerable quantity of it in the succulent house at Kew planted out as an edging and very floriferous.

PHYTEUMA CAMPANULOIDES.

In general appearance this plant resembles a Campanula, hence the name; it differs from most of the other Phyteumas in cultivation by the flowers being arranged in a narrow panicle instead of being compacted in a cylindrical spike or round head. The plant grows about 18 in. to 2 ft. high, and has purple flowers with five linear segments. The plant is perfectly hardy and suitable for border culture in any good garden soil.

RHODODENDRON BALSAMÆFLORUM ALBUM.

SOME of the double forms of this Javan hybrid are not yet very common in cultivation, and that under notice is perhaps, the least common of any, and at the same time one of the most pleasingly coloured. The flowers may be described as a salmon-rose, and perfectly full, although by no means crowded in any way. The supernumerary petals arise in the throat of the tube, just where it spreads out into the lamina, and this would account for ease with which the segments can spread out. The tube is stout, cylindrical, and of considerable length. It has been flowering for some considerable time in Messrs. Veitch's Nursery, at Chelsea.

POTENTILLA FRUTICOSA.

THE shrubby Potentilla is a beautiful plant when grown under conditions suitable for its best development. This can only be the case when planted in such a position that it will not be crowded down by ranker growing subjects nor overshadowded by trees. It should therefore be planted amongst low-growing shrubs or isolated upon grass. Under these conditions it forms a round headed bush about 2 ft. to 3 ft. high, or may easily be kept down to that height. The flowers indlvidually are of large size, bright yellow, and are developed in succession all through the summer months. The species is a British plant, although seldom occurring now in a wild state, and is probably the only properly shrubby species in cultivation. It may be propagated by half-ripened cuttings of the young wood, occasionally by suckers, and by layers.

MEDINILLA CURTISII.

THE flowers of this species are borne in terminal erect panicles, without the large coloured bracts which play so important a part in the decorative value of M. magnifica. The leaves are likewise smaller but very neat, dark green and contrast beautifully with the pearly white buds, the calyx of which is tinted with scarlet. The peduncles and pedicels are likewise scarlet or of a beautiful coral red and add considerably to the value of the plant for decorative purposes. It flowers at various times of the year both summer and winter according to cultural treatment, and the season in which its growth is made. The species is a native of Sumatra from whence it was introduced as recently as 1884, and therefore requires stove treatment. It may be seen in the nursery of Messrs. J. Veitch & Sons, Chelsea. Being naturally dwarf it may be grown in small pots Compared with M. magnifica, as plants about 18 in. high may be considered the average.

NEMESIA FLORIBUNDA.

THE species of Nemesia are comparatively little known in gardens, notwithstanding their beauty, and the fact that about twenty of them are known to science and all coming from South Africa. That under notice bears racemes of white flowers with a yellow blotch on the palate, and being very freely produced, are very affective. They are as suitable for cut flowers as Antirrhinums, Linarias, or other flowers of that class and well fitted for border decoration. The Nemesias are generally stated to be greenhouse annuals or shrubby herbs but if treated as half hardy annuals and planted out when the weather becomes suitable they flower early and give no trouble. Seeds sown about the beginning of May in the open ground would flower later, merely requiring to be thinned out in good time and assisted with water till the plants get a fair hold of the soil. Seeds ripen freely in this country so that there would seem to be no obstacle in the way of the plant becoming plentiful in gardens. This as well as several other of the species should be taken up by somebody and made known to the public.

SIPHOCAMPYLUS HUMBOLDTII.

THE long, tubular, scarlet flowers of this plant are very conspicuous in the stove at this time of the year. Although rather slender, their bright colour is very telling, especially with the dark foliage for the background. Being a dwarf bushy, plant, about a foot high, it is easily accommodated with house room. The anthers are slaty-blue, and the stigma, white, and being protruded beyond the tube of the flower, they add something to the appearance of the latter. The plant is a member of the Lobelia family, is shrubby, and has ovate leathery leaves. It is flowering in a house containing tufa rockwork in the nursery of Messrs. J. Veitch & Sons, Chelsea.

HYPERICUM PATULUM.

NONE of the Hypericums may be considered weedy, not even the most insignificant of the herbaceous kinds, though they may not actually be showy. That under notice is, however, showy and very suitable for planting small beds on the grass or as edgings to larger ones. It usually grows 12 in. to 18 in. high, all the branches arching gracefully and bearing cymes of large yellow flowers at the ends. Every part of the little shrub is neat and without any coarseness whatever. It is a native of Japan and though generally considered hardy it frequently gets killed down, but springs up again from the root or more woody portion of the plant. Propagation may readily be effected by means of half ripened cuttings put in sandy soil under a handlight.

TACHIADENUS CARINATUS.

FLOWERING plants of bright colours are acceptable in the stove at any time of the year, and those bearing blue flowers are particularly acceptable. The plant under notice is shrubby, notwithstanding its being one of the Gentian family. Something like five species are known to science, all natives of Madagascar, but only the present one seems to have been introduced to cultivation. It is most nearly allied perhaps to the species of Exacum of any in cultivation, and if the flowers are smaller than those E. macranthum they are even neater and of a much deeper, almost Gentian blue, with a light shading of purple as they get old. The plant does not seem to exceed 9 in. to 12 in. high under cultivation, and is therefore suitable for growing in small pots to place on the front of the stages in the stove. Plants have been flowering for some time past in the nursery of Messrs J. Veitch & Sons, Chelsea.

ORCHID NOTES AND GLEANINGS.

Epidendrum rhizophorum.

BOTANICALLY speaking the more correct name of this plant is E. radicans in reference to the numerous roots which are thrown out from the long stems. The habit of the plant is quite different from perhaps every other Epidendrum in cultivation in this respect. Apparently a very old plant of it, judging from the length of the stems, may be seen in the nursery of Messrs. J. Veitch & Sons, Chelsea. This plant has the stems twined round stakes to support it. The flowers are produced in long terminal racemes and are of a bright scarlet or as some would describe them, orange red. Notwithstanding the fact that it grows to the height of 10 ft. or more, it need not occupy a great amount of space. Although introduced from Guatemala in 1836, it is not particularly common in cultivation, notwithstanding the brilliant colour of the flowers; but it occasions no difficulty in cultivation, nor does it require a very high temperature. There is a yellow disc on the lip and this is spotted with crimson, while the top of the column is also yellow; these colours are the only ones that contrast with the brilliancy of the rest of the flower.

Lælia tenebrosa.

ONE of the finest specimens of this richly-coloured variety of L. grandis that we have seen in bloom is in the possession of Mr. P. McArthur, 4, Maida Vale, W. The plant has forty bulbs, and nine growths, six of them with sheaths, one of which a few days ago bore two fine flowers. It is a very dark variety with broad sepals and petals, and altogether is a notable form.

Phalænopsis at Swanswell, Coventry.

FEW orchids require more care and give so much anxiety to gardeners as do Phalænopsis, yet few are more useful or more lovely when well grown. Visiting Swanswell, recently, the residence of John Powers, Esq., I was greatly delighted and interested in his Phalænopsis, and forthwith made enquiries as to his mode of treatment. The method adopted is the usual one, the plants being potted in peat and sphagnum. Some of them are suspended from the roof, while others are standing upon the stages. Particular care is given to damping and ventilating, and on no account is the sun allowed to strike the leaves. The gardener (Mr. Stuart) considers that his success is due more to careful damping and ventilating than to anything else. The most remarkable plant of Phalænopsis Stuartianum that I have ever seen was grown at Swanswell. It carried a spike some 5 ft. in length, but curiously enough this plant took to bad ways and it has never been seen in the same state of perfection since. All the Orchids at Swanswell are well grown and reflect great credit on the the grower, Mr. Stuart.—*J. McNab.*

SOCIETIES.

Royal Horticultural, *July 25th.*—The meeting on this occasion was a small one, as it generally is about this date. The principal features were Orchids, Begonias, Sweet Peas, stove and greenhouse plants, and fruit in considerable quantity represented by Apricots, Apples, Plums, Tomatos, Cherries, Peaches, and Melons. A Silver Banksian Medal was awarded to Messrs. B. S. Williams & Son, Upper Holloway, for a group of Orchids, consisting largely of Cypripediums interspersed with Dendrochilum filiforme, Oncidium curtum, O. Gardnerianum, Trichocentrum tigrinum, Pescatorea Dayana, Paphinia cristata grandis, and others. A similar award was made to Messrs. F. Sander & Co. for a smaller but more varied group of Orchids, including Mormodes pardinum unicolor, Angræcum citratum, Odontoglossum Roezlii alba, the scarlet lipped Habenaria militaris, Cattleya Batalinii, Ærides Sanderiana, with five long racemes, and a smaller piece with larger and better coloured flowers. A Bronze Banksian Medal was awarded to Mr. P. McArthur, 4, Maida Vale, for a smaller group of Orchids, including a fine Oncidium named O. Jonesianum Maida Vale var., with blotched sepals and petals, Cypripedium Veitchi, Brassavola cordata, and others. Cypripedium Edwardi, a pretty hybrid, and Sobralia macrantha Princess May were shown by Messrs. Pitcher & Manda, Hextable, Swanley. Cattleya gigas Turnbulliana and C. Dowiana Lewisiana were shown by Messrs. W. Lewis & Co., Southgate. Cattleya Hardyana Tates' var. and Cypripedium Tryonianum were shown by H. Tate, Jun., Esq., Allerton, Liverpool; Miltonia vexillaria Daisy Haywood was shown by T. B. Haywood, Esq. (gardener, Mr. C. J. Salter), Woodhatch Lodge, Reigate; Lælia Amesiana, Cattleya Rex Stand Hall var., Lælia prasiata, L. elegans superbiens, and Cattleya crispa superba were all shown in the cut state by T. Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, Manchester, who received a cultural commendation for his group. A similar award was made to T. A. Gledstanes, Esq. (grower, Mr. Dennison), Manor House, Gunnersbury.

A Silver Banksian Medal was awarded to Messrs. H. Cannell & Sons, Swanley, for a group of double-flowered tuberous Begonias, sown last February, and now 6 in. to 10 in. high, and in all the freshness of the first flowering. A similar award was made to Mr. H. Eckford, Wem, Salop, for a most interesting collection of named varieties of Sweet Peas, representing a great variety of colour, some of which were new shades. A Silver Flora Medal was accorded to Messrs. J. Laing & Sons, Forest Hill, for a collection of stove and greenhouse plants, including Begonias, Caladiums, Orchids, Palms, Ferns, and Dracænas. Caladium Le Nain Rouge was a good dwarf new kind. A Silver Banksian Medal was accorded to Messrs. E. D. Shuttleworth & Co., Peckham Rye, for a group of richly-coloured Crotons, Caladiums, Lilium auratum, and Hydrangea paniculata grandiflora. A Begonia named Mrs. Bourne with sepals partly transformed to leaves were shown by Mrs. Darwin, The Grove, Huntington Road, Cambridge. A Bronze Banksian Medal was awarded to J. T. Hopwood, Esq. (gardener, Mr. W. H. Divers), Ketton Hall, Stamford, for a collection of cut flowers of Carnations including a large quantity of Ketton Rose. Cut flowers of herbaceous plants as well as some pot specimens and Clematis Viticella kermesina were shown by Messrs. Paul & Son, Cheshunt. Conical specimens of Cupressus Lawsoniana versicolor, and retinospora squarrosa sulphurea, as well as Gladioli, Carnation Celia a scented border variety, Lantana Drap D'Or an excellent dwarf bedder, Rhododendron Sylvia, and Didymocarpus lacunosa were exhibited by Messrs. J. Veitch & Sons, Chelsea. A beautiful plant of Cupressus macrocarpa lutea was shown by the

Messrs. Dicksons (Limited) Chester. Two pot plants of the new variegated Japanese Hop were exhibited by Mr. F. Roemer, Quedlingburg, Germany. A stand of Carnations was exhibited by Mr. Frederick Bull, Wormingford, Colchester.

At a meeting of the Fruit and Vegetable Committee, a collection of Apricots from an orchard house was exhibited by Messrs. Geo. Bunyard & Co., Maidstone. Four varieties of Apricots, with fruits of large size, were exhibited by Mr. Owen Thomas, the Royal Gardens, Frogmore. Six dishes of Apricots were shown by Mr. J. Smith, Mentmore Gardens, Leighton Buzzard. Nine varieties of Apricots grown on the open wall were brought up from the gardens of the Royal Horticultural Society at Chiswick. A Bronze Banksian Medal was awarded to the Duke of Northumberland (gardener, Mr. G. Wythes), Syon House, Brentford, for a collection of four boxes of Morello Cherries, six boxes of Apricots and seventeen fruits of Beauty of Syon Melon, the Melon fruits being similar in size to those of Hero of Lockinge. A Cultural Commendation was accorded to J. T. Hopwood, Esq., for Peaches and Nectarines of great size. A similar award was made to Mr. Woodward, Barham Court, Maidstone. A Cultural Commendation was likewise accorded Mr. Owen Thomas for a smooth Cayenne Pine, grown from a rootless sucker planted last September. A Silver Knightian Medal was awarded to Messrs. Geo. Bunyard & Co., for a collection of early Apples, including Quarrenden, Lady Sudeley, Beauty of Bath, Gladstone, Sugar Loaf, Peter the Great, Red Astrachan, and others, as well as yellow and red fruited Mirabella Plums. A showy collection of Apricots, Pears, Nectarines, Plums, Cherries, and Apples, was exhibited by Messrs. T. Rivers & Son, Sawbridgeworth, to whom a Silver Knightian Medal was awarded. About thirty-four dishes of Tomatos were brought up from the Society's gardens at Chiswick, including eight yellow sorts and peach yellow, a variety that is almost white by comparison with the red sorts. A Cultural Commendation was accorded to Lord Foley, (gardener Mr. Miller) Ruxley Lodge, Esher, for a small collection of Peaches and Tomatos. Some Melons were shown by Mr. J. Rodbourn, Haling Park Gardens, Croydon, and by F. Gee, Esq., Lynford Hall, Mundford, Norfolk.

WHAT TO DO IN THE GARDEN.

Eucharis.—Plants desired to flower in winter should now be encouraged to make good growth by plenty of heat and moisture, with frequent doses of weak liquid manure, say at every alternate watering.

Small Plants of Allamanda.—It is well known to Chrysanthemum growers that the tips of the shoots taken off just when the flower buds are commencing to show and rooted they produce dwarf plants that are very suitable for the front benches of the conservatory, or for an edging to groups of larger plants. Allamandas may be rooted in the same way, if the cuttings are taken off just when the flower buds are showing. They should be put in a close frame so as to hasten the process of rooting.

Anthuriums and Alocasias.—Some care should be exercised to see that the young leaves are kept thoroughly clear of insects such as mealy bug and red spider. The latter sometimes gets established on the underside of the leaves and does great mischief before the evil is detected. Sponging the leaves with soapy water will effect a clearance.

Selaginellas.—Now is a good time to make up a batch of S. Kraussiana and its varieties for decorative purposes in winter. Some of the other kinds may be made up at the same time, but particularly of S. apus, which is very liable to damp off during the dull winter months when the plants are old and much crowded.

Chrysanthemums.—As the pots become filled with roots, give frequent doses of weak liquid manure. See that the stems are thoroughly secured, otherwise they may now get broken at any time by hurricanes of wind. Attend to the disbudding of the earlier sorts whenever it becomes necessary.

Show and Decorative Pelargoniums.—The late batches as they go out of flower should be stood in the open air, or laid upon their sides for ten days, during which water should be entirely withheld. After this cut them hard back and leave them till fresh buds commence to push out, when they may be shaken out and repotted in a smaller size.

Fuchsias.—The later batches should now be in their glory, and the prime feature of the conservatory and greenhouse. Encourage them by weak liquid manure twice a week, and syringe them heavily overhead on the evenings of fine days. They like this and the flowers are not injured in any way as they hang downwards. Give plenty of ventilation to keep the wood short-jointed, and they will flower all the better for it. Keep them clear of seed pods.

Calceolarias.—The present is a good time to sow seeds for next spring flowering. Make the sowing in pans, pressing the soil firm and level on the top; in fact the surface soil should be sifted, as the seeds and seedlings are very small and require a little careful treatment till they are got through the earlier stages. Give a light sprinkling with the same compost to keep the seeds in position; water with a fine rosed watering pot, and cover with squares of glass till the seeds germinate. Stands the pans in a cool frame and shade if exposed to the sun.

Morello Cherries.—The early season has caused an equally early ripening of Morello Cherries, and gardeners would do well to see that they are properly protected from birds. In many private establishments this Cherry is mostly used for preserving, but if the fruits are allowed to hang on the trees till they are getting black they are excellent for dessert purposes, with a slightly acid but very pleasant flavour.

QUESTIONS AND ANSWERS.

NAMES OF PLANTS.—*Smilax*; 1, The Tway Blade (Listera ovata); 2, The Fragrant Orchis (Gymnaoenia canopsea).—*J. P. M.*: 1, Lychnis fulgens; 2, Echinops Ritro; 3, Polemonium Richardsoni; 4, Robinia Pseud-Acacia; 5, Pavia flava; Pyrus Aria var.—*Pinkie*: 1, Nerium Oleander Madame Peyre; 2, Jasminum officinale; 3, Malva moschata alba; 4, Anemone Japonica; 5, Campanula persicifolia alba: 6, Inula Helenium; 7, Lychnis chalcedonica; 8, Solidaga canadensis; 9, Hemerocallis fulva; 10, Mimulus cardinalis; 11, Mimulus moschatus Harrisonii; 12, Helianthus decapetalus var.; 13, Ruta graveolens; 14, Santolina (Chamæcyparissus) incana. *H. W.*: 1, Pteris serrulata; 2, Adiantum decorum; 3, Adiantum Ghiesbreghtii; 4, Adiantum assimile; 5, Veronica Traversii; 6, Spiræa Thumbergii. *J. W.*: 1, Adenophora liliiflora; 2, Campanula pumila alba; 3, Lupinus polyphyllus albus; 4, Linaria vulgaris; 5, Polypodium alpestre; 6, Nephrodium Fœniscii (sometimes called Lastrea æmula); 7, Asplenium Filix-fœmina (or Athyrium).—*Omega*: The leaves were those of the Goutweed or Bishopweed (Ægopodium Podagraria), the other is the Pearly Antennaria (Antennaria margaritacea).

TOMATOS IN NOVEMBER.—*H. W.*: Tomatos ripened in September cannot be kept in a fresh condition till November; they are too perishable. The reason why you can get good fruit up to September is because your plants are still comparatively in their prime, and able to produce large fruits. Towards the top of the stems the latter get weaker, no matter what the culture is. You can preserve fruits for a fortnight or thereby by pulling them before they are ripe; but to get good samples in November you must grow a late batch by sowing later than the main crop and giving them the necessary and timely good treatment.

MARROW BLOSSOMS BLIND.—*Disappointed*: They often behave as you say in failing to produce fruit. You do not state whether they have failed to produce female blossoms, or whether the latter have afterwards dropped. It may be that your plants are crowded and the stems rob one another for space. If so, thin out the weak and useless shoots. They might be starving for want of food, so that liquid manure would strengthen them considerably. These are the main points in connection with Marrow culture, and if they are free from insects they should thrive and flower if attended to in those respects.

HEATING.—*Puzzled*: You will do no real good in such a house without hot-water pipes, none of the oil stoves which are used without piping being sufficiently powerful to trust to under all conditions of weather. You ought to have a portable heater with a 12 ft. run of pipes, flow and return. You will find what you want, illustrated, in the catalogue of Mr. C. Toope, Stepney Square, London, E.

LAMP FOR NIGHT WORK.—*Omega*: The best garden lantern is the one called the "Hurricane," which most seedsmen keep.

AGE OF TREES.—*J. W.*: The concentric rings seen in any of the trees grown in this country constitute a reliable guide as to the age of the tree. Only one distinct growth is made in our climate, and therefore only one ring indicating that growth. In foreign countries where there are two or more distinct growths and resting periods in the year, this guide is scarcely reliable; but that would not affect the case of trees in Britain or Europe generally.

TOMATOS DISEASED.—*John Holmes, junr.*: The specimens you sent were affected with Cladosporium fulvum, a fungus producing one of the leaf diseases of the Tomato. It is not to be confounded with the black spot of the Tomato, a disease affecting the fruit only. You cannot destroy the fungus now without destroying the Tomato plants as well. You can check it by removing as many of the affected leaves as you can without rendering the plants quite naked, and burning what you remove. Keep the atmosphere of the house quite dry with all the ventilation possible. This should have been done all through the season, whenever the fine weather commenced, after the plants were established. The plants should never be allowed to become crowded at any time, but should be well exposed to light; and with good culture generally, Tomatos give comparatively little trouble.

COMMUNICATIONS RECEIVED.—J. T.—J. B.—W. J. C.—D. L.—J. H.—Mrs. L.—W. S.—W. D.—E. O. G.—W. McD.—H. B. M.

TRADE CATALOGUES RECEIVED.

CHARLES LOWE, New Street, Birmingham.—Catalogue of Books.

WM. CUTBUSH & SON, Highgate, London, and Barnet, Herts.—Dutch and other Bulbous Roots.

HERD BROTHERS.—47, King Street, Penrith.—Dutch and other spring-flowering roots.

LONDON SEED TRADE.

July 26th, 1893.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report English Trifolium incarnatum unchanged. French sellers hold for higher prices, as some dealers require to buy to fill speculative sales made for July delivery. English Italian Ryegrass realises higher figures. Crop of French is reported as equal in quantity to that of last season, but prices are not yet established. Rapeseed steady and in full supply. Mustard scarce and dear.

COVENT GARDEN MARKET.

July 26th, 1893.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Cherries.....½ sieve	0 0	0 0	Melons ..... each	1 6	2 6
Filberts, per 100 lb.	35 0	40 0	Strawberries, per lb.	0 0	0 0
Grapes, per lb.	1 0	2 0	Pine apples.		
Peaches ... per dozen	3 0	8 0	—St. Michael's, each	2 6	6 0
Red Currants, ½ sieve	0 0	0 0	Black Currants, ½ sve	4 0	4 6

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0	Lettuces ...per dozen	2 0	3 0
Beans, Frencb, perlb.	1 0		Musbrooms, p. basket	1 0	1 6
Beet..... per dozen	2 0	3 0	Onions.....per buncb	0 4	0 6
Cabbages ... per doz.	3 0	4 0	Parsley ... per buncb	0 6	
Carrots ... per bunch	0 6		Radisbes... per dozen	1 6	
Cauliflowers, Eng.dz.	3 0	5 0	Seakale .....per bkt	0 0	0 0
Celery.....per bundle	2 6		Smallsalading,punnet	0 4	
Cucumbers .....eacb	0 4	0 8	Spinach ... per strike	4 0	
Endive, Frencb, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per buncb	0 2	0 6	Turnips .....per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	2 0	4 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Bouvardias, per bun.	0 6	1 0	Mignonette... 12 bun.	2 0	4 0
Carnations...per doz.	1 0	3 0	Pelargoniums, 12 sps.	0 6	0 9
doz. bunches.....	4 0	8 0	—scarlet.....12 bchs.	3 0	6 0
Cornflowers, dz. bun.	1 6	3 0	Pyrethrum doz. bun.	1 6	4 0
Eucharis ...per doz.	3 0	6 0	Primula, double, bun.	0 6	1 0
Gardenias 12 blooms	2 0	4 0	Red Roses, doz. bhs.	3 0	8 0
GladiolusWbite,dzbn	12 0	18 0	Roses, yellow, dozen	2 0	4 0
Heliotropes,12 sprays	0 4	0 6	— Red..... doz. blms.	1 0	1 6
Lavender...doz.bun.	4 0	8 0	— Saffrano...per doz.	1 6	2 0
Lilium Harrisii, doz. blooms	2 6	5 0	— Tea ..... per dozen	0 6	2 0
Lilium Lancefolium doz. blooms	1 6	3 0	Stephanotis,dz.sprays	2 0	3 0
MaidenhairFern,12bs.	4 0	6 0	Sweet Peas. doz. bbs.	3 0	6 0
Marguerites, 12 bun.	2 0	4 0	Sweet Sutton,dz.bhs.	2 0	4 0
			Tuberoses, per doz	0 4	0 6

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Campanula,per doz.	6 0	9 0	Liliums, various, per doz.	12 0	24 0
Cissus discolor...each	1 6	2 6	Lobelia .....per doz.	3 0	4 0
Cyperus .....per doz.	4 0	12 0	Marguerites, perdoz.	6 0	12 0
Dracæna term., doz.	18 0	36 0	Nasturtiums, per doz.	3 0	4 0
Dracæna viridis,doz.	9 0	18 0	Mignonette, per doz.	4 0	6 0
Evergreens,invar.doz	6 0	24 0	Palms in variety,eacb	2 6	10 0
Ferns, invar.,per doz.	4 0	18 0	Palms, Specimen ...	15 0	63 0
Ferns, small, per 100	4 0	8 0	Pelargoniums ... doz.	6 0	12 0
Foliage Plants, doz.	12 0	60 0	- scarlet.....per doz.	3 0	6 0
Fuchsia ... ..per doz.	6 0	9 0	Rhodanthe .....doz.	4 0	6 0
Hydrangea, per doz.	9 0	18 0			
Ivy Geraniums...doz.	4 0	6 0			

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FLOWER SHOWS, 1893.

Revised to date.

AUGUST.

7.—Battersea Summer Show.
7.—Beddington, Carshalton, and Wallington Flower Show.
7.—Duffield Flower Show.
7.—St. Neots Amateur and Cottage Horticultural Society.
7.—Mansfield Flower Show.
7,8.—Northamptonshire Horticultural Society's Show.
8.—R.H.S., Drill Hall.
9, 10.—Flower Show at Earl's Court.
10.—Margam Cottagers' Show.
10.—Maidenhead Flower Show.
10.—Taunton Flower Show.
12.—Ovenden Flower Show.
15,16.—Cardiff Flower Show.
16.—Bishop's Stortford Flower Show.
16—Eling (Hants) Flower Show.
16.—Reading Flower Show.
16.—Kingswood St. George Flower Show.
16.—Salisbury Flower Show.
16, 17.—Bilston Flower Show.
17.—Parsonstown (King's Co.) Horticultural Society's Show.
18.—Devon and Exeter Horticultural Society.
18, 19.—National Co-operative Flower Show at the Crystal Palace.
22.—West Malvern and Mathon Flower Show,
23, 24.—Shrewsbury Summer Show.
23, 24.—Gladioli Show at Earl's Court.
25.—Royal Horticultural Society of Ireland.
29,30,31.—R.H.S., Agricultural Hall.
30.—Easingwold Flower Show.
30, 31.—Bath Autumn Show.
31.—Thame Flower Show.

SEPTEMBER.

1,2.—National Dahlia Society's Show at the Crystal Palace.
2.—Stretford Flower Show.
2.—Bridge of Allan Flower Show.
5, 6.—Brighton Autumn Show.
6,7,8.—National Chrysanthemum Society at the Aquarium.
8.—Bute Rose Show at Rothesay.
12,26.—R.H.S., Drill Hall.
13,14.—Royal Caledonian Horticultural.
13, 14.—Dahlia Show at Earl's Court.
27.—N.C.S. Floral Committee.
27 28, 29.—Hardy Fruit Show at Earl's Court.
27, 28.—County of Gloucester & Cheltenham R.H.S.

OCTOBER.

10,24.—R.H.S., Drill Hall.
11,12,13.—National Chrysanthemum Society at the Aquarium.
25.—N.C.S. Floral Committee.
28,29.—Havant Chrysanthemum Show.

NOVEMBER.

1,2.—Kent County Chrysanthemum Show.
1,2.—Battersea Chrysanthemum Show.
1,2.—Barnstaple Chrysanthemum Show.
1, 2.—Steyning Chrysanthemum Show.
2,3.—Forest Gate and Stratford Chrysanthemum Show.
2,3.—Ascot Chrysanthemum Show.
2,3.—Highgate Chrysanthemum Show.
2,3,4.—Cornwall Chrysanthemum Show.
3,4.—Grimsby Chrysanthemum Show.
6.—St. Neots Chrysanthemum Show.
7,8,9.—National Chrysanthemum Society at the Aquarium.
7,8.—Eastbourne Chrysanthemum Show.
7, 8.—Brighton Chrysanthemum Show.
7,8.—Kingston Chrysanthemum Show.
7,8.—Sevenoaks Chrysanthemum Show.
7,8.—Leeds Paxton Society's Chrysanthemum Show.
8.—Evesham Chrysanthemum Show.
8.—N.C.S. Floral Committee.
8, 9.—Bath Chrysanthemum Show.
8,9.—Barnsley Chrysanthemum Show.
8, 9.—Brixton, Streatham, etc., Chrysanthemum Show.
8,9.—Bournemouth Chrysanthemum Show.
8,9.—Bath Chrysanthemum Show.
8, 9.—Dalston Chrysanthemum Show.
8.9.—Guildford Chrysanthemum Show.
8, 9.—Northamptonshire Chrysanthemum Society.
10.—Exeter Chrysanthemum Show
10.—Windsor Chrysanthemum Show.
10,11.—Derby Chrysathemum Show.
10,11.—Bradford Chrysanthemum Show.
11.—Bacup Chrysanthemum Show.
11.—Batley Chrysanthemum Show.
14, 15.—Ipswich and East of England Chrysanthemum Show.
14, 15.—Plymouth Chrysanthemum Show.
14,15.—Croydon Chrysanthemum Show.
14,15.—Hartlepool Chrysanthemum Show.
14,15.—Cardiff Chrysanthemum Show.
14,28.—R.H.S., Drill Hall.
15.—Ealing Chrysanthemum Show.
15.—Reading Chrysanthemum Show.
15,16.—Birmingham Chrysanthemum Show.
15,16.—Bristol Chrysanthemum Show.
15,16.—Cranbrook Chrysanthemum Show.
15,16.—Great Yarmouth Chrysanthemum Show.
15,16.—York Chrysanthemum Show.
15, 16, 17.—Hereford Fruit and Chrysanthemum Show.
16, 17, 18.—Edinburgh Chrysanthemum Show.
16, 17.—Royal Horticultural Society of Ireland.
17.—Crediton Chrysanthemum Show.
21,22.—Manchester Chrysanthemum Show.
22.—Beverley Chrysanthemum Show.
22,23.—Dundee Chrysanthemum Show.
23,24.—Norwich Chrysanthemum Show.
24,25.—Eccles Chrysanthemum Show.

DECEMBER.

5,6,7.—National Chrysanthemum Show at the Aquarium.
12.—R.H.S., Drill Hall.

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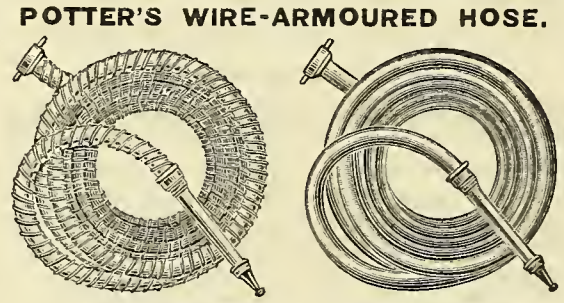

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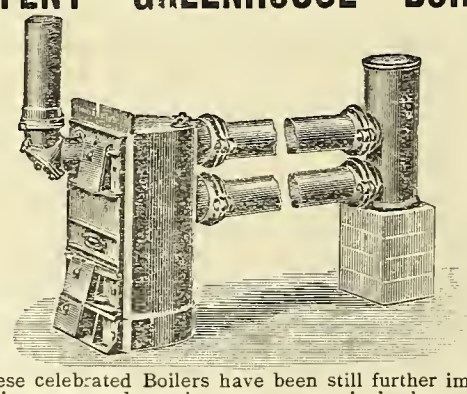

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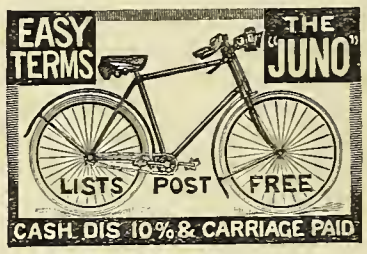

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, August 7th.—Annual Meeting of the Scottish Arboricultural Society.
Beddington and Carshalton Flower Show.
Battersea Summer Show.
Duffield Flower Show.
St. Neot's Flower Show.
Mansfield Flower Show.
Northamptonshire Horticultural Society's Show. (2 days.)
TUESDAY, August 8th.—Annual Dinner of the Scottish Arboricultural Society at Windsor.
Royal Horticultural Society: meeting of Committees at 12 o'clock.
Floral Fête at Abbey Park, Leicester.
WEDNESDAY, August 9th.—Flower Show at Earl's Court. (2 days.)
THURSDAY, August 10.—Margam Flower Show.
Maidenhead Flower Show.
Taunton Flower Show.
FRIDAY, August 11th.—Sale of Orchids, at Protheroe & Morris' Rooms.
SATURDAY, August 12th.—Ovenden Flower Show.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, AUGUST 5th, 1893.

ARBORICULTURE.—How many good Gardeners' as well as Foresters' mouths must water at the nature of the programme sketched out in our last issue, for the proposed visit of the members of the Scottish Arboricultural Society to the South of England next week, and the delight which must be associated with such a visit. It may be that England is not great in Forests, but at least we have in the New Forest, the Royal Forest at Windsor, the Forest of Dean, Wolmer, and others, some fine forestal remains, which it is of the utmost importance should be maintained, and as to which we may well hope to learn, whenever the report of the Society's visit is issued, some very valuable criticism and information.

Why England has no such Society it is hard to understand; but it has to be admitted with a good deal of pain that, except our Royal Agricultural Society—which is a great, living, active, energetic body, in other matters relating to land culture—we are, on the south side of the Tweed, sadly inefficient and inactive. What does the Royal Horticultural Society do that entitles it to the respect of the nation, or to command national support? Little or nothing. Even amongst those who might be expected to show some loyalty and respect—the gardeners of the community—it is held in light esteem.

Practically the Society does nothing out of London, and not much there.

To arrange an annual excursion and social gathering on the lines of that promoted by our Scotch friends is out of the question. We most heartily wish for our visitors fine weather and a delightful time. They will see many ancient and noble trees, many grand forest breadths, and will very probably return wondering that, after all, so little promotion of modern forestry should be accomplished here.

MEDALS AS PRIZES.—A very amusing case came under our notice the other day, in which a medal awarded to a trade house as a prize in one case, was offered by this same firm as a prize in another direction. If anything could turn to ridicule and contempt the practice of giving medals as awards at Shows, it certainly is a fact of this kind. Medals may be all very well in their way, if of real value, a value, in fact, that makes them at least worth keeping; but when silver medals are awarded, the actual value of which, relative to current coin, is two shillings and sixpence, and to the market value of silver is about one shilling and sixpence, we marvel that any one having regard to their reputation should offer them, and still more, that any one should accept them. A bronze medal of the metal value of one penny is a monstrous insult to offer any one.

But whilst we sympathise with the recipients of these worthless medals, so far as they are not to blame, we think they should refuse them, or at least decline to compete for them. on the ground that they are so utterly worthless; still further do we sympathise with the second recipient in the case referred to, who, thinking he has value, is disgusted later to learn that he is but the winner of what someone else thus cheaply disposes of, because so worthless.

Why do not exhibitors, to whom a silver medal can never be made a tangible recompense, honourably decline to receive anything whatever, except it be paid in hard cash? Whilst a few pounds will cover the cost of a score of silver medals, it would not, however, go far to cover the cash payments. Perhaps of all improprieties the granting of a medal of silver gilded over to represent gold is the worst. Such a practice should be regarded as an imposture and illegal.

CHRYSANTHEMUMS.—It is a far cry yet to November, but even now those growers of Chrysanthemums who exhibit for prizes are beginning to find their earlier prognostications with regard to the timing of the blooms somewhat discounted, because of the entire change in the weather which we have experienced for some three or four weeks. The change has had a marked effect on vegetation generally, and has not left Chrysanthemums alone, even though growing in pots. That through the very hot, dry weather, the plants did very often get dry at the roots in spite of all the vigilance displayed in frequent watering there can be no doubt, and that dryness did check the growth materially, causing the stems to harden early, and leafage to shrink.

To this rock drought, was also to be added atmospheric dryness, so that the plants manifested a precocity in the direction of bud production that was rather alarming. Now all is changed. Plenty of root moisture, ample atmospheric moisture, and some appreciable shade by clouds have been productive of renewed, almost luxuriant, growths, so that it is now just possible that the bloom will be late rather than early, and all earlier calculations are now out of the reckoning. Naturally the hardening of the lower stems, which was effected by the drought, should presently have some influence on the new growth, but the rebound has been great, and will take a little time to tone down.

Really everything now depends upon the nature of the weather we shall experience during the present month, and if that is fairly fine then things will soon right themselves. That being so, we shall venture even thus early to forecast a very fine blooming season, and shall indeed be sorry should it prove otherwise. The Chrysanthemum season for fine blooms is all too short, and disappointment in such a case is hard to bear.

BEDDING VERBENAS.—We were charmed the other day to see in one of our public gardens a very beautiful bed of mixed Verbenas. Such a sight carried our mind back to the time—some years ago—when named Verbenas were popular bedding plants—the days, in fact, of the Tom Thumb Pelargonium, of Cuphea plantycentra, of Gazania splendens, of the yellow Calceolaria, of the old-fashioned Heliotrope, and other bedding plants which of late have fallen into disuetude. Well, it was a real delight to see in the garden in question, not merely Verbenas, but Heliotropes, Fuchsias, and some other of the old-fashioned bedding plants used largely, and with such striking effect; for combinations of white Fuchsias and crimson Begonias, dark Heliotrope and Roses, etc., are indeed beautiful, and are far away more pleasing than are the too commonly flat combinations yet so frequently seen.

But the Verbenas constitute the subject of our remarks, and well did they merit all praise. The plants were all from seed, and herein do we see a marked change from the Verbena bedding of some thirty or forty years ago, as then seedling plants were seldom found, and propagated ones alone employed. Seedling strains are now so good that named plants have almost become absurdities. In the beds we have referred to it would have been easy to find half-a-dozen varieties of the finest quality and form, such as a few years since received Certificates of Merit.

Presently, perhaps, we shall recognise the fact that seed strains in many of our popular flowers have not only rendered naming individual plants undesirable, but almost absurd. Verbenas lend themselves to the production of effective yet somewhat informal masses of colour most naturally. They need very little attention, only moderately rich soil, and, if needed, can always be increased readily by cuttings.

Bulbs for the Royal Parks.—We understand that the order for supplying the bulbs for St. James's Park, Regent's Park, Hampton Court Gardens, St. Margaret's Square, &c., has this year been placed with Messrs. William Cutbush & Son, of Highgate.

Visit of Dutch Horticulturists to Swanley.—A party of members of the Dutch Horticultural Society have arranged to pay the establishments of Messrs. H. Cannell & Sons a visit on Saturday the 12th inst.

Blackbirds and Fruit.—A correspondent writes:—"If those who appreciate the exquisite song of the blackbird will soak any crumbs and odd bits of crusts there may be to spare in their household, and throw them out to the birds, they will find that the blackbirds will come for them with unfailing regularity, and prefer them to fruit. We have proved this to be true this dry season."

East of Scotland Union of Naturalists' Societies.—The annual conference of this association was held last week, at Kirkcaldy, when the societies comprised in the union were well represented at the council and general meetings. At the first meeting Professor D'Arcy Thompson presided, and subsequently vacated the chair in favour of the new president, Mr. James Shephard. A number of interesting papers were read, and the next meeting was fixed to take place in Dundee.

Death of Mr. William Thomson, Junr.—With deep regret, which will be shared in by all friends of the family, we have to record the death, early on Sunday morning last, at his residence at Clovenfords, of Mr. William Thomson, Junr., eldest son of Mr. William Thomson of the Tweed Vineyard, in his 44th year. Mr. Thomson, who was born at Wrotham Park, Barnet, while his father was gardener there, and subsequently resided at Dalkeith before settling down at Clovenfords some twenty-five years ago, was a man of fine physique and active mental and physical capacity, taking a keen interest in the business with which he was associated, and of a most kindly, and hospitable nature. He patiently endured a long illness, and died of pleurisy following an attack of influenza which he had more than a year ago. His remains were buried on Wednesday in the little churchyard at Clovenfords on the banks of the Gala water. His widow and four young children are left to mourn their sad bereavement.

Cherkley Court on Leatherhead Downs, the mansion of Mr. Abraham Dixon, was on Wednesday evening of last week set on fire by lightning while the family were at lunch. A considerable portion of the mansion was destroyed, although three local fire brigades were speedily on the scene. The water supply was indifferent. The valuable paintings and other costly articles acquired by Mr. Dixon during his varied and extensive travels were saved by people from the surrounding districts, who flocked to the scene.

Smoking at Flower Shows.—A Liverpool correspondent writes:—"May I be allowed to ask the executive of the late Liverpool Show what induced them to break through the universal rule in this country at flower shows of any pretension to first-class rank, of not allowing smoking in the show tents. On the Thursday evening there could not have been less than two hundred persons smoking in the large marquee, and rendering the atmosphere most objectionable to non-smokers. The Liverpool show deserves more consideration than to be brought down to the level of an ordinary smoke room."

Dutch Horticultural and Botanical Society.—At the meeting of the Floral Committee of this Society held on July 8th, first-class certificates were awarded to Messrs. De Graaff Bros., Leyden, for Delphinium grandiflorum flore pleno; to Mr. C. G. Van Tubergen, Junr., Haarlem, for Cienkowskia Kirkii; to Mr. J. W. Dandey, Haarlem, for Begonia tuberosa fl. pl.; and to Messrs. Groenewegen & Co., Amsterdam, for Coreopsis grandiflora. Botanical certificates were accorded to Messrs. E. H. Krelage & Son, Haarlem, for Hippeastrum reticulatum and Melasphærula graminea; and to Mr. H. D. Willink Van Collen, Breuken, for Veratrum Maacki and Ligularia macrophylla.

Death of Anne Pratt.—The death is announced as having taken place recently, at the advanced age of 87 years, of Mrs. John Pearless, better known to readers of botanical literature as "Anne Pratt." She was a devoted student of Nature, and a capable artist, and published her first book, "Flowers and their Associations," sixty-five years ago. Other works from her pen were:—"Pratt's Catechism of Botany," "The Field, the Garden, and the Woodland," "Wild Flowers," "Poisonous Plants," "Common Objects of the Seashore," and "The Flowering Plants and Ferns of Great Britain," a work in 5 vols., with coloured plates, which was published by the Society for the Promotion of Christian Knowledge.

Death of Mr. E. Seward.—We regret to hear of the sudden death, at Huntingdon, on the 21st ult., of Mr. E. Seward, florist and seedsman, of Godmanchester. He was for some years gardener to P. E. Tillard, Esq., of Godmanchester, and it was with him, as a sport, that the Golden Feather Pyrethrum originated. Unfortunately, before discovering its value for carpet bedding, he passed it on to the late firm of E. G. Henderson & Son, of the Wellington Road Nursery, St. John's Wood, who sent it out. All the world knows what a marvellously popular bedding plant it subsequently became, but it may be news to many to know that though the Golden Feather quickly "caught on" and has been raised by millions, it never received a Certificate from the Floral Committee of the R.H.S. Neither, by the

way, did that other popular variegated golden bedding plant, Mesembryanthemum cordifolium variegatum.

Flower Shows have been held in numbers in Cornwall this week, and although the season was unusually early the exhibits were in nearly every instance both creditable and fine. Especially was it noticeable in the case of cottage garden exhibitors, the numbers of which appear to be increasing every year "as knowledge grows." The Education Act seems indeed to be showing itself in Cornwall in a most remarkable way, and nothing can more clearly depict the altered character of things than the numerous neat, and in many cases truly tasty, gardens of the working men as seen from the public thoroughfares.

Large Ivies.—The Rev. David Landsborough, of Kilmarnock, states in the *Glasgow Herald* that at Loudon Castle, Ayrshire, there is an Ivy which, fourteen years ago, measured three feet in girth of stem one foot from the ground. It climbs to the top of an Ash tree, about 70 ft. in height. There is, however, also, says Mr. Landsborough, in Kyle (Ayrshire) an Ivy in some respects more remarkable than this one. It grows on the base of what is now the highest storey of Dundonald Castle, and though one would imagine it would have poor nourishment there, the stem is 2 ft. 6 in. in girth at five feet from its roots. It may be presumed that this aristocratic and exalted Ivy is much older than the other Johns, in "The Forest Trees of Britain," mentions only one Ivy in England greater than those of Ayrshire. It grows at Fountains Abbey, and was in 1849 3 ft. 2 in. in girth (height not given). One is, however, mentioned as growing "at Gigean, near Montpelier, which, before 1849, was 6 ft. in circumference at its base."

Quite an agreeable change has come over the gardening world of Cornwall, as well as similar good things for the agriculturist. As regards the latter, it may be said that the harvest has become general, and that notwithstanding the gloomy forebodings of many farmers, there can be no doubt whatever that the crops, taking them all round, are far and beyond what was expected. The wheats, although short in straw, are heavily kerned, and the same remark applies to oats and barley. Grass lands have changed as if by magic, and some farmers are expecting a good second crop of hay. The effect of the recent showers on the Potato crop is surprising; nearly all the late sorts have made an excellent start, and promise ample growth and good yield. It is reported by Mr. H. Mitchell, gardener to Mr. Basset at Teludy, that this season Apples, Peaches, and Nectarines are an average crop, whilst Pears, Cherries, and all small fruit are most decidedly above the average, but that Strawberries, whilst under the average, were remarkable in quality. The annual Gooseberry Fair held at Helston was a decided failure on Saturday last. Green vegetables are now very plentiful, and for them there is now a great demand in London and the Midland centres.

Roses and their essences.—Our national emblem, as all the world knows, is the object in other countries of commercial transactions. The reverential air with which the Englishman regards the flower, is replaced in Turkey and Southern France, for example, by the cold calculating possibilities of what it will produce. In the full flush of its glory, the delicate bloom is plucked, expeditiously placed in macerating pots, and subjected to a heating and pressing process warranted to extract its prized essential oil for use in a variety of toilet preparations. Perhaps a little careful study would enable some of our scientific cultivators to raise a profitable industry, and free us from being tributary to either the Turk or others for the sweet-smelling Rose essences. Experiments have been made at Leipzig with Rose plantations, with success that has warranted their extension, and a factory has been laid down for dealing daily with an enormous quantity of petals immediately on their collection. The Leipzig experimenters declare their trials to have shown that instead of oriental heat being requisite for the flowers to prosper and acquire a delicate perfume, "a cool and even slightly humid temperature is the first condition of a good yield, and that great heat is the enemy of Roses." In any year but this the description would fit our climatic conditions exactly. Having in mind a now notorious disquisition on "jam," and the good results it has produced, who will gain fame by a propaganda on Roses?—*Commerce.*

PLANTS RECENTLY CERTIFICATED.

THE undermentioned subjects were awarded certificates according to merit when exhibited at the meeting of the Royal Horticultural Society on the 25th ult.

CUPRESSUS MACROCARPA LUTEA.—The leaves of this variety are of a light yellow but in no other way differ from those of the type. The plant is therefore very distinct, and should be freely planted in association with the green form by way of contrast. The pyramidal and spiry form of a tall plant has a distinctive effect in a landscape, and being narrow, especially in the young state, it is suitable for small gardens. A columnar specimen about 3 ft. or 4 ft. was exhibited by Messrs. Dicksons, of Chester and received a First-class Certificate.

PLATYCODON GRANDIFLORUM MARIESII.—The variety here noted differs from the type chiefly in its dwarf stature, being about 6 in. to 8 in. high under good cultivation. The dark blue flowers have deeper veins. A pan of it exhibited by Messrs. Paul & Son, Cheshunt, under the erroneous name of Campanula Mariesii, had stems 2 in. to 4 in. high, and was accorded a First-class Certificate.

SPIRÆA ANTHONY WATERER.—This is evidently a dark flowered form of Spiræa Bumalda with corymbose cymes of flowers that are carmine red in bud and till some time after expansion, when they fade to a deep rose. The stems are slender and twiggy and evidently continue to bear flowers over a long period of time. A First-class Certificate was awarded it when shown by Mr. Anthony Waterer, Knapp Hill, Surrey,

DIDYMOCARPUS LACUNOSA.—The leaves of this plant are ovate or cordate and confined to the rootstock, while the flower scapes rise to a height of 2 in. to 3½ in. bearing a pair of blooms much resembling those of a Streptocarpus to which they are closely allied. They are tubular, dilated upwards to a five-lobed lamina and of a deep violet purple except the inner face of the segments which is clearer and brighter. The species is decidedly pretty but moderate in size. A Botanical Certificate was accorded it when shown by Messrs. J. Veitch & Sons, Chelsea.

CALADIUM LE NAIN ROUGE.—The name of this variety, meaning dwarf red, well expresses the character of the same. The plant is dwarf with shield-shaped deep red leaves, with crimson veins and a narrow green edge. An Award of Merit was accorded it when shown by Messrs. J. Laing & Sons, Forest Hill.

SWEET PEA, THE BELLE.—The standard of this variety is splashed with rose and pink, while the wings are coloured in the same way with rose and blush.

SWEET PEA ELIZA ECKFORD.—Standard blush with a rosy purple stripe along the midrib of the outer face and splashed with pink towards the edges. Sometimes the whole of the outer face is pink, while the inner face is paler. The wings are creamy white. Both varieties were shown by Mr. Henry Eckford, Wem, Salop, and received an Award of Merit in each case.

BEGONIA, MRS. BOURNE.—The large, obliquely cordate leaves of this variety are velvety green with pale veins. The flowers are of large size, bright yellow and inclined to produce numerous sepals. Three of the male flowers had the outer sepals transformed to leaves, serrate, hairy and green at the edges but yellow in the central and basal area. An Award of Merit was accorded the variety when shown by Mrs. Darwin, The Grove, Huntingdon Road, Cambridge.

CARNATION ESMERALDA.—In this we have a fancy yellow ground Picotee. The yellow ground is slightly shaded with buff and striped with heliotrope from the edges inwards. The flowers are perfectly full with slightly toothed petals, and although not refined, the variety would probably answer well for border culture. It received an Award of Merit when shown by Mr. Frederick Bull, Wormingford, Colchester.

MELON, LEE'S PERFECTION.—The fruit of this variety as shown, was large, globular, orange yellow netted with grey and would weigh about 5 or 6 pounds. The rind is thin, the flesh white, of great thickness and decidedly juicy and sweet. An Award of Merit was accorded it by the Fruit and Vegetable Committee when shown by F. Lee, Esq., Lynford Hall, Mundford, Norfolk.

The undermentioned subjects received First-class Certificates at Earl's Court on the 26th ult:—

CARNATION MRS. APSLEY SMITH.—The flowers of this variety are of a brilliant, fiery red or scarlet, moderate in size and not inclined to split the calyx tube. The petals are slightly toothed. Besides obtaining the Certificate, this took the first prize for the best border variety of a self-coloured Carnation when shown by Mr. C. Turner, Slough.

CARNATION CRIMSON KING.—The flowers in this instance are of good average size and deep crimson but not maroon. The petals are rather crowded but the calyx does not appear inclined to split. Besides the Certificate this took the second prize in the same class as the above when shown by Mr. J. Douglas, Edenside, Great Bookham, Surrey.

CHRYSANTHEMUM MAXIMUM FILIFORME.—The flowers of this variety measure 3 in. to 4 in. across and have white rays with a large golden disc. The distinctive feature of it is that the rays are more or less deeply three-lobed or three-parted and imbricate. It was exhibited by Messrs J. Laing & Sons, Forest Hill.

MELON, BEAUTY OF SYON.—The fruit of this variety is globular, moderate in size, and about 3 or 4 pounds in weight, yellow and netted. On the whole it bears a considerable resemblance to Hero of Lockinge in size, shape and colour. The flesh is scarlet, and of good thickness for the size of the fruit. It was exhibited by Mr. G. Wythes, gardener to the Duke of Northumberland, Syon House, Brentford.

HOW TO CURE TOBACCO.

CAN you or any of your readers tell me how to cure Tobacco for fumigating? I have some very fine plants and would like to dry them.—*Constant Subscriber, Bolton.*

We have no practical experience of our own in curing Tobacco, and hardly think the game worth the candle in this country. We may, however, give the experience of the late Mr. Robert Thompson, at Chiswick, as recorded in *The Gardener's Assistant*:—

"The Tobacco acquires maturity of growth in the beginning of September; this is indicated by the leaves becoming mottled with yellow spots, those at the bottom more so than at the top of the plant; they are also more glossy and shining than before. The Mushroom house being at this time disengaged was thought an eligible place for the curing process. The plants were taken up quite dry with a few of their roots; but no particular attention was paid to saving many of the latter, as the object was only to avoid breaking the bottom leaves (which might have been the case by cutting the stems); the plants were carried immediately to the house and hung on nails in the walls and on ropes in the middle of it. When all had been brought into the house it was shut up quite close, the fire lighted, and the temperature kept to 70° until the leaves got completely yellow, which they did in four or five days The heat was then raised to 75°, and in about a week the leaves, with the exception of the mid-ribs, were cured, and of a fine brown colour. The heat was then increased to between 80° and 90°, and in five days the mid-ribs were so completely killed that the thick ends of them would have broken immediately on attempting to handle them. The leaves were now very much curled and dry as fire could make them, and if subjected to any pressure would have crumbled to snuff. Fire was discontinued, and the floor of the house well watered; this was repeated as it evaporated; and in twenty-four hours the leaves were as soft and pliable as could be desired: they could now be handled without breaking or wasting them. When stripped off the stalks they were stretched out singly, and laid above one another, then well pressed to give them form and keep them smooth; they were then tied in *bands* of about half-a-dozen leaves in each, and packed into a tub, being well pressed as they were put in. In this way they remained a fortnight, when they began to mould slightly at the midribs in consequence of the weather being moist and warm; they were then rehung in the house, and very gradually dried by fire heat; were afterwards brought to a moist state in the manner above described, and finally repacked in the tub. The important points in the above mode of curing are to carry the plants to the house whenever they are taken up; for if the sun be bright, the leaves would sunburn in a short time. The leaves require to be yellow before the heat is increased, otherwise the Tobacco would cure too light-coloured; and the mid-ribs must be completely killed before the leaves are taken off the stalks; for if not once made very dry, they would never keep."

FLORICULTURE.

National Carnation and Picotee Society (Northern Section).

THE annual exhibition of the above society was held at the Botanical Gardens, Manchester, on July 29th, and, considering the earliness of the season, was a very good one. The main features of the exhibition were Mr. Lord's first prize stands of Carnations and Picotees, and Mr. A. R. Brown's first prize stand of yellow grounds, which were greatly admired. Turning to varieties, George S.B. was grand, the blooms exhibited by Mr. T Lord probably being the finest of that variety ever shown. In Picotees, Mr. Lord's Thos. William was very fine, but a new variety, Mrs. Openshaw (Geggie), was also exhibited in grand form, and seems likely, when it gets into general cultivation, to take the lead in the class. The following were the awards:—

TWELVE CARNATIONS, ALL DISSIMILAR.—First, Mr. T. Lord, Holebottom, Todmorden, with Duke of York, Arline (fine), Oscar Wilfred, George (very fine), Thalia, Master Fred (very rich in colour), Dan Godfrey, seedling No. 12, Bruce Findlay (fine), Admiral Curzon, Thaddeus, and Biddy Malone; second, Mr. J. Whitham, Hebden Bridge, with Robt. Lord, Oscar Wilfred, Fanny Hudson, Master Stanley, Thalia, Joseph Lakin, Wm. Dean (very fine), Master Fred, Wm. Skirving, Lily Cannell, Edward Rowan, and Admiral Curzon; third, Mr. H. Geggie, Bury; fourth, Mr. E. Shaw, Moston, Manchester; fifth, Mr. J. Chadwick, Dukinfield.

TWELVE PICOTEES, ALL DISSIMILAR.—First, Mr. T. Lord, with Norman Carr, Thos. William (grand), Little Phil, Morna (very fine), Zerlina (fine), Mrs. Payne, Mrs. Gorton, Mrs. Sharp, Mary D. Anstiss, (superb), Favourite, Campanini, and Alliance; second, Mr. E. Shaw, with Little Phil, Nellie (very fine), Mrs. Openshaw (exquisite), John Smith (fine), Thos. William, Morna, Clara Penson, Favourite, Muriel (fine), Daisy, Mrs. Summers, and Campanini; third, Mr. J. Whitham; fourth, Mr. A. R. Brown, Handsworth, Birmingham; fifth, Mr. H. Geggie; sixth, Mr. H. Pomroy, Stakehill, Manchester.

SIX CARNATIONS.—First, Mr. Crossley Head, Hebden Bridge, with Master Fred (fine), George, Gordon Lewis (fine), Fanny Hudson, Joe Edwards, and Richard Bealey; second, Mr. G. Thornley, Middleton, with C. H. Herbert, Joe Edwards, Master Fred, Young Meynell, Ivanhoe, and Thalia; third, Mr. G. Maddocks, Wakefield; fourth, Mr. W. Kenyon, Bury; fifth, Mr. Squire Greenwood, Hebden Bridge; sixth, Mr. Joe Edwards; Blackley; seventh, Mr. H. Pomroy; eight, Mr. C. F. Thurstan, Wolverhampton.

SIX PICOTEES.—First, Mr. Crossley Head, with Morna (fine), Little Phil, Miss Wood, Thos. William, Lady Louisa (grand), and Zerlina; second, Mr. C. F. Thurstan, with Dr. Epps (fine), Zerlina, Mary, Thos. William (very fine), Campanini, and Mrs. Sharp; third, Mr. J. Edwards; fourth, Mr. W. Kenyon; fifth, Mr. B. Simonite; sixth, Mr. G. Thornley; seventh, Mr. S. Greenwood; eighth, Mr. T. Maddock.

TWELVE SELFS.—First, Mr. E. Shaw, with Germania (2), Reuben Butler (2), Mrs. Muir, Lillie Shaw, Mrs. Fred, Mrs. Lee, and four seedlings; second, Mr. A. R. Brown, with Ruby, Mrs. Fred, Attraction, Germania (2), Wreland (2), Thœrner, Patience, Aurora, Hebe, and Berenger; third, Mr. J. Edwards; fourth, Mr. T. Lord. SIX SELFS.—First, Mr. W. Thenyon; second, Mr. H. Pomroy; third, Mr. C. F. Thurstan.

TWELVE FANCY CARNATIONS OR PICOTEES.—First, Mr. A. R. Brown, with Alice Brooks (fine), Janira, Eclipse, Dodwell's Seedling 166, Richard Tryan, Romulus, Schlieben (2), Agnes Chambers, Lilian (grand), Stadtrath Bail, and Terra Cotta; second, Mr. B. Simonite with Romulus and eleven seedlings; third, Mr. H. Pomroy. SIX FANCIES.—First, Mr. J. Edwards with Harlequin, Jessica, Mrs. R. Sydenham, A. W. Jones, Dodwell's Seedling 580, and a seedling.

SINGLE BLOOMS: CARNATIONS; scarlet bizarres.—First and fifth, Mr. T. Lord with George, and third with Duke of York; second, Mr. E. Shaw with George; and fourth, Mr. G. Thornley with C. H. Herbert. Crimson bizarres: First and second, Mr. T. Lord with Master Fred; third and fourth, Mr. T. Maddock with Edward Schofield; and fifth, Mr. C. F. Thurstan with Master Fred. Pink and purple bizarres: First and second Mr. T. Lord with Seedling No. 4, and third and fifth with Arline; fourth, Mr. Maddock with Sarah Payne. Scarlet flakes: First, second, and fifth, Mr. G. Thornley with Joe Edwards; third, Mr. Geggie; and fourth, Mr. Simonite with Wm. Dean. Rose flakes: First and fifth, Mr. T. Lord with Thalia; second, Mr. Maddock with a seedling; third, Mr. J. Edwards with Teddy, and fourth with Mrs. Gunn. Purple flakes: First, Mr. Lord with Gordon Lewis, third with Mayor of Nottingham, fourth with Jas. Douglas; second, Mr. B. Simonite; and fifth, Mr. J. Whitham with Jas. Douglas.

PICOTEES, heavy red-edged.—First, Mr. Lord, with Mary D. Anstiss (very fine), fourth with the same variety, and second with Morna; third, Mr. Shaw, with Morna; and fifth, Mr. Thurstan, with Dr. Epps. Light red-edged: First, second, and fifth, Mr. Lord; third, Mr. Thurstan; and fourth, Mr. Shaw, all with Thos. William. Heavy purple-edged: First, Mr. Geggie; second, Mr. Thornley; and fourth, Mr. Shaw, with Mrs. Openshaw; third, Mr. Lord; and fifth, Mr. Brown, with Muriel. Light purple-edged: First, third, and fourth, Mr. Thurstan; second, Mr. Brown; and fifth, Mr. Chadwick, all with Mary. Heavy rose-edged: First, Mr. Brown; and second, Mr. Thornley, with Mrs. Payne; third and fifth, Mr. Lord, with Mrs. Sharp; and fourth, Mr. Kenyon, with Little Phil. Light rose-edged: First, Mr. Thornley; second, Mr. Kenyon; and fourth, Mr. Brown, with Nellie; third and fifth, Mr. Shaw, with Favourite.

The premier Carnation was a grand bloom of George, exhibited by Mr. T. Lord, and the premier Picotee was an equally fine bloom of Thos. William, from the same exhibitor.

A First-class Certificate was given to Mr. T. Maddock for Edward Schofield, a fine high-coloured C.B. in the style of Joseph Lakin; and a similar award was granted to Mr. J. Edwards for Mancunian, a dark maroon self of fine form, petal, and substance.

Glasgow and West of Scotland Society's Show.

THE first annual competition of the Glasgow and West of Scotland Society was held in the Trades Hall, Glasgow, on the 26th ult. There was a very large attendance of gardeners and others interested in horticulture and floriculture, and the exhibition was pronounced on all hands as a great success. There were no less than 455 entries, and these included some really splendid specimens of Pansies, Violas, &c. The judging commenced at an early hour, the gentlemen who carried out this work being Messrs. Geo. Goodall, Edinburgh; J. Smellie, Busby; R. Stewart, Lenzie; J. Sutherland, Lenzie; A. S. Glass, Dalmellington, and J. W. Maxwell, Rutherglen. The principal exhibitors were Messrs. Dobbie & Co., Rothesay; Andrew Frater, Linlithgow; Halley Bros., Perth; D. Montgomery, Mount Vernon; and W. George, Drymen.

PRIZE LIST.

CONFINED TO NURSERYMEN.—Twenty-four blooms show Pansies, distinct: First, a Silver Medal, Andrew Irvine, Tighnabruiach; second, John Smellie, Busby; third, A. Lister, Rothesay. Twenty-four blooms fancy Pansies, distinct: First, Silver Medal, Andrew Irvine; second, J. Smellie; third, A. Lister. Twenty-four bunches Violas, six blooms in each, distinct varieties: First, Silver Medal, Wm. Paul & Co., Bridge-of-Weir; second, J. Smellie; third, A. Lister.

CONFINED TO GARDENERS.—Twelve blooms, show Pansies, distinct: First, G. Stewart, Rothesay, second, John Harper, Dumfries.

CONFINED TO AMATEURS.—Twelve blooms, show Pansies, distinct varieties: First, Andrew Foster, Linlithgow; second, A. Brown, Lenzie; third, Arthur Warnock, Carmannock. Six blooms, show Pansies, distinct varieties: First, Walter Buchanan, Torrance of Campsie; second, A. Frater; third, Jas. Maxwell, Newton. Twelve blooms, fancy Pansies: First, A. Watson; second, Alexander Bruce, Lenzie; third, John McKenzie, Carmannock.

OPEN TO GARDENERS AND AMATEURS ONLY.—Fancy Pansies, first, A. Frater. Blooms show Pansies, first, Walter Buchanan. Eighteen blooms fancy Pansies, first, A. Frater. Blooms show Pansies, first, J. Stewart. Blooms seedling Pansies, first, W. Buchanan.

OPEN TO ALL.—Blooms fancy Pansies, first, John Smellie. Show Pansies, first, J. Smellie. Blooms new Pansies, first, A Irvine. Seedling fancy Pansies, first, Chas. Kay. Blooms of any one variety of fancy Pansy, first, J. Smellie. Fancy Pansies raised by competitor, first, J. Smellie. Six blooms fancy Pansy, first, J. Smellie. Show seedlings, first, J. Smellie. Best blooms show Pansy, first, W. Glass. Best bloom fancy Pansy, Chas. Kay. Best bloom dark self show seedling Pansy, first, J. Smellie. Best bloom white self show seedling Pansy, first, J. Smellie. Best bloom primrose self show seedling Pansy, first, Wm. Maxwell. Best bloom white ground show seedling Pansy, first, W. Buchanan Best bloom yellow ground show seedling Pansy, first, J. Smellie. Best bloom show seedling Pansy, first, W. Buchanan. Best bloom white fancy seedling Pansy in hall, first, J. Smellie. Best bloom white-laced fancy seedling Pansy, first, J. Smellie. Best bloom yellow-laced fancy seedling Pansy, first, J. Smellie. Best bloom fancy seedling Pansy, first, J. Smellie. Bunches of Violas, first, A. Gilchrist. Best sprays Violas, first, J. Stewart. Best seedling Violas, first, Captain James King. Ladies' sprays Violas, first, A. Hay. Best sprays of blooms of a seedling Viola, first, A. Hay.

CONFINED TO AMATEURS.—Best bloom show Pansies, first, Wm. Maxwell. Best fancy Pansies, first, John Coutts. Best bunches Violas, first, Wm. Maxwell. Best Pinks, first, Jas. Robertson.

PINKS.—OPEN TO ALL.—Best blooms Pinks, first, Mr. Campbell. Confined to gardeners and amateurs—Best twelve blooms Pinks, first, A. Gilchrist. Best six blooms Pinks, first, A. Gilchrist.

HERBACEOUS.—OPEN.—Best bunches hardy herbaceous border flowers, first, J. Stewart. Confined to amateurs.—Bunches hardy herbaceous border flowers, first, J. Stewart. Special prize for best twelve bunches of Violas (offered by Dobbie & Co., Rothesay), A. Gilchrist.—*W. M.*

THE TIMPERLEY ORCHIDS.

ON Tuesday evening of last week a party of Manchester Field Naturalists, with the kind approval of Mr. George Hardy, Pickering Lodge, Timperley, inspected his fine collection of Orchids, one of the most valuable in that part of England. To see them in the fulness of pride the visit should be paid not later than Whitsuntide. Many of the cultivated species go to rest by midsummer, but examples of the loveliest and quaintest are never wanting, whatever the season, at all events in so grand a collection as the Timperley one. Mr. Hardy himself being absent from home, the gardener, Mr. Holmes, showed the way round, pointing out the gems and rarities, though too modest to invite attention to the splendid condition of the plants, which are every one models of good management and resulting good health.

The most conspicuous, perhaps, says a correspondent of the *Manchester City News*, were the Cattleyas, so celebrated for the lustre and the imposing dimensions of the flowers, the colours of which are mostly white and purple. They are indigenous to Brazil and Central America. The generic name commemorates Mr. William Cattley, of Barnet, Hertfordshire, one of the pioneers of Orchid culture, say sixty to seventy years ago, thus very shortly before the local beginning was made at Broughton Hall, by the celebrated Rev. John Clowes, whose name is also found in the catalogues of the plants they loved so well. Next in attractiveness were two or three of the magnificent genus Sobralia, natives like the Cattleyas, of tropical or sub-tropical America. These grow in the earth, not as Epiphytes, upon the boughs of trees. The stems are slim and seedy, usually branchless, and thickly clothed with foliage, so that in the woods of Brazil, Peru, and Mexico, especially where hot with sunshine, they form dense thickets, the large, Lily-like flowers coming out near the summits.

The charming little Oncidium flexuosum, a throng of golden butterflies, from Brazil as far back as 1818, a kind of "herald voice" of what was to come, vindicated its good character of being like human kindheartedness, never without a flower from January to December, and then begins again. Many grotesque Cypripedes were in bloom also; with Prasdevallias, in which the brilliant audacity of the Orchideous race seems to attain its maximum; and here and there an Odontoglot. That deservedly favourite one in particular, the Phalænopsis, white and rose colour brought some thirty years since from the forests of Ecuador. Nothing, after all, perhaps, longer

detained the eye than a beautiful Dendrochilum, the innumerable little yellow flowers disposed in a pendulous raceme nearly a foot in length.

The Orchids done with, Mr. Holmes led the way round the garden, distinguished from all others in the district by the number of its eminently beautiful Hollies, one apiece of a hundred different varieties, all trained cone-form, and constituting a perennially green enrichment beyond the margin of the ample lawn.

MUSHROOM CULTURE IN A CAVE.

In the pretty and thriving village of Akron, Erie County, New York, lying on a limestone ridge and situated about twenty-two miles from Buffalo, there is an industry flourishing of which few are aware except the villagers and the people who buy the product. It is Mushroom growing on a large scale. These same Agaricus campestris are so large, so fat, so heavy and meaty, in fact so different from those grown on the surface of the earth, I thought, perhaps, a brief description of the conditions under which they are grown might interest those of your readers who utilise their greenhouses for that purpose. Millions of barrels of cement (water lime) have been sent out from the village of Akron, and to produce this thousands, perhaps millions. of cords of limestone rock have been excavated. Where the limestone is found with but a few feet of flint and earth covering it it is quarried in the usual way, but where there is twenty to thirty feet to strip off before reaching the limestone it is cheaper to tunnel into the rock. The layer or strata of limestone in the cave in which the Mushrooms are growing was 8 ft. or 9 ft. thick, and does not follow the undulations of the surface of the earth above, but ran as near as possible level, and in many places both floor and ceiling in many square acres is as smooth and even as an asphalt pavement.

We had the pleasure of being guided into these "darksome caves" by the proprietor himself, Mr. Irving Eckerson. He held the torch while we looked where to step, for it was not all asphalt pavement. Some friends with me were inclined to chat a little on the journey into the bowels of the earth; my weak intellect was fully absorbed in contemplating where we should be if the candle went out. After a tramp of three or four hundred yards in Indian file, our footing became better, and of a sudden the familiar odour of the chief ingredient which goes to produce Mushrooms struck in full blast. The caves we were in were perhaps twenty or thirty acres in extent, but Mr. Eckerson uses but three or four acres, and of course has chosen the dryest part. Hundreds of beds were there, and in ten different styles; some of them were in ridges 16 ft. long, 3 ft. wide at the bottom, running to a point about 2 ft. 6 in. high, but those Mr. E. says he has about abandoned, preferring the flat bed, which is neatly held together by hemlock boards, and is 16 ft. long, 6 ft. wide, and 8 or 9 in. thick. There is just room left between each bed to walk and pick the Mushrooms, and everything is as neat and clean as the decks of a man-of-war.

Mr. Eckerson puts no earth on the manure. I fired no questions at him about his methods of doing this and that; I had sympathy for him, because I know what it is myself. There were beds in all shapes, some being made, others just formed, some just coming in, and others covered with great big snow-white fungi as big as a baby's head, and about as heavy. They are shipped in handle baskets holding about six pounds, and they mostly go to New York City and Chicago. I asked when they were in most demand and when they brought the best price, and strange to say it is July, August, September, and October. In winter and spring Mr. Eckerson has what he calls greenhouse Mushrooms to oppose him, but in the warm weather greenhouse Mushrooms are "not in it;" they are wormy and the cave-grown beauties are in great demand. I forgot to say that so uniform is the temperature that in winter the thermometer never goes below 55° and in the warmest summer never above 65°. This is, of course, the secret of the success, supplemented by a few "wrinkles" which Mr. Eckerson says he paid by experience to learn, and which he never could find by reading, and he has bought every book on Mushrooms that is printed in English.—*American Florist.*

THE EARL'S COURT SHOW.

The exhibition which opened on the 26th ult. and extended over the following day was meant to be devoted chiefly to Carnations and Picotees, but owing to the unusual earliness of the season the Carnation show was really held on the 12th ult. Herbaceous and other hardy flowers were certainly the prevailing feature on this occasion, and fruit was also prominent. Carnations were, however, really more plentiful than we expected they would be, and Roses were present in some quantity.

The first award for twenty-four Carnations was taken by Mr. E. Shaw, Moston, Manchester, who displayed some bizarres and flakes of good size, while others were only moderate, but all very fresh. Mr. James Douglas, Edenside Gardens, Great Bookham, Surrey, was second with some good blooms of Juno, Charles Henwood, Diana, Niobe, and others. Mr. G. Chaundy, New Marston, Oxford, was awarded a second prize for twelve blooms, some of which were of good average merit. Mr. C. Turner, Slough, took the leading award for 24 yellow ground Picotees, with fine blooms of Countess of Jersey, Nellie Bath, Mrs. A. Barnett, Annie Douglas, Janira, Agnes Douglas, Mrs. Henwood, Romulus, and others, which were all fresh, varied, and handsome. Mr. J. Douglas took the second place with fine blooms of Boadicea, Mrs. Whithourne, Mrs. Sydenham, Countess of Jersey, Lilian, and a seedling, all of which were light coloured with exception of the last two. Mr. G. Chaundy was accorded the first prize for twelve yellow grounds, seven of them being seedlings, but large and good. Mr. C. Turner again took the lead for twenty-four selfs or fancy varieties, with fine blooms of Janira, Germania, King of Scarlets, Salamandar, Duchess of Sutherland, Glaucus, and others. He was followed by Mr. G. Chaundy with a good exhibit. Mr. J. Douglas came in third with distinctly smaller blooms, but fresh. Mr. E. Shaw was the only exhibitor of twelve blooms, taking the first award with a good lot. He also took the leading award for twenty-four Picotees, showing some fine blooms of leading varieties. Mr. C. Turner took the second place. Mr. J. Douglas came in third. A second prize was awarded to Messrs. Paul & Son, Cheshunt, for twelve bunches of border Carnations. Mr. C. Turner had the best bunch of one variety for border culture; and Mr. J. Douglas was second. Mr. G. H. Sage took the first prize for six varieties of border Carnations. Miss C. B. Cole, The Vineyard, Feltham, had the best vase of Carnations, and Miss N. H. Cole was second. Mr. Henry Eckford, Wem, Salop, had the best twelve bunches of Sweet Peas, which were very beautiful. Mr. A. Newell, gardener to Sir E. Saunders, Fair Lawn, Wimbledon Common, had the best six bunches of Sweet Peas. Mr. G. H. Sage, gardener to Earl Dysart, Ham House, Richmond, took the leading award for twelve bunches of hardy flowers, showing fine bunches of Coreopsis lanceolata, Veratrum nigrum, Eryngium Oliverianum, Gypsophila paniculata, and others. Mr. Newell took the second place here, and Mr. G. Wythes was third. The first prize for twenty-four bunches of hardy flowers was taken by Messrs. Paul & Son; Mr. G. H. Sage took the second award with a fine exhibit; and Mr. E. F. Such, Maidenhead, was third.

The competition for Grapes was pretty keen, and the first award for three varieties of two bunches each was taken by Mr. T. Osman, Ottershaw Park Gardens, Chertsey. Mr. W. Tidy, gardener to W. K. D'Arcy, Esq., Stanmore Hall, Great Stanmore, took the second place; and Mr. W. Messenger, gardener to C. H. Berners, Esq., Wolverston Park, Ipswich, was third. An extra prize was accorded to Mr. W. Howe, gardener to H. Tate, Esq., Park Hill, Streatham Common. The first prize for three bunches of black Grapes, in a competition of nine entries, was taken by Mr. J. Friend, gardener to the Hon. P. C. Glyn, Rook's Nest, Godstone, with handsome bunches and berries of Black Hamburgh; Mr. W. Messenger took the second place, and Mr. T. Osman was third, all having good exhibits. Mr. W. H. Lees, The Gardens, Trent Park, New Barnet, took the first award for white Grapes with large bunches, two them being double; Mr. W. Tidy was second, and Mr. W. Howe took the third place. Mr. W. H. Lees, Mr. W. Messenger, and Mr. A. Maxim, gardener to the Hon. Miss Shaw Lefevre, Heckfield Place, Winchfield, took the prizes for Apricots in the order named. For Peaches the order was Mr. A. Maxim, Mr. W. H. Lees, and Mr. W. Messenger. For Plums the order was Mr. W. Tidy, Mr. G. H. Sage, and Mr. J. Wallis, gardener to R. Sneyd, Esq., Keele Hall, Newcastle, Staffs. Mr. R. Grindrod, Whitfield Gardens, Herts, had the best dish of dessert Apples; he was followed by Mr. J. C. Mundell, Moor Park Gardens, Rickmansworth, and Mr. J. Friend was third. The latter had the best Pears in Jargonelle. Mr. T. A. Hester, gardener to W. G. Dawson, Esq., The Links, Plumstead Common was second, and Mr. A. Maxim came in third.

Collections of fruits in the miscellaneous class were pretty numerous. A collection of Melons, including Hero of Lockinge and Blenheim Orange, was exhibited by Messrs. H. Cannell & Sons, Swanley. Mr. R. Grindrod showed Gooseberries, Red Currants, Cherries, Apricots, etc., and received a Bronze Medal. Messrs. Wm. Paul & Son, Waltham Cross, exhibited two large groups of fruiting trees in pots, of Nectarines, Peaches, Apples, Plums, and Figs, and were accorded a Silver-gilt Medal. A collection of fruit, consisting of Beauty of Syon Melon, Morello Cherries, and Apricots, was exhibited by Mr. G. Wythes, gardener to the Duke of Northumberland, Syon House, Brentford. A quantity of Strawberry runners layered in pots was exhibited by Mr. T. Laxton, Bedford. The plants were chiefly those of Royal Sovereign, a new variety now being sent out, earlier, and of higher quality than Sir Joseph Paxton, and reputed to have the delicious flavour of British Queen. The fruits are usually conical, of great size, and fine appearance, as we ourselves have witnessed on more than one occasion.

Hardy herbaceous and other plants were also well represented in the class for miscellaneous exhibits. A Silver-gilt Medal was awarded to Messrs. J. Laing & Sons, Forest Hill, for a large collection of tuberous Begonias, Phloxes, Lilies, Gladioli, Carnations, such as Ketton Rose and Celia, as fragrant as a Clove; also Violas, Pentstemons, Eryngiums, Echinops, Coreopsis verticillata, Matricaria inodora flore pleno, Sunflowers, and a host of others. A Silver Medal was accorded to Messrs. Barr & Son, Covent Garden, for a collection of herbaceous plants, including Lilium tigrinum sinense, L. longiflorum giganteum, Statice latifolia, Liatris spicata, Galtonia candicans, Coreopsis lanceolata, and others. They also showed a small Alpine garden on a wooden framework to facilitate its being moved about. A similar award was made to Mr. E. F. Such, Maidenhead, for a collection of Phloxes, including a fine one named Mon. Thuret, as well as Gaillardias. A Bronze Medal was awarded to Mr. Henry Eckford, Wem, Salop, for a collection of Sweet Peas, including several new varieties exhibiting very delicate shades of colour. The blooms were of wonderful size. Messrs. D. Prior & Son, Myland Nursery, Colchester, had a good-sized collection of Roses, which were of good size and colour for the period of the year. An extra prize was awarded to Mr. G. Wythes for a large group of Palms, Celosias, Francoa ramosa, Campanula pyramidalis, C. turbinata and its varieties. A similar award was made to Mr. C. Turner for two stands of Carnation blooms.

THE VEGETABLE GARDEN.

General Work.

Now that weeds and moss are growing so fast on the garden walks, a dressing of weed killer will destroy them and make the gravel look clean and fresh. All the walks were done in the spring of last year, and scarcely a weed has shown itself until now. In using weed killers care should be taken not to apply them during stormy weather, or it may get washed by the rain to the sides of the walks and kill grass or box edgings. Hame's patent water-cans have the best roses for applying weed-killers of any cans that I have seen.

Ground may now be prepared for winter Onions to be sown during the first half of August according to the locality. Plant out Endive and sow again. Make a second sowing of Ellam's Cabbage, and prepare ground for the first lot to be planted about the third week of the month. Keep the hoe at work as much as possible among all the crops, as the weeds soon get the upper hand now we have had rain.—*G.H.S.*

THE FRANGIPANNI.*

READING about so many new plants every week in the GARDENING WORLD reminds me that the most beautiful flower I have ever seen is not yet in general cultivation and though doubtless familiar to botanists is quite unknown to the English public.

The Frangipanni of the West Indies [Plumeria rubra.—ED.] is a flowering shrub of about the size of a large Rhododendron with smooth stems and thick, glossy, pointed leaves. The blossoms, which are waxy and of great substance, are produced in large clusters, or rather umbels, often as much as nine inches across at the end of every branch, and have a most delicious perfume.

The colours are blush, pink, carmine, cherry, salmon, crimson, &c., but the most beautiful, in my opinion, are the white with a yellow centre, especially as these seem to grow in the largest clusters. The pure white variety is not so striking, having fewer blossoms on a stem, but still it is very lovely and would combine charmingly with orange blossom. I first saw the Frangipanni in Tobago, and as everything grows wild there no cultivation being attempted, I suppose it is indigenous. I shall never forget the keen delight with which I gazed upon this glorious flower which I had never even heard of before. I was taking an evening stroll, and seeing that I was a stranger, an old black woman standing in a garden plucked a blossoming bough from above her head and presented it to me with a smile by way of welcoming me to the Island. I thought of Robert Fortune the great plant collector to whom we gardeners owe so much, who tells us in one of his books that the happiest moment in his life was when he first saw the Lilium auratum growing wild on the hills of Japan. I could understand then how he must have felt.

And yet here was no new discovery, as his was, for the flower that was filling my heart with joy with its beauty was to the residents of Tobago quite an everyday affair, not half so interesting in their eyes as a Buttercup or Daisy from England. When I questioned them as to the reason why this grand shrub was not in our greenhouses, I was told that it does not blossom till it attains the height of 8 ft., and would therefore be of little use; and with this explanation, unsatisfactory as it was, I had to be content.

But surely what is out of the question for amateurs with small means and greenhouses to match, need not present any difficulty to nurserymen who do things on a large scale, and who have already got tall structures and plenty of hot-water pipes. And after all, perhaps, great heat would not be necessary, for many plants from hot countries thrive with us just as well in cool houses during a great part of the year, as we all know. I should think the Frangipanni would be about as hardy as the Oleander, for I used often to see them growing together; so probably, the same treatment would do for both, and they might be grown in tubs side by side. I may remark that the Tobago shrubs must be pretty robust to pull through the droughts, for no one there ever thinks of watering plants even, in the driest weather. The flowers we admire in the tropics are not neccessarily tropical, as I found in the case of the Lagerströmia (natural order Lythrieæ) a tree I saw in Trinidad, covered with spikes a foot long, of exquisite mauve blossoms, for this was imported from Spain, where it is held in great request, and called the flower of Paradise.

By the way, the Oleander comes originally from Spain as well. I found that the blossoms of the Frangipanni retain their freshness for many hours in the hair and dress, setting most becomingly and keeping their place bravely, neither falling nor flagging, while in water they last well for from four to five days, scenting the whole room with their fragrance. How nice it would be to have such flowers as these to wear at parties, while to have them in one's drawing-room would, indeed, add a charm to existence.

I cannot help thinking that now that cut flowers, both for evening wear and house decoration, command so good a price the Frangipanni might be well worth taking up.

By way of bringing my praises of this maguificent shrub to a close, I may remark that it is as free-blooming as a wild Poppy, and lasts as long in flower as a scarlet Pelargonium. There would be no difficulty in procuring young plants from the West Indies, especially at this time of year, and in this I should be happy to assist.—*G. L.*

[There would certainly be no difficulty in introducing the plants, as our enthusiastic correspondent suggests, if it were worth while to do so; but the fact is, the Plumerias resemble many other plants in being beautiful in the tropics but failures in the garden here. Poinciana, Lagerströmias, Durantas, some Erythrinas and Antigonon leptopus are a few cases in point. Travellers blame us for not growing and flowering them as well as they have seen them in the tropics, but how it is to be done is another question. We learn from Mr. Watson that some half-dozen species of Plumeria are grown in the Palm house, and Succulent house (No. 5), at Kew, and P. rubra, P. acutifolia, and P. alba have flowered this year, but they do not flower often, though all is done that is possible to make them. Mr. Watson adds:—"They want the baking and 'rest' of a hot dry season, to be followed by a hot wet season, with plenty of sunshine always. These conditions they get in the tropics, where they thrive; but here we are compelled to induce the plants to rest in the winter, when the conditions are least favourable to their thorough ripening."—ED.]

*This is not the Frangipanni of the perfumers, which is a small plant grown in the south of Europe.

ACHIMENES AT READING

WHEN recently looking round Messrs. Sutton & Sons' at all times most interesting plant-growing establishment in London Road, Reading, we were greatly pleased to find an admirable collection of the best varieties of Achimenes under cultivation, and the best of cultivation, too. The Achimenes used to be favoured plants in our gardens, being extensively grown in pots, pans and baskets, and we used also to see them exceedingly well shown at local flower shows, where they were always a decided attraction when well done. We would wish to see them again to the front enjoying another spell of popularity, and hope such firms as the Messrs. Sutton will continue to do what in them lays towards bringing about this much-to-be-desired result.

The decline of the Achimenes in popular favour is in some measure attributed to the wonderful development of the erect-flowering type of the Gloxinia during recent years, and this may be so, as at the time we are writing of the Gloxinias then grown were of the old tubular, drooping flowered type, and the erect-flowering section was hardly known. But though both belong to what are usually considered as stove flowering plants, certain it is that the Achimenes do not require so much heat as the Gloxinia, but rather a warm greenhouse temperature, and there are many who, not having the necessary convenience for cultivating the latter, could grow the former well, and who would, we are sure, derive pleasure from their cultivation. The Achimenes like a light porous compost, made up of peat and leaf soil in about equal proportions, with the addition of silver-sand and a small quantity of well-decayed manure, and the drainage should be perfect. The plant does not like being shifted, so that all that is necessary is to start a few tubercles in warmth until they make about an inch of growth, and then transplant them according to size into 48-sized pots, five or six plants in each being sufficient to give a good head of bloom. During the growing period they like warmth and moisture, and some degree of shade, but when in bloom they may safely be transferred to a cool greenhouse.

A typical half dozen would consist of the following sorts:—Splendens, an early and dwarf growing variety, with the largest, flattist, and brightest scarlet blooms that has perhaps yet been raised; Edmond Bossier, neat and compact in habit, with large flowers, white, veined with lilac, very fine; longiflora var., a seedling raised at Reading some four or five years ago, and which in habit, size, and colour, blue, is a decided advance on the old longiflora major; alba maxima, a pure white, and the best white of the longiflora type; Celestial, a real lavender coloured longiflora, very distinct and beautiful; and The Queen, the new rose-coloured variety of the Gloxiniæflora type, a fine broad flower, rose-pink in colour, with a white throat. Had we to select the two best out of the half dozen our choice would lay with the improved longiflora major and The Queen.

Other good varieties are Admiration, a well-known old reddish-purple flowered variety, with dark coloured foliage: Ambroise Verschaffelt, whitish lilac, veined and pencilled in the centre, a free growing and very floriferous bloomer; Carl Wolforth, a purplish flowered longiflora, as true to its original character as it was thirty years ago, and very fine; Margarettæ, a late white, or milky-white, with larger tubed blossoms than alba maxima; Gloxiniæflora, a variety of the A. tereta strain, with large foxglove like purple flowers, and light-coloured foliage; Harry Williams, orange or rather crimson magenta, with a yellow eye, and mauve spots on the lower part of the flowers, a late variety which for some years was a poor grower, but now appears to have a stronger constitution; and Lady Lyttleton, orange-scarlet or cerise, with dark coloured foliage, a sturdy grower, but not a large flower.

The varieties of Achimenes will, we understand, reproduce themselves true from seeds, but seeds which are the result of cross-fertilisation "come anyhow," and really good seedlings are very difficult to obtain. The late Mr. Anthony Parsons was the last gardener we remember as a persistent raiser of Achimenes; the field may therefore be said to be quite open, and as these beautiful flowers will assuredly "come again" the raiser of good novelties will meet with his reward.

ANDROMEDA JAPONICA.

THIS is properly a tree, not a shrub, for (says *Garden and Forest*) in the Temple Park of Nara, where it grows in profusion, there are specimens at least 30 ft. in height, with stout, well-formed trunks, 6 ft or 8 ft. high. Andromeda campanulata, another arborescent species, may be expected to become an ornament in our gardens of much interest and beauty, and as it grows as far north as the shores of Volcano Bay, in Yezo, and up to over 5,000 ft. in Central Hondo, it may flourish in the climate of New England. Andromeda campanulata is a slender, bushy tree, sometimes 30 ft. in height, with a smooth, light red trunk, occasionally a foot in diameter, and thick, smooth, round branchlets. The leaves are deciduous, and in the autumn, before falling, turn clear light yellow. The flowers are pure white and are borne on slender stalks in many-flowered drooping racemose panicles. By Japanese botanists it is spoken of as one of the most beautiful flowering trees in Japan, and we considered ourselves fortunate in securing a supply of ripe seed, for, so far as we know, this species is quite new to cultivation. There is but one other Japanese plant of this family which can pass as a tree. This is the handsome Clethra canescens, or, as it is more generally known, in Japan, at least, Clethra barbinervis, a more recent name. It is a beautiful small tree, occasionally 25 ft. or 30 ft. in height, with a slender trunk.

DWARF BEDDING
BEGONIAS.

SOME very dwarf tuberous Begonias, illustrating the same departure which was made many years ago with regard to Pelargoniums, when Little David, Tom Thum, and Robert Fish were produced, may be seen in the gardens of the Royal Horticultural Society at Chiswick. They are planted in oblong beds on that part of the garden running from Sutton Court Road towards the large vinery, and seem to have been derived from Begonia Davisii. A very fine one is Soleil d'Austerlitz with small, dark green leaves and red edges. The flowers are small, double, very numerous, neat, and carried well above the foliage. The two outer sepals are of an intense red, while the rest are brilliant scarlet. A strong contrast to the above is offered by B. multiflora Madame Courtais The leaves are small and dark green, forming a dense tuft, from amongst which the flower stems arise. The flowers are slightly larger than those of the last-named, and creamy-white tinted with apricot in the centre. Very pretty also is B. m. rosea which throws its small flowers well above the tuft of foliage. The female flowers are single; the males double, and the two outer sepals are deep rose, and the rest rosy-pink. The flowers of B. m. l'Avenir are about the same small and neat size as those of Madame Courtais, but the sepals are ovate, acute, much longer, and of a scarlet-red. The female flowers of B. m. Madame Louise Urban are single or semi-double, while the male flowers are perfectly full. The outer sepals are red, and the rest deep rose. The colour of the outer ones may be due to a considerable extent to exposure in the open air, and would no doubt be modified to some extent

under glass. The leaves of the last-named are of an unusually dark green colour.

In another bed there are two very ornamental sorts for bedding purposes, but particularly Lafayette, one of the B. Davisii type. The flowers are of medium or small size with broad, rounded sepals very neatly arranged round a single centre, like a semi-double Noisette Rose, but of a bright fiery scarlet. We consider this one of the very best of the small type for bedding purposes, and well deserving of a trial in the flower garden. The flowers of B. Andre Chenier are of a much paler orange-scarlet compared with the last, and the flowers are not so neat. The above have been sent for trial by Messrs. Vilmorin, Andrieux & Co., Paris. There are also two very fine varieties from Messrs. Sutton & Sons, Reading, namely, B. Semperflorens, Crimson, Gem and B. s. Snowflake. The former has flowers of an intense crimson, especially in the bud state, and leaves are of a glossy metallic-red. The leaves of B s. Snowflake are light green and shining, while the flowers are white with a pink margin out of doors.

THE ROSERY.

Looking at the prospects of the Rose season early in June one would have said they were very good, but they turned out most disappointing by the end of the month. Almost every blight and insect pest that the Rose is subject to, with the exception of mildew and red-rust, put in an appearance at the time one might reasonably have expected a good crop of bloom, considering the earliness of the season. I do not think Roses ever showed a better promise than they did during the opening part of June, generally regarded by the poets as being the "month of Roses." The continued drought, combined with exceptional changes in the temperature, were the chief factors in such disappointing results.

All through the southern counties Roses have seldom looked worse than they did during the middle of June. Not only were they infested with all recognised spring or early summer diseases, but they were almost equally affected by more than one autumnal pest. The foremost of these was a large kind of thrips, which I have never noticed put in an appearance so early before. Unlike the ordinary thrips so prevalent in the greenhouse, this species does not affect the foliage, the bloom being its point of attack. It is also noticeable that dark Roses seem little affected by it. But, unfortunately, the dark Roses this season have had no life or colour in them, excepting those grown in a few favoured districts, such as Yorkshire and Newtownards (Ireland).

In proof of this, let us look at the results both at the metropolitan and provincial exhibitions of the National Rose Society. At the Crystal Palace on July 2nd northern growers carried the sway, both in professional and amateur classes. It was just the same at Worksop. When Colchester and Cheshunt are not represented in any of the leading divisions, one may be amply justified in describing it as a bad Rose season. Still, let all honour go to the county of broad acres and the Green Isle for their splendid displays; weather without skilful cultivation could not possibly have produced such Roses.

During the latter part of July I had much hopes of a good autumnal show of Roses in the south, and a succession of genial showers seemed to confirm this opinion. But alas! the dreaded mildew has set in, and all my hopes are blighted. We do not mind mildew under glass; here we can cope with it successfully; but in the open its causes are so completely beyond control that there is little hope. Mildew is coming on apace upon almost all green crops, and Roses are already losing the benefit derived from recent genial showers. This is exceedingly disappointing, because they were breaking so grandly from the bottom and also from the lower eyes of half-ripened growth which should have bloomed a few weeks back.

Let us look a little closer at the causes and effects of mildew. It is now a recognised fact that this disease comes on after sudden atmospheric changes, whether by night or day. To a certain extent this is under our control where plants are being cultivated under glass; but out of doors we are completely at the mercy of the elements. This it is which makes it such a terrible scourge in the open rosery. It is almost useless to apply remedies when the cause cannot be removed. Under glass a weak solution of almost any insecticide, with the addition of a little extra flour of sulphur, will have remarkably beneficial results if freely applied. It is of no use giving the plants a sprinkle overhead; they must have a thorough washing, both top and bottom of the foliage coming in for a complete moistening by the solution. Unless the composition be kept well stirred at the time of application, the sulphur—one of the most powerful ingredients—will be left at the bottom of the utensil. However slight the portion of sulphur may be that comes into contact with the mildew it will be deadly. If we allow a few germs to escape they will quickly increase and again spread over the whole. During the process of exterminating mildew one must keep the atmospheric temperature as uniform as possible, draughts of any kind being carefully avoided.—*Experience.*

FOOD OF PLANTS.

In gardening operations the object of applying artificial manures, or indeed manures of any kind, is to supplement the quantity of plant foods already in the soil. Farmyard manures also in a great many cases improve the mechanical condition of the soil. Crops of all kinds exhaust the soil to a degree proportionate to the growth they make, and this degree is also dependent upon the nature of the plants grown. The production of fruit, flowers, and vegetables in gardens is more exhaustive to garden soils than similar crops grown in fields on account of the better tilth and the consequent heavier produce removed, as well as the greater number of crops harvested in a given time. In consequence of these facts it is necessary to be more liberal with garden cultures than those of the field. Plants grown in pots require feeding in proportion to the vigour of the plants and the limitation of root room.

The different elements of plant food are generally well distributed by Nature in what are termed rich soils, but, owing to various circumstances, there is frequently a deficiency of one or other necessary constituent of plant food in the soil selected for certain crops. In this case, if the cultivator expects a good crop with the least expenditure, it is his duty to ascertain wherein lies the deficiency and to make that good. There is a great waste when a general manuring is given to soil which only requires the supplementing of one constituent. What are termed artificial manures afford the means of adding this necessary ingredient, or combination of ingredients as the case may be.

There is yet another phase of the question, namely, that chemical manures, as they occur in a state of nature, always contain impurities that are not only altogether unnecessary for plant life but may even be injurious if they accumulate to any great extent in the soil by frequent application. Messrs. H. & E. Albert, a firm of manure manufacturers in London and elsewhere, have been giving their attention to the concentration of these artificial manures and the removal of injurious impurities, and they have now in the market a highly concentrated superphosphate, a phosphate of potash, a phosphate of ammonia, a nitrate of ammonia, and a nitrate of potash. The accompanying illustration, for which we are indebted to the firm in question, shows the effect of using their highly concentrated horticultural manure, alongside of plants not receiving such aid.

Pelargoniums grown with and without Artificial Manures

JUBILEE OF THE ROTHAMSTED EXPERIMENTS.

HARPENDEN Common, on which stands the famous laboratory presented to Sir John Bennet Lawes by public subscription in 1854, was on Saturday last the scene of an event, which was described as "unique in the history of scientific collaboration, as well as in the history of scientific research." The occasion was the dedication of a huge granite memorial and presentation of addresses to Sir John Bennet Lawes, Bart., LL.D., F.R.S., and Dr. John Henry Gilbert, F.R.S., in commemoration of the fifty years' agricultural, chemical, and botanical investigations which those gentlemen have jointly carried out on the Rothamsted estate, and which have become famous throughout the world.

The memorial is a massive granite boulder, weighing upwards of eight tons, which stands endways on a massive square platform, also of granite. It is visible from every part of Harpenden Common, and will be a famous landmark for many years to come. It stands out in front of the laboratory, and on the face as seen from the common is the following inscription :—

TO COMMEMORATE
THE COMPLETION OF
FIFTY YEARS
OF CONTINUOUS EXPERIMENTS,
THE FIRST OF THEIR KIND
IN AGRICULTURE,
CONDUCTED AT
ROTHAMSTED
BY
SIR JOHN BENNET LAWES
AND
JOHN HENRY GILBERT.
A.D. MDCCCXCIII.

There was a large and distinguished company present, and the Minister of Agriculture, Mr. Herbert Gardner, M.P., who presided, said they had met to honour as far it was in their power, in the name of agriculture and of the agricultural classes, two distinguished men--Sir John Lawes and Dr. Gilbert—who had rendered invaluable services to our great national industry. It was felt that, in addition to mere personal testimony of regard, there should be some outward and endurable memorial of the admiration which the agricultural world felt for the valuable work which had illustrated the lives of those two gentlemen. More durable even than that granite block would be the complete records of the work done at Rothamsted which were contained in the large series of works which lay on the table before him, and he had done something towards making these of more value by obtaining a grant from the Treasury in order to purchase forty-four complete sets, which he had presented, at the expense of the nation, to leading public institutions. During the fifty years the experiments at Rothamsted had been in progress there had been remarkable changes, Wheat having fluctuated no less than 50s. per qr., having been as high as 74s., and in May last as low as 24s. 8d.

He thought that the development of the steam ocean traffic had done more to bring down the price of Wheat than either Cobden or Bright. The fall in the price of Wheat had been rapid during the last few years, but he saw a gleam of hope which deserved recognition. The great decline in value had been due to the enormous reserves of the bread cereal which had accumulated. The normal reserve of Wheat in England was about 2,000,000 qrs., but since 1891 it had risen to 6,000,000 qrs., whereas it was now again on the decline, and did not at present amount to more than 4,000,000 qrs. The Rothamsted experiments had shed a flood of light upon the methods of Wheat culture, and even more lasting than the granite memorial before them would be the value of the great lessons which had been learnt in the adjoining fields during the investigations of the last half century. So important were the records of these experiments that the Board of Agriculture had authorised the purchase of sets of the publications for distribution in various parts of the country. He merely expressed the feelings of all around him when he gave voice to the hope that Sir John Lawes and Dr. Gilbert would long be spared to enjoy the honour and admiration of all classes of their fellow-countrymen.

The Duke of Westminster, as chairman of the executive committee, then presented the addresses from the subscribers to the testimonial, and also a massive silver salver to Dr. Gilbert. His Grace then read the following addresses :—

To SIR JOHN BENNET LAWES, Bart., D.C.L., LL.D., F.R.S., &c., &c.

On behalf of the committee of the Rothamsted Jubilee Fund and of the numerous subscribers to that fund in all parts of the world, I offer you the most hearty congratulations on the completion of half-a-century's uninterrupted investigation of agricultural problems of the highest practical value and interest.

These investigations, which originated with you, relate not only to the growth of cereal and other crops under the most varying conditions, but also to the economic effect of different foods on the development of the animals of the farm. They have embraced, moreover, most important researches concerning the chemical constituents of soils, the rainfall, drainage waters, and the sources from which plants derive their supply of nitrogen.

During the whole of this period of fifty years you have had the zealous co-operation of your life-long friend Dr. Joseph Henry Gilbert, whose name will ever be associated with yours, and whom jointly with you we desire on the present occasion to congratulate.

For the continuance of the experiments and investigations which have already extended over so long a period, you have munificently provided by the establishment of the Lawes Agricultural Trust, so that our successors will profit even more, if possible, than we of the present day have done, by your enlightened labours.

The memorial which is now erected, will, it is hoped, preserve your joint names in honoured remembrance for centuries to come, while the portrait that is presented to you herewith will hand down to future generations the likeness of one of the most disinterested as well as the most scientific of our public benefactors.

ALBERT EDWARD P.

July 29, 1893.

To JOSEPH HENRY GILBERT, M.A., Ph.D., LL.D., F.R.S., &c.

In celebrating the jubilee of the Rothamsted agricultural experiments, it is impossible to dissociate your name from that of Sir John Lawes, and on behalf of the subscribers to the Rothamsted Jubilee Fund in all parts of the world, I offer you the most hearty congratulations on the completion of your fifty years of continuous labours in the cause of agricultural science.

The nature and importance of these labours are so well known that it is needless to dilate upon them; but if the institution of the various investigations and experiments carried out at Rothamsted has been due to Sir John Lawes, their ultimate success has been in a great measure secured by your scientific skill and unremitting industry. Moreover, by your lectures and writings, you have been a leading exponent in this and other countries of the theoretical and practical aspects of the researches that have been undertaken at Rothamsted.

A collaboration such as yours with Sir John Lawes, already extending over a period of upwards of fifty years, is unexampled in the annals of science. I venture to hope for an extended prolongation of these joint labours, and trust that the names of Lawes and Gilbert, which for so many years have been almost inseparable, may survive in happy conjunction for centuries to come.

ALBERT EDWARD P.

July 29, 1893.

Addresses were then read from the Société des Agriculteurs de France, the Royal Agricultural Society of England, the Royal Society, the Chemical Society, the Royal Agricultural College, Cirencester, and the Société Nationale d'Agriculture de France

Sir John Lawes, who on rising to reply was received with hearty cheering, said that it was only a very few months since he and his wife received the congratulations of many friends on having attained fifty years of married life which was occasionally called a golden wedding. That afternoon he had to return thanks to that distinguished company for congratulating himself and Dr. Gilbert on the work they had carried on together for fifty years. When two persons joined together in marriage they could not part—they were bound together by a solemn tie. Dr. Gilbert and himself were bound by no ties: but this connection, as he had said, had continued fifty years. What was the cause of that? It was nothing less than that he had an immense love of the work they were engaged in. He had delighted in the work from the very beginning, and had given as much time to it as he could consistent with other duties; but Dr. Gilbert had made it the work of his life. Had it not been for the labours of Dr. Gilbert the affairs of Rothamsted would have been in a different state to that in which they now were. Dr. Gilbert was not only at work when he was at home, but what were called holidays were spent by him in visiting other countries and places, by putting himself in communication with other bodies, so that he might make his own work more valuable to those at home. This year he was going to Chicago to deliver a course of lectures on the work at Rothamsted. Sir John Lawes then cordially thanked those present for the presentations which had been made to him, and hoped that in fifty years' time such a representative assemhly as he saw in front of him would meet to do honour to those who came after them.

Dr. Gilbert, in acknowledging the gifts, referred to the coldness and doubt with which their early experiments were received, especially when they departed from the orthodox lines, and instanced how those who at first opposed them eventually were converted, and became their firm advocates and supporters in a work so important to the agricultural interest. He thanked Sir J. Lawes for the very kind way he had referred to their connection, and expressed the hope that it would continue, although in the natural course of things it could not be expected to exist for many more years; but they desired that matters would be left in such away that their work could still be carried on by others. He mentioned that he had in preparation a Jubilee Edition of the guide to the Rothamsted experiments, and concluded by expressing his warmest thanks for the sympathetic kindness which his friends had shown him that day.

PHLOXES AT CHISWICK.

THE collection of Phloxes, chiefly of late flowering kinds, now on trial in the gardens of the Royal Horticultural Society at Chiswick, is very extensive. All those grown in beds upon the grass last year were transplanted to a piece of rich vegetable ground in spring, and notwithstanding the great drought which continued from the beginning of March to the middle of July, the plants have done well and are now exceedingly floriferous. The donors of the plants on trial were Mr. J. Forbes, Hawick, Messrs. J. Veitch & Sons, Chelsea, M. Lemoine, Nancy, France, Messrs. Paul & Son, Cheshunt, Messrs. Dicksons, Chester, and Messrs. Dobbie & Co., of Rothesay, Scotland. The collection sent by the latter firm is extensive, but was only remitted last spring, so that the plants have not become sufficiently established and large to adjudicate upon their merits. They are, however, flowering freely enough considering the size of the plants. What the committee has done, has been to go round the plants and confirm or increase the awards made to a widely varied selection of varieties last year. Three or two marks as the case may be has been made to thirty-nine varieties, and as all of these are highly meritorious an idea may be gleaned of the number of sorts with which a select collection might be furnished.

SORTS RECEIVING THREE MARKS.

One of the finest of the white varieties is Avalanche, of great purity and exceedingly floriferous. The branching stems are only about 18 in. high. Flambeau, with orange scarlet flowers and a crimson eye, has been honoured with three marks for the first time. Another dwarf sort has white flowers suffused with pale purple round the eye. Burnouf is no taller, and has fiery crimson flowers with a deep crimson eye. The flowers of Aspasia are purple, suffused with white round the eye. Some of the varieties are liable to burn as it is termed, and a few simply fade, after they have been expanded for some time, to a paler shade. Molière is one of the latter and is salmon rose fading to pink with a dark eye. Etna is of a fiery scarlet but is liable to hurn and fades off ultimately with much white. The flowers of Henri Murger are large and white with a purple eye. Granville differs by having smaller flowers with five faint purple spots round the eye. Last year Eugene Schotte received only two marks, but this year it has been honoured with three. It has rosy purple flowers with a pale rayed centre, but other plants uuder the same name are almost of a

scarlet red without the rays. Very dark is Boule de Feu with fiery orange red flowers and a crimson eye. Very distinct and pretty is Eugene Danzanvilliers with flowers of a pale or soft mauve with a white centre. The variety is both early and floriferous.

Croix de Sud is white, suffused with pale mauve, and having a deep purple eye. The flowers are large and late in coming into bloom, having practically only commenced to expand when we noted them the other day. Pluton is of an intense purple, and in fact the darkest of this shade to be seen in the collection. Roi des Roses has flowers of a soft lilac rose with a dark rose eye, and although the flowers are of the same size as those of Pluton the contrast is otherwise well marked. The deep rose purple flowers of Eclaireur have pale rays round the eye. A pale and beautiful variety is Delicata, with small white flowers and a pale purple rayed eye; it is very floriferous. Le Soleil is an early variety, about 18 in. high, with salmon pink flowers and white rays in the centre.

The flowers of Countess of Mar, although small, are conspicuous from some considerable distance owing to the intense crimson eye contrasting with the white; they are also produced with great freedom. Neptune is a beautiful salmon-rose variety. The medium-sized flowers of Amazon are white, but produced in enormous quantity on stems about 2½ ft. high. William Robinson has large deep salmon flowers with a dark purple eye, and constitutes a choice and handsome variety. Much dwarfer is Nain Bébé, and most floriferous with branching stems and soft purple flowers. Those of Miss H. Hope are white, washed with pink and purple round the eye. Similar in style is Longchamps, which is lightly washed with lavender instead of pink.

SORTS RECEIVING TWO MARKS.

Some of the varieties to which two marks have been accorded would no doubt in the opinion of some be worthy of three. The reason for withholding it probably depends upon the existence of another sort somewhat similar but reckoned better. One to which these remarks hardly apply is Iris, with dark purple flowers, which, when they fade, present a shade more or less decidedly blue. Claudot is a floriferous, pink variety, with a purple eye. A very late flowering variety is Jeanne d'Arc, with white flowers and light green foliage and suitable to succeed Avalanche. Early and dwarf is Panorama, being only about 15 in. high, with white flowers and pale purple rays. La Fille d'Air is a light coloured sort to which two marks were accorded last year, but now it has been honoured with three; it is only 15 in. high. Bayard has large warm rosy purple flowers. Free flowering also is Hirondelle with small rose flowers and a crimson eye. The flowers of Regalos are very large and of a deep salmon rose. Purité forms a bush 18 in. to 20 in. high, freely branched, and simply laden with small, white flowers. Those of Wm. Muir are rosy purple with a fiery red eye. The flowers of Phloxes vary somewhat, or else there are two varieties under the name of Belvedere. One has warm rosy purple flowers and a pale rayed centre, while the other is rosy purple with a lobed crimson eye without the rays. The flowers of John Forbes are large and rosy pink with a fiery crimson eye. On the whole it is a beautiful variety. Africain is a very bizarre flower, marbled and splashed with a peculiar shade of purple on a white ground. The flowers of Felibre are fiery red.

The above includes only a small proportion of the varieties now on trial, but many of the others would make useful border plants or for the supply of cut flowers. Fifteen of the above-named are very dwarf and floriferous plants, well suited for bedding purposes, and for such they might be grown to great advantage in the London parks and elsewhere, for they certainly produce a fine effect when in bloom. They are Avalanche, Faust, Burnouf, Panorama, La Fille d'Air, Croix de Sud, Pluton, Bayard, Hirondelle, Le Soleil, Regalos, Nain Bébé, Belvedere, Felibre, and Purité. Going over the collection, this number might easily be increased to two dozen by adding Aphrodite, large, pure white; Lewis Chater, fiery red; Horizon, rose and crimson eye; Meteor, washed mauve and splashed purple on a white ground like Africain, but larger flowered and dwarfer; Crœsus, large shaded purple overlying purple; Le Destin, large white with pale purple eye; Baccil, very large, soft rosy purple; James Galloway, rich rosy purple, with crimson eye; and Gloire d'Orleans not yet in flower, but handsomely variegated with broad creamy white margins both to the leaves and bracts.

GARDENING MISCELLANY.

AZALEA INDICA VAR. FORTEANA.

LOVERS of Azaleas who visited the quinquennial Exhibition at Ghent in April last, noticed, without doubt, the beautiful flower to which the jury accorded a First Prize. The modest horticulturist, M. B. Fortie, to whom we have dedicated the plant, noticed in 1890, upon a specimen of the variety Sigismund Rucker, a branch bearing flowers remarkably different from those of the type. The flowers showed a tendency to doubling; further, the white and silky margin was much broader. M. Fortie resolved to fix the variation by grafting, and at the end of the year 1892 he possessed almost one hundred plants. All the plants have flowered and none of the flowers appearing during the three years of propagation have presented the least return to the characters of Sigismund Rucker. This fixity of the sport is the more remarkable, in that Azalea Sigismund Rucker is itself a sport, a branch found in the nursery of M. van Houtte upon the variety Rachel von Varnhagon. It is, then, the product of two colours, a frequent occurrence amongst Azaleas, and this fact is the more noteworthy as the fixation of the new variety is so great, with its numerous veins, fresh colour, its imperial toning and neat form, the margins of the limb as white as snow, it is really pretty. The leaves are of moderate size, slightly elongated in form, and of a beautiful green. The variety has the merit of being of good average growth, and of a free branching and neat habit. The plants shown had not been forced, yet on the 15th of April the expansion of the flowers was perfect; they had in fact been kept in a cool greenhouse to retard their development. It will certainly be one of the best forcing varieties, and for cutting. The stock has been secured by M. Ad. D'Haene.—*Em. Rodigas.*

[The above remarks accompany a good illustration of this beautiful novelty in the last number of *L'Illustration Horticole.*—ED.]

YELLOW GROUND PICOTEE.

FLOWERS of a border variety named Lottie Kirlew have been sent us by Mr. George Holmes, fruit grower and florist, Haxby Road, York. The Carnations and Picotees are evidently at their best there just now, judging from the specimens sent and which had been cut with stems bearing numerous fully expanded flowers and buds in various stages. The flowers were of good average size, and quite full, so that when spread out they would have large sized flowers as treated by the florist. We have no desire to see them dressed, however, but in condition to be used for cut flower purposes. The petals were almost entire and yellow shaded with buff, edged, and slightly striped with rose, and more or less deeply tinted with red over the rose, or the red hue may be the predominating one. Of course there are now several varieties belonging to the same group, but that under notice is calculated to supply a large quantity of flowers. The chief complaint we have against it is that the flowers have no scent. Mr. Holmes intends sending it out in the autumn.

WEIGHTS OF GOOSEBERRIES.

I SEE by your paper of the 29th ult. that you refer to some "big Gooseberries." I picked a "big Gooseberry" on the 24th ult. which turned the scale at 27 dwts., and six weighed 8 oz. The variety in question is Leveller. White Eagle and Thumper, seven of each, turned the scale at 8 oz. The fruits were gathered from trees about four years old and pruned into the ordinary bush form. At most of our local flower shows Leveller invariably wins.—*Herbert Newton, The Gardens, Campsall Hall, Doncaster.*

GROWTH OF TRADE IN COVENT GARDEN.

MESSRS. W. N. White & Co., Covent Garden, state, as indicating how the trade in this market has been developed, that the week before last one firm alone dealt with 64,734 packages, including Greengages 27,583, Orleans and other Plums 15,138, Pears 8,043, Peaches and Apricots 5,002, Tomatos, salads, and Cucumbers 4,077, Nuts 2,998, Cherries, Black and Red Currants, Apples, and Grapes 645, Bananas, Melons, and Lemons 995, Potatos, Peas, and Onions 1,153. Ten years ago it was considered a wonderful business for one single firm to turn over 20,000 in a week.

NEW FANCY PANSY AND VIOLA.

FROM Mr. John Forbes, Buccleuch Nurseries, Hawick, we have received some blooms of a fancy Pansy of the florists' style, and to all intents and and purposes a capital exhibition flower. This has been named Rev. James Robertson, and is to be sent out next year. The blooms are circular and measure 2½ in. to 2¾ in. across or more. The blotches are of a blackish violet and almost completely cover the three lower petals, leaving only a narrow creamy yellow margin. The top petals are of a deep crimson purple with a still narrower creamy yellow margin. The small and well defined eye is golden yellow. Mr. Forbes states that it is a vigorous grower. Another variety sent is a bedding Pansy or Viola of the same type as Blue Cloud, but the ground colour is golden yellow instead of white. The ultramarine blue margin is well-defined and distinct. There is a small blackish-brown blotch at the base of the side petals, but the lip is merely rayed with seven dark lines. The variety named Border Maid is comparatively new, and was only sent out last year if we remember rightly. It is a beautiful variety, and we have never seen it in finer condition.

SENECIO PETASITES.

THE leaves of this variety are nearly orbicular, cordate at the base, slightly lobed, and toothed at the margin The upper surface is of a deep green, with the principal veins of a reddish hue. As a bedding plant for subtropical gardening it is well adapted, and old plants lift readily and keep well, so that various sized specimens may be had for various purposes. Young plants, however, furnish by far the best leaves and make the finest effect. A circular bed in the gardens of the Royal Horticultural Society, at Chiswick, has been filled with young plants which have made good growth since they were put out and now completely fill the bed, even if they do not make further increase for the season. The leaves are of large size and overlap one another like the tiles of a roof, and hang over the edging so as almost to hide it. The latter consists of Echeveria glauco-metallica of much slower growth, and has therefore been partly concealed by the overhanging leaves of the Senecio.

AZALEODENDRON COMTE DE KERCHOVE.

AT a special meeting of the Royal Agricultural and Botanical Society of Ghent, a large Silver-gilt Medal was awarded to a collection of Azaleodendrons, exhibited by M. Ed. Pynaert-Van Geert. They are the result of the hybridisation of several varieties of Rhododendron ponticum with the pollen of Azalea sinensis, better known as A. mollis. As we stated in a former issue they were raised by M. Vander Meulen and acquired by M. Ed. Pynaert-Van Geert. Six of them are specially noticed in the *Revue de l'Horticulture Belge*, but the heading of this note was considered the best of the lot, and a chromo-lithograph of it is given in the issue of the above journal for August. It is a shrub with the habit of Azalea mollis, but the leaves are evergreen, and intermediate in character with the parents. The flowers appear at the same time as the leaves, and are of a very pale yellow, washed with rose, and freely produced in terminal racemes. They are funnel-shaped with fine widely-spreading segments, the upper one of which, as well as the edge of the two which abut upon it, are freely spotted with reddish-brown, passing into olive, and then into clear green. There are ten stamens as in the seed parent. Judging from the illustration the flowers are handsome and the plant as a whole distinct from the types already in cultivation.

LATHYRUS SATIVUS.

THREE different names have been given to as many batches of this Pea sent to the gardens of the Royal Horticultural Society for trial alongside of the Sweet Peas, but in neither case is the name botanically correct. One sowing is labelled L. sylvestris rosea, but what excuse there could have been in applying such a name is not evident, as L. sylvestris is a British plant, a perennial, and entirely different in every respect, except that it belongs to the same genus. The difference between the two in the leaves, flowers, and seed pods is very great. Another name given it is L. azureus or Lord Anson's Pea. Now both of these names are erroneous. L. azureus was first applied to the plant by the *Florist and Pomologist* in 1881, whereas the true name of the plant is L.

sativus, a species cultivated for food in the south of Europe, northern Africa, and neighbouring countries from time immemorial, and first introduced to this country in 1640. Lord Anson's Pea is L. magellanicus, introduced from the Straits of Magellan in 1744. The third name applied is L. azureus albus to a white flowered form. Now there seems to be a difference of opinion as to whether the original type of L. sativus was blue or white, and a similar doubt seems to hang over the true Lord Anson's Pea (L. magellanicus), for different authorities of good repute describe it as yellow, or in another case bluish-purple and perennial, with numerous flowers in a raceme, whereas the flowers of L. sativus (the Chickling Vetch), are solitary.

FUCHSIA DUNROBIN BEDDER.

Those who object to tall Fuchsias for bedding purposes will find in this variety a very beautiful object, dwarf, and extremely floriferous. Old and young plants merely differ in height, ranging from 3 in. to 18 in. in stature and all heavily flowered alike. A bed of plants of different ages may be seen in the gardens of the Royal Horticultural Society at Chiswick where it has now given great satisfaction for some years. The corolla is violet and the sepals and short tube of a deep red. It is evidently of the same race as F. Riccartoni, and one of the secrets of its dwarfness is the exceeding shortness of the joints of the wood. Old plants may be retained for the centre of the bed, and the younger or smaller specimens planted in successive and concentric rings to the margin. This will show off the bed to advantage, and thus constitute an inexpensive ornament to the garden. We understand that the variety is so nearly hardy that it may be wintered in pots in a cold frame and planted out at the usual bedding season.

ORCHID NOTES AND GLEANINGS.

The Orchid Growers' Calendar.

Lycaste Skinneri.—This most useful Orchid is now rooting freely, and encouragement to make good large bulbs should be given by affording them some kind of stimulant. Drainings from the cow-shed, given in a weak state, we have found to give the necessary vigour. Grown cool and somewhat shady they make fine plants in double quick time, and the amount of bloom to be had from a moderate sized plant amply repays the grower for any extra care that may be bestowed upon them. Good loam with a little leaf soil mixed with it we find to be about the best material to grow them in.

Masdevallias.—This has been a bad season for these plants, at least ours have not done so well as could be wished, but since the rain came they have improved wonderfully. At one time we thought it advisable to leave the repotting over to the spring instead of doing it now, but now that the weather has been more favourable we shall proceed with the repotting forthwith. Good peat with very little of the fine shaken out, leaf soil not too much decayed, sphagnum moss, a little silver sand, and small bits of potsherds intermixed we find suits them well. The rhizomes should not be covered, neither should they be potted very low. In turning the plants out and in freeing the roots from the old material be careful not to break the points of the roots, for, as I have pointed out before, they do not throw out rootlets as do Odontoglossums.

Thrips have been very troublesome this season, and now that the flowering period of the Masdevallias is over they can be more easily dealt with. Tobacco-water is about the best insecticide to use. We have tried "Killmright," but fancy the plants did not care about it. After repotting keep plenty of moisture about the floors and among the pots, but do not give the plants too much direct until the roots have begun to get hold of the new compost. Rather than give a lot of water we would shade heavily during bright weather. This rule applies to nearly all newly-potted plants.

Odontoglossum grande.—Slugs have been a great trouble to us, eating not only the spikes, but the young growths also. Notwithstanding our employing every means to trap them, they seem to know exactly when to come out of their haunts. Young Lettuce leaves placed on the stages we have found about the best thing to keep them from going any further or doing any more damage. Hanging the plants up as they show for flower is a good plan, but one cannot give every plant this accommodation. Besides, where they are grown in quantity, the watering would never get done if every plant had to be taken down and put back again when watered.

Temperatures.—We keep the hot water flowing through the pipes of the Cattleya house, for the nights now feel quite autumn-like.—*C.*

The undermentioned Orchids were accorded awards according to merit at the meeting of the Royal Horticultural Society on the 25th ult.:—

Cattleya crispa superba.

The sepals and petals of this handsome variety are pure white, the latter being crisped and folded back longitudinally along the middle as in the case of the type. The lip is by far the most conspicuous and distinct organ of the flower. The tube externally is white, except on the lower side, which is more or less heavily stained with purple; the lamina is much crisped and of a dark crimson-purple with black veins, and reticulated with purple on a white ground towards the margin; the side lobes have a band of the same colour extending across the middle of them from the body of the lamina. The interior of the tube is heavily coloured with black and purple lines closely covering it. The crisped character and the gorgeous colouring gives this Cattleya a magnificent appearance. A First-class Certificate was accorded it when shown by Thos. Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, Manchester.

Miltonia vexillaria Daisy Haywood.

The flowers of this variety are notable for their great size, measuring 4 in. in length and 3¼ in. in width; the lip alone is 2¾ in. wide. The sepals and petals are white with exception of a faint shade of blush near the base of the latter. The huge lip is also white with a triangular, yellow, five-rayed blotch at the base, and a rosy streak extends down from the middle rav. It is certainly a grand variety, and a spray bearing eight of these huge flowers was exhibited by T. B. Haywood, Esq. (gardener, Mr. C. J. Salter), Woodbarch Lodge, Reigate, when a First-class Certificate was awarded the variety.

Cattleya Hardyana Tate's Var.

The sepals of this variety are oblong and rosy-purple, faintly tessellated with white. The petals are also deep purple and beautifully netted with branching white veins. The lip has a large, wavy crimson-purple lamina; the throat and tube are crimson with slender golden-yellow veins. The eye spots on each side of the throat are heavily shaded with yellow on a white ground. The outer surface of the tube is likewise of an intense purple. An Award of Merit was accorded it when exhibited by H. Tate, Jun., Esq., Allerton, Liverpool.

Cypripedium Edwardii.

The parents of this hybrid were C. Fairieanum and C. Veitchii, the latter we understand being the pollen parent. The progeny is a robust plant with oblong leaves slightly tessellated with a darker green, and a flower scape about 10 in. high. The upper sepal is broadly ovate with deep brown veins, and shaded with green on a white ground, except towards the sides which are suffused with light purple. The petals are strongly declined and revolute at the tips as in C. Fairieanum; they are strongly ciliated on both edges, dotted with black in lines along the veins; the ground colour on the upper longitudinal half is greenish and the lower half whitish. The lip is dull brown in front and greenish towards the base, with darker veins. On the whole the variety is pretty and was accorded an Award of Merit when shown by Messrs. Pitcher & Manda, Hextable, Swanley, Kent.

SOCIETIES.

Liverpool Horticultural Association, *July 26th and 27th.*—The annual summer exhibition of this Society was opened under most favourable auspices, the weather proving all that could be desired. The entries exceeded those of last year, whilst the exhibits if not the best ever staged in Liverpool certainly surpassed those of the last few years. The plants were hardly so large as we have seen here, but were grand from the point of view of health and freshness. The Palms were a splendid lot, robust, and of a deep green, showing up to great advantage the numerous finely coloured Crotons and various flowering plants. The fruit was also superb, possibly the best ever seen here, which is high praise. The Grapes were of magnificent quality, and the pair of bunches of Black Hamburgh which secured the first prize for "highest cultural skill" reflected the greatest credit upon Mr. Middleton. The vegetables proved a surprise considering the weather, the district being quite able to uphold the creditable position that it usually attains. Cut flowers proved a grand feature, herbaceous subjects being represented by a beautiful bank running fully 150 ft. in length, interspered with Carnations, Dahlias, Sweet Peas, etc. The Roses were few in number and of only moderate quality, although their freshness and colour gained a host of admirers.

Plants.—For eight stove and greenhouse plants, four foliage and four flowering, the premier position was gained by Mr. Finch, gardener to J. Marriott, Esq., Coventry, with Kentia Fosteriana (12 ft.), Cycas circinalis (10 ft.), Kentia australis (8 ft.), Croton Queen Victoria (7 ft.), Ixora salicifolia (50 trusses), Phœnocoma prolifera Barnesii, Ixora Fraserii (3 ft. 6 in. diameter, 4 ft. high), and Erica Impressa (3 ft., well flowered). For six stove and greenhouse plants, three flowering and three foliaged, F. H. Gossage, Esq. (gardener, Mr. J. Jellico). was first with good specimens of Kentia Fosteriana, Croton Mortefontainensis, Croton Countess, etc. The premier award for four stove and greenhouse plants in bloom went to Col. Wilson; and Mr. Jellico secured highest honours for three stove and greenhouse plants in bloom, for four fine foliaged plants, distinct, and for a single stove plant; while Mr. Finch had the best single specimen greenhouse plant. The best single specimen fine foliaged plant came from T. S. Timmis, Esq. (gardener, Mr. B. Cromwell); and with three Palms, Col. Wilson (gardener, Mr. T. Healey), was first with smart specimens; with six table plants A. L. Jones, Esq. (gardener, Mr. J. Bounds), was first; and for exotic Ferns J. A. Bartlett, Esq (gardener, Mr. T. Glover), took the highest award with Dicksonia antartica, Davallia Mooreana, Goniophlebium subauriculatum. Other premier awards were:—Three exotic Ferns, J. Grant Morris, Esq.; one tree Fern, W. H. Watts, Esq.; one Fern, not tree, R. Brocklehurst, Esq; six hardy Ferns, J. Brancker, Esq.; two filmy Ferns, J. Brancker, Esq; four pans of Lycopods, Mrs. W. G. Bateson (gardener, Mr. J. Harrison); four exotic Orchids, A. L. Jones, Esq.; one Orchid, Mr. Mackenzie Smith; single greenhouse Erica, Mr. Finch; three Fuchsias, T. S. Timmis, Esq., with fine heavily-flowered pyramids; six zonal Pelargoniums, J. A. Bartlett. Esq.; four Ivy-leaved and one Ivy-leaved, Sir Thos. Earle, Bart., with well-flowered pyramids 7 ft. high; six and one tuberous Begonias, W. B. Bowring, Esq. (gardener, (Mr. Thos. Ankers); four Coleus, Col. W. H. Shirley; six Gloxinias, Mr. P. Greene; six Caladiums, Col. W. H. Shirley; two pots Liliums, A. L. Jones, Esq.

With a circular group of miscellaneous plants not exceeding 250 square feet Messrs R. P. Ker & Sons were first, with a tastefully arranged combination in which Crotons and Dracænas stood out to advantage; and for a circular group of 150 ft. F. H. Gossage, Esq., took the lead in a strong competition with a ground work of Adiantums relieved with a centre and four other pyramids of plants.

Fruit.—The best eight dishes, distinct, came from the Earl of Harrington (gardener, Mr. Goodacre), with Madresfield Court and Muscat of Alexandria Grapes, Queen Pine, High Cross Melon (fine), Dymond Peaches, McLaughin's Gage Plums, Elruge Nectarines and Moorpark Apricots. For six dishes, distinct, Sir Thomas Earle, Bart., (gardener, Mr. J. Stoney), was first, and other premier awards were: one Pine, Earl of Harrington; four bunches of Grapes, the Hon. C. H. Wynn; two bunches of Black Hamburgh, splendid in bunch and berry, Mr. R. Pilkington; two bunches of Muscat of Alexandria Grapes, fine golden colour, Sir Thomas Earle, Bart.; two bunches of Black Grapes, J. Grant Morris, Esq, (gardener, Mr. J. J. Craven), with Madresfield Court, splendid in colour and berry; two bunches of White Grapes, Sir George Merrick, Bart., with Foster's Seedling; six Peaches, Sir Thomas Earle Bart.; six Nectarines, the Earl of Harrington; one Melon, green fleshed, Sir George Merrick, Bart.; scarlet fleshed, Sir Thomas Earle, Bart. Basket of miscellaneous fruit, Sir Thomas Earle, Bart., a fine collection.

Vegetables.—For twelve distinct kinds, Col. Lloyd was first, his samples being of Sutton's Autumn Mammoth Cauliflower, Cranston's Excelsior

Orion, Ellcombe's Improved Parsnip (wonderfully clean), and Sutton's A 1 Carrot. With eight varieties Mr. J. Pownall was first with a good selection. Six varieties, the Rt. Hon. the Earl of Lathom; four dishes of Peas, C. MacIver, Esq.; two dishes, J. Grant Morris, Esq.; four distinct Potatos, The Rt. Hon. the Earl of Lathom; two dishes, J. Grant Morris, Esq. Of Tomatos there was a fine display, but some of the exhibitors appear too much to study size, which is not of the first importance in this popular fruit.

Cut Flowers: Forty-eight distinct Roses; Messrs. Cocker & Sons, Aberdeen, were first, showing Her Majesty, Mrs. J. Laing, La France, Chas. Lefebvre, Viscountess Folkestone, Ulrich Brunner, M. Hoste, Marie Beaumann, Cleopatra, J. S. Mill, Charles Darwin, Mad. G. Luizet, and Marie Verdier in excellent order. For eighteen varieties, Tea, Hybrid Tea, and Noisette, the same exhibitors also secured the first prize with a nice lot. The most tastefully arranged box of Roses came from Mrs. Cope (gardener, Mr. T. Carling), a pretty selection arranged with Maidenhair Fern, Nipbetos in bunches adding wonderfully to the beauty of the whole. Twelve varieties of stove and greenhouse cut flowers: First, F. H. Gossage, Esq. with a grand lot, but unnamed. Twenty-four varieties of herbaceous flowers in bunches: First, Col. W. H. Shirley (gardener, Mr. G. Eaton) with a splendid assortment, including Phlox Mrs. Austin, Echinops ruthenicus, Alstrœmeria aurea, Lathyrus latifolius albus, Helenium pumilum, Gaillardia grandiflora, etc. Twelve varieties, distinct, first, F. H. Gossage, Esq.; and two hand bouquets and one bouquet, first, Mr. C. J. Procter.

Certificates of Merit were awarded to the following:—Mr. John Forbes, Hawick, for new white Carnation (Mrs. Cranston), and a collection of Penstemons, Hollyhocks, and border Carnations; Messrs. Dicksons, Chester, for herbaceous flowers; Messrs. Hewitt & Co., Birmingham, for Begonia blooms; Messrs. Dobbie & Co., Rothesay, for Violas, Sweet Peas Carnations, Marigolds, and Dahlias; Liverpool Horticultural Company (John Cowan), for Orchids and Gloxinias, group of Tea Roses in pots, and Grape Vines; Mr. Thomas Davies & Co., Wavertree, for collection of herbaceous cut flowers and vegetables; Messrs. Charlesworth, Shuttleworth & Co., Bradford, for a group of Orchids; Mr. Henry Middlehurst, Manchester Street, for collection of Gladiolus; Messrs. Laing & Mather, Kelso, for collection of Carnation blooms; Messrs. W. Edwards & Son, Nottingham, for Edwardian table and room decoration; Messrs. R. P. Ker & Sons, Basnett Street, for new variegated Hop, Souvenir de Bonn; and Mr. James de Bels Adam, for group of Tomatos grown in 6-in. pots.

Acton Horticultural, *July 26th*.—On this occasion the annual show was held in the grounds of J. Hubbard Esq., kindly lent for the occasion. The exhibits were arranged in two large tents, one of which was chiefly occupied by the produce of cottagers. The groups of stove and greenhouse plants arranged for effect occupied the other. The first prize was awarded to Mr. G. Benham, gardener to R. O. Davies, Esq, Grassgarth, for a tasteful arrangement of Palms, Coleus, Francoas, Crotons, Carnations, Torenias, Gloxinias, Streptocarpus, and Acacia lophantha on a groundwork of Adiantum. Mr. T. Butcher, gardener to T. Toynbee, Esq. East Acton took the second place; and Mr. W. Polley gardener to J. Hubbard Esq., took the third place. Both the latter groups would have been more graceful had there been more narrow leaved plants in them. Mr. T. Butcher took the lion's share of the prizes in various classes, but chiefly with pot plants. Seventeen first awards were made to him for a specimen foliage plant, for Fuchsias, four specimen foliage plants, four stove or greenhouse plants, Caladiums, specimen plant in bloom, the latter a roundheaded standard of Brugmansia Knightii laden with flowers and buds, also foliage Begonias, tuberous Begonias, Gloxinias, a collection of cut flowers, &c. Mr. W. Polly had the best four and the best two Ferns, and two fine foliage plants. Mr. G. Benham was first for two stove or greenhouse plants, six Petunias, and six Coxcombs, with large heads. In the fruit classes Mr. T. Butcher again led with white and black Grapes and four dishes of fruit. Mr. C. Burrows, gardener to E. C. Ouvry, Esq, East Acton, had the best Cucumbers. Mr. T Butcher had the best collections of six and eight kinds of vegetables respectively. Special prizes were offered by Messrs. J. Carter and Co., for a collection of vegetables and the first award went to Mr. W. Wilks. Messrs. Sutton & Sons, Reading, also offered prizes for vegetables and the first award was taken by Mr. C. Roberts; Mr. W. Polly was second; and Mr. T. Foster was third. The exhibits by cottagers were numerous and the vegetables particularly reflected credit on the exhibitors. They had fifty-seven dishes of Potatos in five classes and forty-two Vegetable Marrows as well as good Onions, French Beans, Scarlet Runners, Carrots, Cabbages, &c. In the miscellaneous class a group of plants shown by Mr. D. Cooper, gardener to E. M. Nelson, Esq, Ealing, and consisting of Palms, Crotons, Dracænas, Campanulas, &c., was highly commmended. A beautiful group of plants was also exhibited by Mr. G. Reynolds, gardener to the Messrs. de Rothschild, Gunnersbury Park, Acton. His Crotons, amongst other stove plants, were particularly fine. Roses were shown by Mr. Will Taylor, Hampton Middlesex. A well-fruited, round-headed Orange tree was shown by Mr. F. Chandler, gardener to Major Wilkinson, Edendale.

WHAT TO DO IN THE GARDEN.

Hippeastrum aulicum.—The bulbs of this autumn-flowering Amaryllis are now making growth, and should be encouraged with supplies of weak liquid manure. The plants should not be unduly shaded in any way or the leaves will get drawn, the flower scapes spindly and the blooms smaller than they ought to be.

Valotta purpurea.—The flowers of the Scarborough Lily are sufficiently showy to deserve any care that may be taken to prolong the flowering season over the present and next month by retarding some and hastening others by warmer treatment. There are salmon-coloured or pink and white varieties which are well worthy of culture for the sake of contrast.

Gesneras.—These are now growing freely and require plenty of water, particularly on dry days with bright sunshine. Weak liquid manure will prove serviceable in the development of the flowers which are as ornamental as the beautiful foliage when well grown. A warm pit or low span roofed house is the best place for the plants while making their growth.

Young Ferns.—The stocks of young plants coming on should now receive a shift if the pots are too small to carry them through the winter without checking their growth. It is necessary to accomplish this work sufficiently early to enable the plants to take possession of the soil and fill it with roots before winter.

Maidenhair Fern.—Many establishments require a large supply of fronds for cut flower work during the winter. For this purpose a batch should receive the necessary treatment to encourage good growth, while at the same time the plants should be exposed to air and light in order to harden the fronds and enable them to pass the winter if necessary without getting browned and useless.

Roman Hyacinths.—The bulbs for early winter flowering are now being imported, and those who contemplate an early display should lose no time in securing their stock of Roman Hyacinths, Paper White Narcissus and Duc Van Thol Tulips. Pot up as many as are wanted for the first batch as soon as received, and stand them out of doors in some sheltered position, just covering them with coco-nut fibre which is more open and admits the heat of the sun's rays better than ashes.

Lachenalias.—It is now time to shake out and repot the bulbs of these useful winter and spring flowering subjects. The aim should be to accomplish this before the bulbs attempt to make new growth. The pots may then be plunged in coco-nut fibre out of doors along with other early potted bulbs. Sandy but otherwise rich loam will meet their requirements as to compost.

Peaches. — The previous warm weather has hurried on the fruits in all the houses at a greater rate than is usually required, so that cultivators will have to adopt various means of retarding what remains as long as possible. Of course, this can be done by regulating the ventilation and keeping the houses as cool as possible before the fruits are too far advanced. No shading must be attempted. Gather the fruits in succession a little before they are ripe, and they will keep for a week or more in good condition in a cool fruit room.

Cucumbers.—The middle of the present month would be a suitable time to plant Cucumbers in northern localities, and the beginning of September for the south, so that all careful cultivators who intend forcing will forestall events and have both plants, houses and materials ready by the proper time. The best soil for the purpose is good turfy loam that has been stacked for six to twelve months with alternating layers of good dung so as to become mellow and friable. Lighter materials are unsatisfactory and undesirable.

Tomatos out of doors.—Go over the plants at frequent intervals to remove all side shoots in order to concentrate the energies of the plants upon the swelling of the fruits. Keep the main stem tied to stakes as it grows to prevent its being broken down by the wind; in the case of wall plants the stems should of course be nailed up. Where the foliage is very exuberant, obstructing the light from reaching the plants, the upper half of each leaf should be cut away, not entirely defoliating the lower portion of the plants, as leaves are necessary to the well-being of the fruit.

Winter Greens.—As the ground from which early Potatos are lifted becomes clear, it may be occupied immediately with Cauliflower, Broccoli, Lettuces, Radishes, Coleworts, and other crops of that kind. The ground being loose with the digging of the Potatos, no further preparation will be needed than the levelling of the ground.

Turnips.—A sowing may be made of Orange Jelly or Golden Ball and Chirk Castle Black Stone Turnips for winter use. In the more southern counties Snowball may also be sown, as it is popular on account of its clean, white appearance.

Sub-tropical Bedding.—In view of the heavy thunderstorms, downpours of rain, and wind to which we are being subjected, it will be necessary to go over the beds and secure to stakes all those things which are likely to be knocked down and broken.

Pelargoniums.—Take cuttings of the bedding varieties wherever they are to be had without spoiling the effect of the beds, and dibble them into some sheltered border to root. They will make strong plants for next spring.

QUESTIONS AND ANSWERS.

Sussex Gravel.—*Gray*: We hardly understand your question, as there is no gravel anywhere in Sussex inland. If you mean beach gravel which is selected in various sizes, such as "Bean Gravel," "Pea Gravel," &c, the names indicating the sizes of the pebbles, you can get what you want from Mr. Hudson, Station Gates, Brighton, who has depots in various places along the coast, and supplies a large quantity.

Names of Plants.—*C. B. G*: Tourneforte's Marjoram (Origanum Tournefortii).—*North*: Feather Grass (Stipa pennata).—*Delta*: The Rose is one of the numerous forms of Rosa indica Noisettiana, but we cannot undertake to give the garden name of the variety. The round fungus is the Puff Ball (Lycoperdon giganteum). The other is a Polyporus, but we are not sure of the species; it has no other English name.—*A. G*: 1, Aster pyrenæus; 2, Aster ptarmicoides; 3, Tradescantia virginica; 4, Potentilla nepalensis; 5, Campanula latifolia alba; 6, Bambusa Fortunei variegata.

Name of Fruit.—*C. B. G.*: Apple Devonshire Quarrenden.

Fruit to Name.—*J. B*: The Peach and Nectarine were so much damaged in the post that it was beyond our power to recognise them.—*Cestrian*: Apple Duchess of Oldenburg.—*G. Hunter*: 1, July Greengage; 2, Victoria.

Pansy or Viola.—*Delta*: There is no exact line of demarkation between them, as there are all gradations between the one and the other; but we can give you a few hints by which you can determine in any particular case for yourself. Pansies generally have round flowers, coloured in various ways, with usually well developed rays round the eye, a short spur, flattened on the sides, large, leafy stipules, and they do not branch very freely at the root, so that they are liable to die off very often in the way of annuals. This would apply to show varieties. Fancy Pansies of the florist are characterised by their large circular form and large blotches, three to five in number, occupying the centre of the flower. Violas have generally oblong or obovate flowers, that is, longer than broad, also a long, roundish, and generally hooked spur, much shorter, more or less leafy stipules, and produce a great profusion of shoots or suckers from the base or rootstock, so that they flower continuously all through the summer and are therefore less liable to die off. They are mostly

used for bedding purposes. Viola cornuta was one of the parents of the original strain of Violas, but its varieties as well as those of Viola tricolor (The Pansy) have been so hybridised or intercrossed that you cannot draw the line between one strain and the other. Many varieties that are purely Pansies are now used for bedding purposes and termed Violas.

EVERLASTING PEAS.—*Delta*: These Peas take a long time to germinate and get established. We should therefore advise you to sow them in pots and keep them in a cold frame or a cool greenhouse according to your convenience and plant them out in spring when the weather becomes favourable. The other alternative would be to sow the seeds in their permanent position sometime early in March. We doubt whether they will flower at all next year unless they make a good growth this autumn in the case of those sown in pots. They should flower splendidly, however, the year following if you put them in good soil. They grow slowly in their seedling stages, but rapid after getting established.

CRIMSON CARNATION.—*Wesley Kaye*: It is almost impossible to name florist's flowers that are so numerous as Carnations, without actually comparing them with those of a good and correctly named collection. It is closely similar to the Old Clove from which it differs by its lack of smell and greater stature. It is also very similar to a new sort named Crimson King raised by Mr. J. Douglas.

COMMUNICATIONS RECEIVED.—C. G.—J. C. (many thanks.—G. B.— J. L. & S.—W. K.—J. C.—H. W. (next week.)—W. McD.—W. T.—W. McK.—H. C. —Constant Subscriber (see p. 769).

LONDON SEED TRADE.

August 1st, 1893.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a slow demand for Trifolium incarnatum at unchanged rates. Red offers on easier terms. Rapeseed is plentiful any cheaper. Mustard steady. Ryegrasses firm.

COVENT GARDEN MARKET.

August 2nd, 1893.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d	s. d.		s. d.	s. d
Cherries.....½ sieve	0 0	0 0	Melons ... . each	1 6	2 6
Filberts, per 100 lb.	35 0	40 0	Strawberries, per lb.	0 0	0 0
Grapes, per lb.	1 0	2 0	Pine apples.		
Peaches ... per dozen	3 0	8 0	—St. Michael's, each	2 6	6 0
Red Currants, ½ sieve	0 0	0 0	Black Currants, ½ sve	4 0	4 6

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Lettuces ...per dozen	2 0	3 0
Beans, French, per lb.	1 0		Mushrooms, p. basket	1 0	1 6
Beet..... per dozen	2 0	3 0	Onions.....per bunch	0 4	0 6
Cabbages ... per doz.	3 0	4 0	Parsley ... per bunch	0 6	
Carrots ... per bunch	0 6		Radishes... per dozen	1 6	
Cauliflowers, Eng.dz.	3 0	5 0	Seakale .....per bkt	0 0	0 0
Celery.....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers .....each	0 4	0 8	Spinach ... per strike	4 0	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	
Horse Radish, bundle	2 0	4 0			

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s d		s. d.	s. d
Arum Lilies, 12 blms.	2 0	4 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Bouvardias, per bun.	0 6	1 0	Mignonette... 12 bun.	2 0	4 0
Carnations...per doz.	1 0	3 0	Pelargoniums, 12 sps.	0 6	0 9
doz. bunches.....	4 0	8 0	—scarlet.....12 bchs.	3 0	6 0
Cornflowers, dz. bun.	1 6	3 0	Pyrethrum doz. bun.	1 6	4 0
Eucharis ...per doz.	3 0	6 0	Primula, double, bun.	0 6	1 0
Gardenias 12 blooms	2 0	4 0	Red Roses, doz. bhs.	3 0	8 0
Gladiolus White, dzbn	12 0	18 0	Roses, yellow, dozen	2 0	4 0
Heliotropes, 12 sprays	0 4	0 6	— Red..... doz. blms.	1 0	1 6
Lavender...doz. bun.	4 0	8 0	— Saffrano...per doz.	1 6	2 0
Lilium Harrisii, doz. blooms	2 0	4 0	— Tea ..... per dozen	0 6	2 0
Lilium Lancefolium doz. blooms	1 6	3 0	Stephanotis, dz. sprays	2 0	3 0
Maidenhair Fern, 12 bs.	4 0	6 0	Sweet Peas, doz. bhs.	3 0	6 0
Marguerites, 12 bun.	2 0	4 0	Sweet Sutton, dz. bhs.	2 0	4 0
			Tuberoses, per doz	0 4	0 6

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s d.
Campanula, per doz.	6 0	9 0	Liliums, various, per doz.	12 0	24 0
Cissus discolor...each	1 6	2 6	Lobelia .....per doz.	3 0	4 0
Cyperus .....per doz.	4 0	12 0	Marguerites, per doz.	6 0	12 0
Dracæna term., doz.	18 0	36 0	Nasturtiums, per doz.	3 0	4 0
Dracæna viridis, doz.	9 0	18 0	Mignonette, per doz.	4 0	6 0
Evergreens, invar. doz	6 0	24 0	Palms in variety, each	2 6	10 0
Ferns, invar., per doz.	4 0	18 0	Palms, Specimen ...	15 0	63 0
Ferns, small, per 100	4 0	8 0	Pelargoniums ... doz.	6 0	12 0
Foliage Plants, doz.	12 0	60 0	— scarlet.....per doz.	3 0	6 0
Fuchsia .....per doz.	6 0	9 0	Rhodanthe .....doz.	4 0	6 0
Hydrangea, per doz.	9 0	18 0			
Ivy Geraniums...doz.	4 0	6 0			

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FLOWER SHOWS, 1893.

Revised to date.

AUGUST.

7.—Battersea Summer Show.
7.—Beddington, Carshalton, and Wallington Flower Show.
7.—Duffield Flower Show.
7.—St. Neots Amateur and Cottage Horticultural Society.
7.—Mansfield Flower Show.
7,8.—Northamptonshire Horticultural Society's Show.
8.—R.H.S., Drill Hall.
8.—Abbey Park, Leicester, Floral Fête.
9, 10.—Flower Show at Earl's Court.
10.—Margam Cottagers' Show.
10.—Maidenhead Flower Show.
10.—Taunton Flower Show.
12.—Ovenden Flower Show.
15,16.—Cardiff Flower Show.
16.—Bishop's Stortford Flower Show.
16—Eling (Hants) Flower Show.
16.—Reading Flower Show.
16.—Kingswood St. George Flower Show.
16.—Salisbury Flower Show.
16, 17.—Bilston Flower Show.
17.—Parsonstown (King's Co.) Horticultural Society's Show.
18.—Devon and Exeter Horticultural Society.
18, 19.—National Co-operative Flower Show at the Crystal Palace.
22.—West Malvern and Mathon Flower Show,
23, 24.—Shrewsbury Summer Show.
23, 24.—Gladioli Show at Earl's Court.
25.—Royal Horticultural Society of Ireland.
29,30,31.—R.H.S., Agricultural Hall.
30.—Easingwold Flower Show.
30, 31.—Bath Autumn Show.
31.—Thame Flower Show.

SEPTEMBER.

1,2.—National Dahlia Society's Show at the Crystal Palace.
2.—Stretford Flower Show.
2.—Bridge of Allan Flower Show.
5, 6.—Brighton Autumn Show.
6,7,8.—National Chrysanthemum Society at the Aquarium.
8.—Bute Rose Show at Rothesay.
12,26.—R.H.S., Drill Hall.
13,14.—Royal Caledonian Horticultural.
13, 14.—Dahlia Show at Earl's Court.
27.—N.C.S. Floral Committee.
27 28, 29.—Hardy Fruit Show at Earl's Court.
27. 28.—County of Gloucester & Cheltenham R.H.S.

OCTOBER.

10,24.—R.H.S., Drill Hall.
11,12,13.—National Chrysanthemum Society at the Aquarium.
25.—N.C.S. Floral Committee.
28,29.—Havant Chrysanthemum Show.

NOVEMBER.

1,2.—Kent County Chrysanthemum Show.
1,2.—Battersea Chrysanthemum Show.
1,2.—Barnstaple Chrysanthemum Show.
1, 2.—Steyning Chrysanthemum Show.
2,3.—Forest Gate and Stratford Chrysanthemum Show.
2,3.—Ascot Chrysanthemum Show.
2,3.—Highgate Chrysanthemum Show.
2,3,4.—Cornwall Chrysanthemum Show.
3,4.—Grimsby Chrysanthemum Show.
6.—St. Neots Chrysanthemum Show.
7,8,9.—National Chrysanthemum Society at the Aquarium.
7,8.—Eastbourne Chrysanthemum Show.
7, 8.—Brighton Chrysanthemum Show.
7,8.—Kingston Chrysanthemum Show.
7,8.—Sevenoaks Chrysanthemum Show.
7,8.—Leeds Paxton Society's Chrysanthemum Show.
8.—Evesham Chrysanthemum Show.
8.—N.C.S. Floral Committee.
8, 9.—Bath Chrysanthemum Show.
8,9.—Barnsley Chrysanthemum Show.
8, 9.—Brixton, Streatham, etc., Chrysanthemum Show.
8,9.—Bournemouth Chrysanthemum Show.
8,9.—Bath Chrysanthemum Show.
8, 9.—Dalston Chrysanthemum Show.
8.9.—Guildford Chrysanthemum Show.
8, 9.—Northamptonshire Chrysanthemum Society.
10.—Exeter Chrysanthemum Show
10.—Windsor Chrysanthemum Show.
10,11.—Derby Chrysathemum Show.
10,11.—Bradford Chrysanthemum Show.
11.—Bacup Chrysanthemum Show.
11.—Batley Chrysanthemum Show.
14, 15.—Ipswich and East of England Chrysanthemum Show.
14, 15.—Plymouth Chrysanthemum Show.
14,15.—Croydon Chrysanthemum Show.
14,15.—Hartlepool Chrysanthemum Show.
14,15.—Cardiff Chrysanthemum Show.
14,28.—R.H.S., Drill Hall.
15.—Ealing Chrysanthemum Show.
15.—Reading Chrysanthemum Show.
15,16.—Birmingham Chrysanthemum Show.
15,16.—Bristol Chrysanthemum Show.
15,16.—Cranbrook Chrysanthemum Show.
15,16.—Great Yarmouth Chrysanthemum Show.
15,16.—York Chrysanthemum Show.
15, 16, 17.—Hereford Fruit and Chrysanthemum Show.
16, 17, 18.—Edinburgh Chrysanthemum Show.
16, 17.—Royal Horticultural Society of Ireland.
17.—Crediton Chrysanthemum Show.
17,18.—Stockport Chrysanthemum Show.
21,22.—Manchester Chrysanthemum Show.
22.—Beverley Chrysanthemum Show.
22,23.—Dundee Chrysanthemum Show.
23,24.—Norwich Chrysanthemum Show.
24,25.—Eccles Chrysanthemum Show.

DECEMBER.

5,6,7.—National Chrysanthemum Show at the Aquarium.
12.—R.H.S., Drill Hall.

Chafed Skin, Piles, Scalds, Cuts, Chilblains, Chapped Hands, Sore Eyes, Sunburn, Earache, Neuralgic and Rheumatic Pains, Throat Colds, and Skin Ailments

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**** Advertisements for the current week, and also "Stop Orders," must reach the office not later than the first post on Wednesday Morning.*

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NEW PLANT CATALOGUE for 1893.

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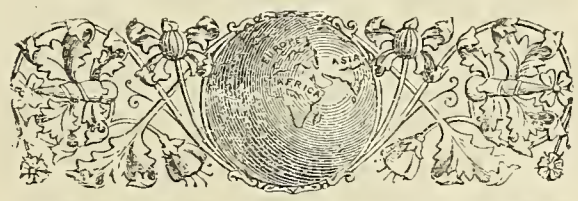

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

TUESDAY, AUGUST 15th.—Cardiff Flower Show (2 days).
WEDNESDAY, AUGUST 16th.—Bishop's Stortford Flower Show.
Eling (Hants) Flower Show.
Reading Flower Show.
Kingswood St. George Flower Show.
Salisbury Flower Show.
Bilston Flower Show (2 days).
THURSDAY, AUGUST 17th.—Parsonstown (King's Co.) Flower Show.
FRIDAY, AUGUST 18th.—Exeter Flower Show.
National Co-operative Flower Show at the Crystal Palace (2 days).
Orchid Sale at Protheroe & Morris' Rooms.

The Gardening World.

Edited by BRIAN WYNNE, F.R.H.S.

SATURDAY, AUGUST 12th, 1893.

FLOWER SHOW ACCESSORIES.—A public speaker the other day remarked that the general public were becoming very frivolous. In other words, the prevailing taste was in the direction rather of pleasure than of practical knowledge. Of course that statement will be as freely disputed as defended, and we only refer to it because it serves to illustrate in so large a degree the prevalent desire there is to have in connection with flower shows some sort of sensational amusements provided, because a mere inspection of the exhibits at a show, howsoever fine and extensive they may be, no longer serves to attract public support. The fact is a deplorable one in a certain sense, because, as gardeners, we are somewhat shocked to find the public after all exhibiting such comparative indifference towards our beautiful products. When it is found that a tight rope performance, a brass band contest, an athletic display, or even a Punch and Judy show, fetches far more than the finest of flower shows it is difficult to avoid feeling some sense of humiliation, and even of shame that people in the mass should exhibit such depraved taste.

Flower Show Committees in many places have found that to secure financial success, they must combine the instruction which a flower show affords with amusement, but the quantity of the latter is very often in the ascendant. We may hope that whilst the hundreds are attracted to see fun or folly, the tens may be attracted only by the exhibition, and if in that way perhaps one or two from the hundreds may in time join the ranks of the tens some good is accomplished.

It is obvious that the chief nay almost the only, reason for the supporting of flower shows is found in their educational value. They are great object lessons on a subject too, to the nation at large of surpassing interest. Let the various local committees do what they may in providing amusements and making the flower show practically the fête of the season, we earnestly trust the great object of these gatherings will never be allowed to become lost sight of or absorbed into the more attractive and doubtless more profitable one of providing amusements. Amidst all our present tendency to favour frivolity the banner of sound practical knowledge must be kept to the front.

THE PLAGUE OF WASPS.—So intolerable an evil, not merely to our fruit crops, but to our common comfort in many places, have wasps become this season, that more than usual attention has been called to these pests, and it seems as if some very general steps will have to be taken to secure their extermination. We have yet to learn that wasps perform any very useful part in the economy of nature; their hands, metaphorically speaking, are against everything, and everything is against them. They may help to kill some flies, but certainly prefer sweets, and when sugar in any form, and especially when found in fruit, can be had, flies may exist with impunity.

But the other day we read of a large number of poor children sitting down to eat of sweet-stuff, when they were assailed by myriads of wasps, driven away from their repast and severely stung. Fruit growers, however, have the deepest cause for complaint against these pestilential depredators, for they are doing immense injury. All the efforts of private individuals seem to fail in keeping down the evil, and it really has become a matter worthy the attention of local authorities, especially County Councils, and we hope ere long to see those representative bodies, or lesser ones, charged with the duty of exterminating wasps.

Twopence at least should be paid for every queen or breeder wasp found in May, and sixpence for every fully exterminated nest. Of course, proper care should be taken to see that all is fair, but it would be wisest to place the work in the hands of the local health inspectors, who should also see that the simplest and most efficacious means were adopted to secure the complete destruction of wasp's nests.

THE PEAR CROP.—It seems almost certain that whilst we shall have a very abundant crop of pears generally, we shall also have a very precocious one. Even now, such a variety as Marie Louise is ripening on walls, and others that are usually at their best from the end of September, bid fair to be ripe a full month earlier. What, therefore, seems almost certain, is that by the middle of November, when all our finest pears are usually at their best, we shall hardly have any to eat, because they will have come to maturity so early. Really we ought to see very fine and well-ripened pears at the Earl's Court and Aquarium Shows of the end of the present and early next month.

The present is, perhaps, the finest year for William's Bon Chrêtien ever known. Fruits of this variety we have seen hanging on trees, young and old, in enormous quantities, and many other varieties, too, will be very plentiful. We have seen many of the finest of our November pears on pyramids, and wall trees already bagged, not only because they are maturing so early, but because of the enormous number of tom-tits and wasps that abound. It is very probable that the season will help to give

material encouragement to pear planting, and the trade will do well to prepare for a considerable demand for trees.

Would that pears had longer staying powers, for all our very best have but a very limited season of goodness. Those that will ordinarily keep late are of indifferent quality, and our best earliest sort, the popular "Williams," is but too often a gay deceiver, so quickly does it get out of condition. The raiser who can obtain some good keepers that are of good quality, would render gardeners a great service. Some day, perhaps, we may find sorts as good as Marie Louise and Doyenné du Comice on our Christmas dinner tables.

The Coming Dahlia Season.—In spite of the great drought of the early summer Dahlias have done wonderfully well, especially since the rain, and we look with confidence to a remarkably good show season. There will be this autumn some exceptionally good opportunities for the exhibition of our finest autumn flower in and about the metropolis, whilst there will not be wanting other opportunities to exhibit and see the flowers in other parts of the kingdom. At the Earl's Court Show held this week we may have to report the presence of some of the earlier blooms, especially of the smaller flowered sections, but by the end of the month Dahlias will be plentiful and in fine form.

The real tournament will of course be found when the National Dahlia Society holds its annual exhibition at the Crystal Palace on the 1st and 2nd of September. Then a few days later will come the National Chrysanthemum Society's Show at the Royal Aquarium, and on the 13th and 14th, a special Dahlia Show at Earl's Court, when the later blooms will will have a grand chance. Thus so many shows held in London affords Dahlia growers ample opportunities for bringing their best old and new varieties into prominent notice.

That Dahlias have a singularly innate capacity to adapt themselves to varying soils and situations, we have often seen evidenced, and but the other day noticed a really fine lot of show varieties growing most admirably on what was but shallow, common soil, but which, after a few years, culture, has been greatly deepened and improved. The situation is a high and windy one. Possibly the finest flowers are obtained on deep, holding soils, but at least good ones can be produced in shallow soils.

Mr. C. Page, for some years gardener to H. P. Leschalles, Esq., Highams, Bagshot, has been engaged as gardener to J. B. Fortescue, Esq., Boconnoc, Lostwithiel, Cornwall, and entered on his new duties on the 2nd inst.

The Crewe and District Chrysanthemum Society's Show is announced to be held on Saturday, November 11th. The new Honorary Secretary is Mr. W. E. May, 37, Samuel Street, Crewe.

Gardening Instruction in the Isle of Wight.—We understand that Mr. Heaton, Cedar Road, Armley, Leeds, is the successful candidate for the recent appointment as Lecturer on Horticulture to the Isle of Wight County Council. There were forty-two applicants, and the final selection lay between Mr. Heaton and Mr. R. G. Waterman, of Woolton, Liverpool.

Raspberry Pulp from Australia.—A Melbourne paper states, respecting the export of Raspberry pulp to this country, that an expert has given his opinion that the pulp would not be suitable for jam after the voyage, as it would undergo fermentation; but he was of opinion that it would be suitable for Raspberry vinegar, of which a large quantity is used, both in England and Scotland, especially in Glasgow, where it is in demand for various purposes, largely as a beverage intermixed with whisky or other spirits.

New Chrysanthemums. — *L'Illustration Horticole* remarks that a new and well defined class of Chrysanthemums, termed long-haired Chrysanthemums, is to make its appearance presently. The class has been so named by the raiser, M. Crozy, Sen., of Lyons, by reason of the fineness of the petals, which are like hair. The race comes from the strange variety Thibet, of Japanese origin. Another type from the same source is Fleur lyonnaise, of which the grand, full, lightly incurved inflorescence, of a superb reddish-purple colour with carmine reflections, spreads in spirals. Besides, the reverse of the petals is bronzed and ornamented with long and abundant downy silk.

Destroying Wasps' Nests.—Mr. George Abbey, Avery Hill, Eltham, writes:—Within a fortnight we have destroyed forty-eight nests, and in spring over 200 queens, by myself and men. If everyone would kill all the queens they can, they would not exist as a plague, as it is easier to kill a queen than take a nest. My mode of killing them, which I have practised for years—viz., in the day time I search all the hedge banks and similiar places, mark the finds, take a man at dusk protected with a bee-hat and gloves, place a twopenny squib in the hole, and turf over that to keep in the smoke, dig the nest out, and smash the nest to a pulp—an infallible cure.

The Duke of Bedford's Woodlands.—We presume we are indebted to some remarks on Arboriculture, in our last issue, for the receipt of a printed list of the woods belonging to the Duke of Bedford in the counties of Beds., Bucks., and Northamptonshire. The list includes the name of each wood or plantation, and its acreage, the name of the parish in which it is situated, and the name of the foreman in charge. The total number of separate enclosures is 187, distributed throughout some three dozen parishes, and the total acreage is 4,598 acres, 22 perches. The whole are under the able management of Mr. A. D. Webster.

The Madagascar Tree Lions.—The fact of Mr. Hamelin offering for sale the pair of young tree lions (Cryptoprocta ferox) which he has recently brought home from Madagascar, at Messrs. Protheroe & Morris' rooms on Friday last, attracted a greater crowd than we have seen in the rooms for some weeks past, but the beautiful young specimens, some four months old, and as a pair said to be unique in Europe, failed to find a purchaser, the highest bid made, seventy-five guineas, being below the reserve. Good prices generally were made for the new Orchids offered on this occasion, but the finest specimen we have yet seen of Cattleya Rex, a mass of over forty bulbs with twelve leads, failed to get a higher bid than £60 and was bought in.

Harvesting has been somewhat interfered with in Cornwall this week owing to the heavy showers which have fallen from day to day. A great many of the wheat crops have, however, been safely garnered. There is now no doubt but that the second hay crop will supersede the first, and there is much rejoicing over the fact. Green vegetables which are largely in demand, are becoming more like their natural selves and the Vegetable Marrow, which at one time looked like a complete failure for the season, is as good as in ordinary years, if not quite as plentiful. Tomatos are not looking as well as could be wished—at least those grown in the open. They do not seem to ripen well this year.

A New Invention for the Conveyance of Fruit and Vegetables has been introduced by a Melbourne manufacturer. He calls it a "louvered hanging fruit case," and explains that each fruit or vegetable is hung beneath tablets in the same manner as Nature provides for their growth. The pressing of one fruit against another is thus prevented. If proper rules and care were observed while gathering there would be no difficulty, he says, in landing the most delicate fruits and vegetables in London in good condition and with regularity and certainty. The case is 14 in. deep, 12 in. wide, and 2 ft. 6 in. long. It has five separate compartments, each accommodating four dozen of 2½ in. Apples, and the total cost of the materials is estimated at 1s. 7d. The various parts of the case would be cut by machinery and be interchangeable, and would be put together by the growers.

Scottish Horticultural Association.—The monthly meeting of this society was held in 5, St. Andrew Square on the 1st inst., when Mr. W. Carmichael read a paper on "Trees for Villa Planting," his object being to show that the practice of allowing forest and hard wood trees to grow unchecked in urban and suburban gardens was an evil, in that they shut out the light and air, and tended to produce damp. He advocated a judicious choice of appropriate subjects, and mentioned a number which he considered suitable. In the discussion that followed, some very appropriate things were said, after which, Mr. Carmichael was awarded a vote of thanks. Various exhibits were shown by Messrs. Dickson & Co; a new Petunia by Messrs. R. B. Laird & Sons, named Princess May; and a Clianthus Dampieri from Mr. Chapman, Easter, Duddingston.

Lost, Stolen, or Strayed, the Storks from Kew Gardens.—Considerable interest is being manifested in the neighbourhood of Kew and Richmond in the recent disappearance of the storks from the pond in front of the Palm house at Kew. The Richmond "Borough Philosopher" remarks that various reasons have been suggested for the absence of the storks from duty. "Some say that they are making an extended tour of the new borough, incognito; others that they went to inspect the new Town Hall last week and were so overcome by the magnificence of the Council Chamber and so stricken with despair that the five-guinea chairs were not, and never could be, for them, that they went and drowned themselves in the river, off the new steps. There are yet others who declare that they are going through a course of lessons with the 'Borough Philosopher' and are hoarding in the house, but this he is in a condition emphatically to deny."

The Birmingham and District Amateur Gardeners' Association.—We have been favoured by the honorary secretary of this association, Mr. W. B. Griffin, with a copy of the programme for the current half year. The next meeting will be on August 27th, when the members will enjoy an excursion to Impney Hall, Droitwich, the train leaving New Street Station, Birmingham, at 1.50 p.m. On September 6th, Mr. Walter B. Child will contribute a paper on "Some Notable Perennials, and How to Grow Them." On October 4th, Mr. Councillor R. F. Martineau will discuss "An Old Birmingham Botanist"; and on the 18th of the same month, Mr. Arthur Roe will have something to say on "Our Herbaceous Border." Mr. George Pressly will contribute "A Few Notes on Lilies" on November 1st; and Mr. Herbert Stone, F.L.S., will give, on the 15th, a lecture on "Roots and Their Functions," illustrated by limelight views. The season will close on December 6th with an address by the president, Mr. Alderman White. The association already numbers 150 members, and the roll increases at every meeting.

Mr. Jabez Balfour takes to Orchids.—A daily paper says:—It will require more philosophic serenity than is possessed by most of the unfortunate Liberator victims for them to hear with equanimity of the manner of life at Buenos Ayres of the scoundrel who swindled them. Mr. Jabez Balfour snaps his fingers at the British Government, is residing in a palatial residence outside the city, and has taken to the cultivation of Orchids. All orchid growers will learn with interest that twelve sacks of moss have been shipped to him by a tradesman of Croydon, the place which he formerly honoured by his residence. It is even suggested that the Argentine Government will be glad to avail itself of Mr. Jabez Balfour's services and cash by offering him an official position. Still, there is that "two-handed engine by the door" in the shape of the Extradition Treaty awaiting final signatures, which may surprise the founder of the Liberator in his palatial mansion.

Frozen English Chrysanthemums in New Zealand.—The *Wellington Times* thus refers to the frozen blooms sent out from this country last November:—"An exhibition of frozen Chrysanthemum blooms, under the auspices of the Wellington Horticultural and Florist's Society was opened on Saturday, 20th May. The building had been draped with bunting, and the exhibits were arranged in a very attractive manner. The chief interest, of course, centred in the exhibits sent from England by the National Chrysanthemum Society. Encased in solid blocks of ice, which lay in zinc cases, they presented quite a unique appearance, and their excellence of quality was the general theme of the knowing ones among the spectators. The frozen blooms exhibited by local growers, too, were of very good quality, but in some cases were somewhat spoilt, owing to want of care in regard to their treatment. The process of freez-

ing had evidently gone on rather too quickly, thus preventing the air from escaping, and the result was that some of the blocks of ice in which the blooms were encased, were filled with air bubbles, which, of course, detracted from their appearance. The frozen blooms from England were consigned to Mr. J. Earland by the National Chrysanthemum Society as a return for the blooms sent home from the Wellington Society, and after serving their purpose here they will be sent to the Christchurch and Dunedin Societies in due course. The Launceston (Tasmania) Society also has asked for them, offering to pay all the expenses of transport.

The Flower Shows which continue to be held throughout Cornwall almost daily, are extremely popular this year, the bulk of the shows being contributed by cottagers, and thus carrying out the main idea of Horticultural Societies. It is astonishing how well the cottagers have improved under the refining and educating influence of the committees of these societies. This alone is evidenced by the quality of their exhibits and their wonderful achievements. In instances where the flowers and plants have been raised in green houses, they are by no means confined to the ordinary kinds, but include capital specimens of Pelargoniuns, Gloxinias, and Begonias, whilst the exhibits in the cottage window classes have an interest peculiar to themselves. Here have been noticed the Lilium and the Hydrangeas which previously have been of the rarest amongst this particular class of growers, whilst the Calcolaria, the Fuchsia and the Pelargonium have been seen in their primest perfection. Cottage garden exhibits bear with them a warmth of sentiment that is lacking in those of the professional, in the sense that they are the result of time and money in many cases hard to get at, as well as showing that increase of education is bringing with it a sense of thrift and thought never heard of in the days of our forefathers.

Cider, Jams, and Insecticides.—On the recommendation of the Seeds and Plants Committee, the Council of the Royal Agricultural Society have decided to offer prizes as under for competition at their show at Cambridge next year :—

Cider and Perry (to be made from fruit grown in 1893, open to both makers and growers).

	£	£	£
Cask of not less than 18 and not more than 30 gallons of cider made in the autumn of 1893	5	3	2
Twelve bottles of cider made in the autumn of 1893	5	3	2
Twelve bottles of cider made in any year before 1893	5	3	2
Twelve bottles of perry	5	3	2

Jams and Preserved Fruits (all of 1893).

	£	£	£
Collection of whole fruit jams	3	2	1
Collection of bottled fruits	3	2	1
Collection of preserved fruits for dessert purposes	3	2	1

Insecticide Distributing Machines.

Horse machine for distributing the Bouillie Bordelaise or other mixture on Potatos. Prize of £10.

Machine for distributing insecticides and fungicides upon fruit trees and bushes. Prize of £10.

An entrance fee of £1 be charged for each machine competing for these prizes, but the fee will be returned if the machine is actually sent for competition.

The Tree of Heaven.—Mr. W. R. Smith, Superintendent of the Washington Botanic Garden, says that Ailantus glandulosa is of all trees the tree for narrow streets. Its large foliaceous development keeps it vigorous and healthy. The only objection to it is the unpleasant fragrance of the flowers. This can be entirely avoided by treating the tree as a pollard, as is the custom in Paris, where it never flowers because of the pruning. The law made by Congress against its being planted in Washington was owing to the influence, we believe, of a well written article by Mr. Downing. Don Piatt was, perhaps, the last to dare the law and plant one of these trees in the aristocratic quarter of Washington. His keen sarcasm, which found expression in his paper known as "The Capitol," prevented the authorities from interfering with him, presumably.

Mr. Thomas Lawrence, nurseryman of Ogdensburgh, died on June 27th. The deceased, who was much respected, was born at Cheltenham, Gloucestershire, in March, 1829, and went to the States in 1853, landing at Montreal, whence he went to Kingston, Ontario, for a year or two, and then to Ogdensburgh, where he settled down and worked up an extensive business.

THE ROSE GARDEN.

Budding Roses.

As this most important operation is the chief work among Roses now, may I again call attention to the necessity of employing buds having a well-developed root or seat to their eye. It is not so much the style in which a bud is inserted that commands success, as a proper selection of those which are really suitable. Nor should they be tied in too tightly; all that is needed being to keep the bud and surrounding bark together. Another very important detail is not to mutilate the stock in any way just previous to or after inserting a bud.

Seed Pods of Roses.

As soon as a bloom is over the seed pod should be removed. Naturally the main strength of the plant goes towards a reproduction of its species, and if we remove the seed pod we save much nourishment from being wasted, while at the same time encouraging the plant to produce more blooms. When a Rose is cut from the plant the shoot is shortened back somewhat; but when the bloom is allowed to expand and only the resulting seed pods removed many of the growths are left too long. At the time of removing the seed pods I would also cut away about a third or more of the growth from all strong growers, but not climbers. This will induce a more bushy and symmetrical growth, and also avoid so much bare wood at the bottom. Roses invariably break in new growth from the upper eyes of a shoot, and it is well to keep these as low as possible.—*Experience.*

THE VARIEGATED JAPAN HOP.

A number of cultivators are already acquainted with the typical green form of the Japan Hop (Humulus japonicus) and its value for covering arbours, trellis-work and poles so as to form tall pyramidal bushes. The variegated variety is a newer plant, and may possibly have some difficulty in establishing itself in the estimation of cultivators. Some plants recently exhibited by Herr Frederick Rœmer, Quedlinburg, Germany, at the Drill Hall, Westminster, will not go far to establish the reputation of this Hop, as they had evidently been grown in pots under glass. At all events, they were anything but highly coloured, and did not do the plant credit. Some plants in the gardens of the Royal Horticultural Society at Chiswick, and elsewhere in the same suburban locality, are in much better condition, and the variegation comes out so well as to give the plants quite a lively appearance.

The leaves are softer in texture than those of the common European Hop, but the petioles and stems are rougher, serving them to good purpose in their mode of climbing, by twining. The leaves also are seven instead of five lobed, and the segments are narrower with smaller or finer serratures. The variegation consists of numerous irregular splashes of white, grey, and creamy white or creamy yellow. As the leaves get older the colours get paler, forming splashes of silvery white and milk white which give the plant a light and even elegant appearance. Those who have hitherto grown the green one only will no doubt prefer the variegated one when they come to know it, for it is really very attractive, and forms a beautiful contrast with the dark dull green of the ordinary type. Seeing that the flowers are small, green and inconspicuous, the additional variegation is indeed an acquisition to this plant, and makes up for the lack of brightness which conspicuous flowers would afford.

The method of propagating it is from seeds, and surprising to say, a very large percentage of the seedlings come variegated, some more, some less decidedly so. This is the case on the Continent, but our experience is that all the plants come variegated. Those who have no command of fire heat can sow the seeds in pots in the autumn placing them in a cold frame. They germinate in spring and are ready for planting out in April, or May. When once fairly established they grow away rapidly, covering a great amount of space, and increasing in beauty towards the autumn. We believe it would be a good plan for those who have the command of a greenhouse from which frost is merely excluded, to germinate the plants in autumn, keep them through the winter, and plant out in spring when they have attained some size. They would then grow away rapidly.

THE BEDDING-OUT IN HYDE PARK.

On visiting this park recently very little could be seen of any prejudicial effect which the long-continued drought might have had upon the occupants of the numerous beds, mostly concentrated along the side of Park Lane. In some cases the Pelargoniums had not made much growth, but even these were exceptional. A case might be instanced of a bed of Pelargonium Mrs. Pollock and Viola Blue King which was pretty, but the plants had not covered the ground. This is near the Marble Arch, and proceeding eastward from this point all the beds may be noted in a relatively short space of time. A bed of a bicolor Pelargonium named Princess Alexandra mixed with Viola Lilacina has done well, and the contrast is sharp yet harmonious. An oval bed of Pelargonium Olive Carr, with rose flowers, is now a mass of bloom and very effective. A circular bed planted with Grevillea robusta, Vitis heterophylla variegata, and Viola True Blue is very graceful. Further on Pelargonium Titiens, with darker flowers than Olive Carr, is equally floriferous. Beds of Little Carr and Triomphe Pelargoniums have also done fairly well; but a bed of Myriel, with lighter flowers than Henry Jacoby, is wonderfully floriferous. In most cases the beds have a double or triple edging of other Pelargoniums and Lobelias. Pretty also is a combination of Fuchsia gracilis variegata and Dracæna rubra on a ground of Viola Montgomeryana.

All of the above form, with numerous others, a line of beds on the left hand side of the path. To the east of the Grosvenor Gate there is a line of larger beds on the left side of the walk, and a double line on the right, so that this portion of the park ranks as a veritable flower garden. On the right are two bold and effective beds consisting of clumps of Iresine Lindeni, scarlet Pelargoniums, and Centaurea ragusina candidissima, a ground of the blue purple Viola Beauty of Chipping Norton. These are followed by two beds of Fuchsia Earl of Beaconsfield, mixed with Lilium Harrisii, double Petunias, and Violas. An edging about 2 ft. wide of Viola Holyrood is most floriferous. Very effective also are two beds of scarlet-flowered tuberous Begonias mixed with Albizzia lophantha on a ground of the golden Creeping Jenny surrounded by a broad belt of the white Lobelia Snowball.

On the left is an effective bed of Ricinus Gibsoni mixed with Tropæolum Ball of Fire, Petunias, Begonias, and Pelargoniums, on a ground of Alternantheras. An outer row of Ophiophogon Jaburan variegatum and Chlorophytum elatum medio pictum is also fine. Close by is a most floriferous bed of Viola Wonder, with erect stems and pale yellow flowers. On the same side is a bed of Heliotrope, 4 ft. to 5 ft. high, mixed with Night-scented Tobacco, and another of Lilium speciosum which will be fine shortly. Here again on the right two beds made up of grouped plants of a kind repeat what may be seen near the Grosvenor Gate. Fuchsias are employed to a considerable extent, but they are hardly yet at their best. Two beds of the variety Scarcity were, however, beginning to be gay. They are mixed with Lilium Harrisii, Begonia semperflorens, and True Blue Viola, and edged with Veronica Andersoni variegata pegged down. The richest of all the beds filled with tuberous Begonias are two beds of the variety Charles Baltet, with moderately large crimson-red flowers, mixed with Grevillea robusta on a ground of Harrison's Musk, and edged with a broad well-flowered band of Viola Snowflake. They constitute two of the most effective beds in the park. Near by, on the left, is a massive bed of East Lothian Stocks with what should appearently have been mauve flowers, but they are much run or striped.

On the right again are four more beds filled with flowering and fine foliage plants of different kinds in most cases, but all on the same plan. Two of them are filled with clumps of Iresine Herbsti and pink Pelargoniums on a ground of the charming rose-coloured Viola Wm. Neil. The blue Lobelias here are, however, seen to disadvantage from the walk next Park Lane, because the flowers are all turned the other way and look to the sun. The neighbourhood of some tall trees is no doubt accountable to some extent for this peculiarity. Two beds filled with light coloured Fuchsias are not yet in character, but the broad edging of Viola Blue Bell is wonder-

fully floriferous although light in colour. They are followed by two beds of tuberous Begonias with rose coloured flowers; the plants are large and mixed with Albizzia lophantha on a ground of variegated Mesembryanthemum, and edged with a broad band of Viola Duchess of Sutherland in very floriferous condition, but here named Mrs. Turner. A little further on upon the left is a bold and rather striking bed, which owes its appearance to the different kinds of Begonias used, such as B. heracleifolia mixed with tuberous varieties, Abutilons and Fuchsias. The large leaves of the first-named are striking as they are uncommon in bedding arrangements. A bed of Ivy-leaved Pelargoniums named Henry Cannell is very fine from the great quantity of bloom, and yet there is room for Lilium speciosum, Zinnias, and Mignonette. Some old scarlet Pelargoniums and patches of Lobelia on a ground of Viola Duchess of Sutherland renders another pair of beds very attractive.

Carpet bedding in this park is now reduced to a minimum, but as the visitor is proceeding along, two very effectively arranged beds of this type are met with bordering a cross path. The two are slightly different in design, but a general idea of their scope may be gathered from a description of one of them. An elevated patch in the centre is occupied by a plant of Dracæna lineata surrounded by a small circle of Alternanthera amœna, which in its turn is surrounded by a band of Echeveria Peacocki on a ground of Herniaria. The rest of this elevated patch is occupied with Alternanthera amœna and A. magnifica. At either end of the bed are two other elevated patches of scroll work of Alternanthera paronychoides aurea surrounded by a ground of Herniaria, the edges of which are neatly clipped as if they were grass edgings. The edgings consist of the two dark-leaved Alternantheras above mentioned and Echeveria secunda glauco on the slopes. Numerous small dot plants are used all over the bed, including Sempervivum cuneatum, Echeveria glauco-metallica, E. farinosum, Pachyphyton bracteosum, P. aduncum, Gasteria verrucosa, Chlorophytum, Carex, Phœnix, Ophiopogon, and others, all of which are exceedingly neat and indicate good workmanship. The companion bed has a central cross of Crassula Cooperi, with frosty, marbled foliage, red buds and white flowers, all neat and forming a close carpet to the ground. It is a rare plant in bedding arrangements or otherwise, and therefore quite novel and pretty here.

A little further on are two beds of seedling tuberous Begonias on a ground of the golden-leaved Creeping Jenny and which were pretty, but had scarcely attained sufficient growth to be fully effective when we saw them. The same may be said of a large circular bed of Fuchsias intermixed with Heliotrope. Two circular beds of tuberous Begonias on a ground of blue Lobelias are very pretty at a short distance off. A good bed also is that filled with Erythrina crista-galli mixed with dwarfer plants of Chrysanthemum Precocité which has been in bloom for some time. Plants of the Ivy-leaved Pelargonium Galilee, about 18 in. to 2 ft. high on a ground of seedling Violas occupy another bed. More uncommon and somewhat novel is a mixed bed, of which the most prominent feature is Maurandya Barclayana, forming pillars 4 ft. to 5 ft. high, flowering fairly well and having the foliage in perfection. Mixed with it are Campanula pyramidalis and its white variety, Heliotropes, Lilium speciosum, bushes of Calceolaria amplexicaulis, Chrysanthemum Precocité, Roses, etc. A bed of a rosy-red variety of Carnation and another of the well-known Alice Ayres have been very floriferous. In both cases the ground was carpeted with the golden Creeping Jenny.

Towards the Stanhope Gate are numerous beds of Pelargoniums in single file on the left hand side of the path, as is the case towards the far end near the Marble Arch. At the Stanhope end the plants have done better, probably because less overhung by tall trees. For instance, there are good beds of Pelargonium Myriel, crimson-red mixed with Viola Blue Bell, P. Aspasia, white, with Viola Lilacina, P. Henry Jacoby, white, mixed with Viola Duchess of Sutherland, and P. Omphale, salmon-pink. All of these varieties have grown well and form a good blaze of colour. Large plants of Pelargoniums, Fuchsias, Bamboos, Plumbago capensis, Eucalyptus, and Cannas isolated upon the grass are varied and interesting.

THE HERBACEOUS BORDER.

Choice Plants in Flower.

Lychnis coronaria oculatus.—The ordinary type of this, with its large carmine or crimson-purple flowers, is a familiar object in many old-fashioned gardens where herbaceous plants receive due prominence. That under notice differs in having white flowers with a purple eye. It can be propagated by division or by seeds, but probably a good per cent. of the seedlings would revert to the original type.

Polygonum amplexicaule.—The red flowers of this Knot-weed are individually small, but they are collected together in slender spikes which have a very graceful appearance, which is heightened by the slender character of the stems. The usual height of the plants is 18 in., and altogether is neater and more refined in habit than many other of the herbaceous perennial Polygonums to be seen in gardens.

Coronilla varia.—Most of the Coronillas, whether shrubby or herbaceous, have yellow flowers, but that under notice is an exception. The flowers are produced in round-headed umbels during the greater part of the season, and have rosy standards with pale lilac wings. No attempt should be made to stake this plant, or all its natural beauty will be lost and less flowers the result. A space of 2 ft. to to 3 ft. square should be allowed it, and flowers will be produced in great quantity by the elongating and branching stems, which form a little round-headed mound of considerable beauty.

Eryngium planum.—The bulk of the leaves and certainly all the larger ones of this plant are confined to the base of the stems, and are oblong, with a cordate base, and not spiny. The stems rise to a height of 2 ft., branching freely at the top with numerous, small, deep steel-blue heads. The bracts and upper part of the flower stems are also more or less decidedly of this hue. The plant is easily grown, and furnishes a considerable quantity of cut flowers.

Bocconia cordata.—Few plants are more readily affected by the nature of the soil and season than this plant. The stems will flower when 2 ft. or 3 ft. high in a dry season like what the present has been, especially in sandy or light soils, but when the contrary is the case they run up to 8 ft. or more, and give a sub-tropical effect to the border. The buff-coloured flowers are amongst the smallest of the Poppy tribe, but being borne in lengthy panicles they add considerably to the appearance of the plant. Sometimes a form with darker buff flowers is grown under the name of B. japonica, but the distinctions are not sufficient to warrant the name. The glaucous leaves are hoary on the under-surface.

Rudbeckia speciosa.—The golden rays and black disc of this species render it one of the most handsome of garden plants, whether for the decoration of the border or for bedding purposes. Its usual height is 18 in. so that it may be considered one of the most refined of Composites. Notwithstanding this it may be propagated to any extent from the suckers which it throws out from the rootstock. As beds upon the grass, or edgings to larger ones, it is very handsome if the soil is not too dry, and continues in bloom for a long time.

Papaver nudicaule.—Seeds are now ripening and cultivators would do well to sow some at once of the yellow, white, and orange kinds. They cannot be expected to come true in all cases from seeds, but a good per cent may be relied upon. None of the Poppies are more useful nor handsome for cut flower purposes. Young plants are more reliable than old ones. Sown now they will flower early next summer.

Primula Poissoni.—The beauty of this Chinese species is considerable, and the length of time during which flowers are produced should be an inducement to growers to keep a stock of young plants in cold frames to make good any losses that may occur amongst plants in the open border during winter. Each stem bears several whorls of deep purple flowers with a golden eye, and which are produced in succession over a considerable period of time.

Chrysanthemum latifolium.—Several names are given to this plant in gardens, the more common of which are C. lacustre, and C. maximum. It is a stronger growing and taller plant than the latter, with much broader leaves. The latter oblong-lanceolate and considerably the broader above the middle, whereas those of C. maximum are narrowly oblong, of the same width throughout, and altogether smaller. The heads of C. latifolium are large and white with a golden disc.

Anemone japonica.—It is a pity that this good old-fashioned Anemone has been so much neglected in collections, for it is quite distinct from the white or rosy-pink forms in cultivation. The sepals of the type under notice are numerous and deep rosy-purple, while they come into bloom earlier, and the stems are only about 18 in. high.

Aster pyrenæus.—This summer-flowering species may be considered as giving a foretaste of the tall autumn-flowering kinds. The stems seldom much exceed a foot in height, and bear at the top a number of large lilac-purple flowers. It may easily be increased by division early in spring or later on by cuttings, but altogether the rootstock increases very slowly.

Actæa racemosa.—The habit of this plant is similar to that of Spiræa Aruncus, but the segments of the leaves are narrower, so that the bush does not appear so dense. The small, white flowers are produced in long, terminal, and slightly branching racemes, and are very effective for border cultivation.

Campanula persicæfolia coronata. — The flowers of this variety are semi-double, pure white, neat, and compact in form, and suitable alike for border decoration or for cut flower purposes. There is another white form with single flowers and an enlarged calyx of the same hue as the corolla. This also is worthy of cultivation, but it is inferior to the form under notice.

THE GREAT DROUGHT OF 1893.

The drought of 1893 will unquestionably take its place among the recorded events of history, if regard be had to its intensity, the length of time during which it has lasted, and the wide extent of the earth's surface it has overspread. Treating the British Islands as a whole, the drought may be considered as embracing by much the greater part of the country for the fifteen weeks beginning with March 5. But while copious rains have fallen during the past few weeks in many places, it may be regarded as continued to near the present time in many of the more important agricultural districts in the south.

The drought was most severely felt in the southern division in England, and least in the north of Scotland. Over Scotland, England, and Ireland it increased in intensity, with pretty uniform regularity, from north to south. Thus, the deficiency in percentages from the average rainfall of that portion of the year was thirty at Lairg and fifty-nine in Berwickshire; fifty-nine at Penrith, and ninety at Dungeness and Falmouth, and thirty-eight at Londonderry, and sixty-seven at Waterford. The least deficiency at any of the stations of the *Weekly Weather Report* was one at Glencarron, in Ross-shire, and the greatest at Dungeness and Falmouth, as stated above. At Glencarron the amount of the rainfall was 16·91 in., whereas it was only 0·60 in. at Dungeness, 0·77 in. in London, 0·92 in. in Scilly, and 0·94 in. at Falmouth. At places south of a line drawn from Cambridge to Scilly less than a fourth part of the average rainfall of these fifteen weeks was collected, and consequently over this large district the effects of the drought have been most disastrous to agriculture and horticulture, the hay crop, for example, being in many places a complete failure. It was altogether a unique experience, in travelling in June from London to Scotland, to mark the great and steady improvement in the condition of the crops in the northward journey.

During the period the type of weather prevailing was eminently anticyclonic, with the appearance, ever and anon, in localities more or less restricted, of small satellite cyclones with their attendant thunderstorms and rains. Hence the remarkably sporadic character of much of the rainfall, of which the most remarkable instance was a rainfall of 1·19 in. at Parsonstown on June 10th, and no rain whatever at any other of the telegraph stations of the Meteorological Office in this country. Heavy local rains of this type, with downpours of an inch or upwards, were recorded on May 17th, 18th, 20th, and 21st, and June 10th. It is also to be noted that many thunderstorms occurred during the period, unaccompanied with rain, just as happened generally in the east of Scotland in June, 1887, on the day of the Queen's

Jubilee; and frequently large drops of rain fell, quite insufficient, even to wet the ground and scattered over narrow paths of inconsiderable length. Very heavy rains occurred over the eastern district of Scotland, practically terminating the drought there, on June 22nd and 23rd, when, on these two days 4·20 in. fell at the North Esk Reservoir on the Pentland Hills, 3·32 in. at Roslin, 2·21 in. at Aberdeen, 2·06 in. at Logie Coldstone, near Ballater, and nearly 2 in. at many places, whilst generally in the west little, and at many places no rain fell at all.

Temperature was phenomenally and almost continuously high in March, April, May, and June, especially as regards the first three of these months. Thus, for London the mean of the three months was 4·3° above the mean of the previous 130 years; and in Edinburgh 3·3°. The only springs since 1763 with a mean temperature exceeding that of 1893 were for London, 1811 and 1794, which were respectively 5·2° and 4·3° above the average; and for Edinburgh, 1779 and 1781, which exceeded the mean by 4·0° and 3·8°. It is highly interesting to note that large as these figures are, the Ben Nevis figures far exceed them, the mean temperature at this high-level observatory for March, April, and May last being 6·6° above the mean of these months, a result due to the prevailing anticyclones, which so frequently are attended there with abnormally high temperatures.

The drought has also extended over nearly the whole of Europe, large portions of Canada, the United States, and other parts of the globe. In the north of Italy no living person recollects to have seen the Italian lakes so low and the southern Alps so greatly denuded of their snow covering. It is estimated that over the wheat-growing countries of the world, this valuable crop will be to no inconsiderable extent under the average. On the other hand, in other parts of the world the rainfall has been exceptionally heavy, and followed with widespread, disastrous floods, as in the cotton districts of the United States, and in Queensland.

In London, the total amount of rain that fell during the 110 days, from March 4th to June 22nd, was 0·77 in. Mr Symons, our best authority on the question of droughts, enumerates eight droughts which have been recorded during the present century. Of these, the longest-continued was 105 days, from March 11th to June 23rd, 1844; and thus the drought of the present year is the greatest in the British Island authenticated by meteorological records.—*Nature.*

AUCUBA JAPONICA.

Having in my forecourt garden, which is on a north aspect, some large bushy plants of Aucuba japonica, and finding they, from being too tall, shaded the windows on the basement floor, I early in spring cut them down close to the ground. They remained quiet for a time, but during the past two months they have broken into fresh growth, the leaves being beautifully variegated. As the plants occupy a rather shaded spot they had become somewhat drawn and the stems lanky. Now the bases of the plants will be a dense mass of foliage, and in a season or two quite a vigorous fence of the Aucuba will be formed, and though occupying a sunless spot the leaves are always bright and effective Aucubas differ in this respect, and perhaps mine is a seminal variety with a greater dash of variegation, and it is worthy of note that the Aucuba appears to adapt itself to all soils and positions. I have seen it thriving in places where many other shrubs would die, and though the plants may have no attention bestowed upon them, they thrive and minister to man in supplying bold and handsome leafage upon which to feast his eyes. Indeed, amongst the beautiful plants which tropical and temperate climates have given to Britain, perhaps none are more valuable for towns than the varieties of the Aucuba japonica.

Robert Fortune has well described them as he saw them growing near Yokohama and Yeddo, with profusion of scarlet fruit contrasting with deep green foliage, as worthy a voyage from England to witness their beauty. It has been stated that he went from China to Japan to look for varieties of this plant, and the first he saw was in a garden at Yokohama. Soon afterwards he found many varieties in their native beauty in the woods near Yeddo.

It is a curious fact that though Aucuba japonica was introduced from Japan more than a century ago, nearly the same period had elapsed before Mr. Fortune gave us the male plant. By means of its fecundating powers the female has borne berries, and from these have come numerous varieties, some green, others variegated, all differing more or less in the density and size of the blotches and in the shape of the leaves. Nature seems to have created this family for the special adornment of our cities and towns; for the members flourish in a smoky area as well as in the open of the public park. Will any other Evergreen stand the shade and drip of trees like this charming Aucuba? And have we any other that will compare with it for beauty and utility?—*R. D.*

DELPHINIUMS.

These, among the most charming of herbaceous flowers, are now out of bloom, and may be propagated very readily from cuttings. It is much best to do so in the autumn, as you then get a well-rooted plant ready for planting out next season. You also avoid removing any of the early growths that would produce splendid spikes of flower, and in this respect alone autumn propagation is far preferable to spring. They will also root more freely. Delphiniums are easily propagated by seed and division of their roots; but where one wishes to increase a certain variety, it is absolutely necessary to do so by cuttings or division.

As these flowers do not produce such grand clumps when divided, it is far better to seize the present opportunity to increase the stock of desired varieties. Cut down the old stems close to the ground, when the roots will soon produce short growths from the crown. These may be removed as soon as they are 3 in. to 4 in. long. If cut off as close to the crown as possible, there will be a better chance of successful striking. Use small pots of about 72 to a cast, and a compost of leaf-soil, loam, and sand in about equal proportions. Place them in a close frame; it is not necessary that it be heated in any way. They will soon strike root and may remain in the frame until the following spring. If planted out early, and upon good ground, they will bloom fairly well during the summer, and will be in full vigour and beauty the following year.—*Experience.*

Gleanings from the World of Science.

A Plague of Caterpillars.—A contemporary recently gave a report of a terrible plague of caterpillars which are devastating the romantic canton of Uri, the home of Tell and his exploits, in Switzerland. After describing the destruction of everything green by them, the foul odour filling the air, and the campaigns organised by the Swiss to destroy the mischevious pest, the report goes on to say that the Swiss savants state that the species of caterpillar is the Noctua graminis of entomologists, and that it is a native of Northern Russia, Finland, and Norway. They suppose also that a number of eggs must have dropped from a consignment of goods on its way to the Gothard railway, and, aided by the extreme heat, have pullulated (*sic*), with extraordinary rapidity. By this time, according to their predictions, the air will be filled with swarms of butterflies.

Wonders of Railway Travelling.—We cannot be surprised that the peasants should imagine the root and rise of the present plague should have been effected by the railway, to which many wonderful doings have been and are ascribed even in this country; but we are surprised that the Swiss savants should have given rise to such a theory. Insect eggs are, no doubt, carried about upon goods such as hay, fruit trees, and other plants; but supposing that such was the origin of the unfortunate distribution of the insect under notice, it would take a number of years for the insects to increase to such an alarming extent as to eat up all the vegetation and fill the air with a contaminating stench. The wording of the report, however, would give one to understand that the increase has all taken place this summer. "Aided by the extreme heat (the eggs), have pullulated with extraordinary rapidity," is the wording. Now the word "pullulate" means to sprout or germinate, but we have never known entomologists to use such a term. Besides it is utterly impossible for a number (the exact number is not stated), of eggs, caterpillars, or pupæ to give rise to a greater number by sprouting or germinating, no matter what the amount of heat or other favourable circumstances. In the case of this insect, one egg, one caterpillar, is the law of nature. It would have required a truck-load of eggs, probably, to effect the destruction stated.

Not Butterflies at all.—Entomologists would laugh at the idea of a swarm of butterflies arising from the eggs of Noctua graminis, which is a species of moth. There is no Noctua graminis native to Britain, but there are numerous others belonging to the Noctuina, section Genuinæ, to which the same destructive effects might be attributed. Amongst them there is Charæas graminis, otherwise known as Cerapteryx graminis, which lives concealed at the roots of grasses, feeding upon them. The insect in this case attains the perfect form in July, August, and September. There are also several (at least six), species of Agrotis belonging to the same group of moths which feed on grasses, including Agrotis segetum, which often does great harm to corn in this country, particularly in the north, where it is known as the Tory Worm. Several of the true species of Noctua also feed upon grass. Many of these moths are common both in Britain and upon the continent, so that it is possible a number of species, and not merely one, is at work in Switzerland.

From whence come the Caterpillars.—Whenever any country or part of a country becomes infested with caterpillars of one kind or other it is usual to ascribe it to their migration from some other country, sometimes across seas many miles wide, and all this notwithstanding the fact that the same insect may have been known to entomologists as a true native for a century or more. When Switzerland or any other country becomes infested with insects which are natives, is it not reasonable to suppose that they have been bred there, just as easily as anywhere else? When the conditions are favourable, and food abundant, as it is generally made by the processes of horticulture and agriculture, certain insects increase rapidly until they become a veritable plague. This solution of the question is seldom adopted.

Will they appear next year.—This may or may not be the case according to circumstances. Nature works in a mysterious way, and for lack of observation, the inhabitants of rural districts grope about blindly on the wrong track. If they expect to see the air swarming with butterflies in Switzerland they will be disappointed—agreeably or otherwise, according to the way they look at it. The probability is they will see very little of the real depredator eveu when it attains the perfect state, for all the Noctuina are dull coloured moths and fly in the dusk of the evening or when quite dark as a rule, so that very little is seen of the real enemy, sowing tares as it were in the fields of grass, corn, and other economic products. Nature herself often comes to the rescue. Heavy and cold showers of rain coming at an opportune time often do irreparable injury to swarms of caterpillars, so that very little of them is seen in succeeding summers, and the terror or the lesson it afforded is soon forgotten, or what is often more probable, no lesson beyond its remembrance is learnt at all. Another aspect of the question which has repeatedly presented itself in this country is that the enemy may be gradually increasing year after year on certain crops and no measures are taken to check it till it appears in formidable numbers, almost defying human skill to cope with. Hence the moral—take measures in good time.

THE VEGETABLE GARDEN.

General Work.

Any early Potatos that have been left to ripen for seed may now be lifted and stored. Many of the midseason and late varieties will also be ready much earlier than usual on light soils. Schoolmaster is very good with me this season and cooks splendidly. If the weeds are coming freely again in the Asparagus beds, give another dressing of salt; it will stop them while young. Continue to plant Coleworts on any spare ground. Strawberry runners that were layered for making permanent plantations should be planted as soon as they are well rooted. —*G. H. S.*

PALMS AS DRAWING ROOM ORNAMENTS.

PALMS are so specially adapted for house decoration that we have come to look upon them less as plants than as drawing-room ornaments, as part of the furniture, in fact. They are fixtures, and may be made to last almost as long as the chairs and tables themselves, and would probably do so were it not that after a time we are apt to get tired of them and to turn them out in favour of something else, or because we are moving and do not care to take them with us. I was once shown a fine specimen of my favourite Chusan Palm (Chamærops Fortunei) which had stood in the same room for seven years. It had been repotted three times, but besides being watered regularly no special care had been taken of it. It was in perfect condition and had formed a noble crown of leaves; such a plant as that was indeed worth seeing.

This used to be considered the hardiest of all Palms, but now there are about a dozen others which run it very close—all the Australian species, Corypha australis, Areca sapida, the Kentias, and the Seaforthias, not to mention the only European Palm, Chamærops humilis. During the summer months there is no Palm I have yet tried which will not stand well in a room, so if wanted only till the end of the season it is safe to simply choose the most ornamental, but if they are meant to last for years their relative strength becomes important.

Many tropical Palms reserved hitherto for the plant stove might well be brought into play for house decoration, being far hardier than is generally supposed. The way would be to test them by keeping them through the winter in order to see which are worth repeating, for in this way the range of available drawing-room favourites might be considerably extended. I once tried an experiment of this kind with results of great use to myself at the time, though as it was some years ago I should be afraid of making mistakes were I to go into particulars. Of course I avoided all the cool house Palms as already tried, limiting my choice to those which the nurseryman from whose stove I purchased them said he could not rely upon to do well in a room, otherwise the trial would have been valueless. None died outright, but a few became so shabby as not to be worth keeping.

I have an impression that the two which suffered most from the very cool treatment they received were two Indian Palms, Arenga saccharifera and Caryota urens. The larger plants pulled through better than the smaller ones. I remember that at the end of the winter most of them looked so firm and healthy that I was never afraid of buying these kinds again whenever I wanted them. Palms are so tenacious of life that it takes a good deal to kill them; when they die it is either owing to an accident or from some cause easily explained. I once lost a Palm in a way that struck me at the time as being rather singular. I had not had it more than twenty-four hours in the house before I detected the first symptoms of death, the half expanded leaf becoming limp and the rest of the leaves shrivelling up. On turning it out of its pot I found that the earth round its roots was completely dry, so dry that it fell away in a shower of grey powder. It was standing in a saucer of water when I bought it, so it had not occurred to me to do more than sprinkle it. It was a good sized plant in a 7-inch pot very tightly potted and the moisture had not worked its way up more than half an inch. The plant was thoroughly choked, and was simply dying from want of water, the change from a cold shop window to an exceptionally warm drawing-room no doubt hastening the end.

Though Palms are so strong, when they once begin to go there is no stopping them. Like many other plants, they require to be kept very wet in summer and only gently moist in winter. Great care should be taken in the selection of them in the first instance, as half the failures we see arise from the neglect of this precaution. In taking them from the greenhouse of a reliable nurserymen we may feel safe, and this is by far the best way to buy them. Those who persist in patronising small greengrocers and men who hawk them about on barrows, on the other hand must keep their eyes open.

Perhaps of all Palms the most generally popular is Latania borbonica, though unluckily it is one of the most difficult to keep quite up to the mark. Those broad bright green leaves, which present so striking an appearance in the plant-cart, if closely examined will be found to have a false edge, being carefully snipped all round with a pair of scissors. These fine fan leaves have a tendency to turn brown at the tips, but that is no excuse for tampering with them in this way.

Again, second rate florists who do not understand Palms are apt to think that directly a leaf begins to fade it should be at once removed, but that is a great mistake, for while the sap is in the stem to cut it off injures the plant, besides spoiling its outline and diminishing its size, and the unsightly stump is a far greater disfigurement than a partially withered leaf. It should be allowed to die off by degrees, and ought not to be removed till sufficiently dry to be twisted off with the thumb and finger.

But the worst thing of all about these market plants is that they have often been grown in bottom heat, which gets them on quickly but weakens them, and if not sufficiently cooled down unfits them for the atmosphere of a room. Whenever I have lost a Palm it has generally been from this cause. Well-grown Palms don't die. This grand Chinese fan Palm (Latania borbonica), should not be bought too young, as the leaves are not in character till the plant is large enough to be put into a 7-in. pot. Small plants in 5-in. pots are not decorative, the leaves being still in an undeveloped state. The same remark applies to my greatest favourite of all, the date Palm (Phœnix dactylifera), which is not ornamental in a very young state, having a decidedly scratchy look, its leaves taking even larger before they come true, not till there are at least fifteen leaflets on each side of the stem. This plant has to be scrutinised with equal care to see that no leaves have been shortened or cut off.

How I came to devote so much time and attention to Palms was that a long time ago I had a stove in which I grew nothing else, and this gave me a taste for them. Years afterwards, in another house I had a sitting room so inherently ugly that no efforts in the way of furniture seemed to do it any good, so I bethought me of my old favourites the Palms, and resolved to work them in as a redeeming feature, in order that there might be at least something pleasant for the eye to rest upon. The only window looked out upon a builder's yard, so I crowded out this unpromising back view with a green hedge, consisting of a double row of the most graceful Palms I could find, and when friends came to see me their first greeting was no longer "What an ugly room!" but "What beautiful plants!"—*G. L.*

BIG GOOSEBERRIES.

I HAVE observed the notes in your two last issues in reference to the above, and if you would like to have a little further evidence I will state what has occurred in our neighbourhood. On the 1st of August, at the Wilmslow show, the variety Lord Derby won the premier prize for the heaviest berry with a weight of 22 dwts. 17 gr. Next in weight was London, 29 dwts. 26 gr. A neighbour who takes great interest in these Gooseberries has this season had some very fine fruit. His heaviest was London, which weighed 29 dwts. 4 gr.; next in weight was Surprise, at 28 dwts. One of the handsomest fruits, either for a plate or a single berry, is Catherine, which, when ripe, is a fine clear yellow. This I would as soon have as any of them, though the following kinds were growing close by, as well as those mentioned above, and others:—Leveller, Transparent, Ringer, Antagonist, etc.

Perhaps it might also be stated that these Gooseberries are grown in quite a different way to what is usually the case in ordinary culture. For one thing, there are very few shoots allowed to the bush. They are allowed to thinly diverge out from the main stem, and the fruit is carefully thinned out. Then the other main item is that the bushes are growing in the best medium that is thought possible—turfy loam, manure, sand, etc. Then the bushes are dressed in the winter so as to prevent red spider. Under such conditions, with care, good fruit would be the natural result.

This treatment is different to what the Gooseberry usually has to be subjected to under ordinary kitchen garden treatment. But under this head, if the ordinary popular kind, the Warrington, was subjected to a better regime of culture it would be a step in the right direction. This kind, when quite ripe, is a very good dessert fruit. The tendency is to overbear, as this season, where the fruit has not been thinned, I counted on a spray or single branch three dozen berries, which, as a result, were small. Where the fruits were well thinned out, and the bushes had been manured last winter, the produce was very good. I may also observe that on one of the Red Warrington bushes there has developed a branch which for several seasons has borne white fruit.—*Robt. Mackellar, Cheadle, Cheshire.* [Have you tried to fix the sport?—ED.]

SCOTTISH ARBORICULTURAL SOCIETY

THE fortieth annual meeting of the Royal Scottish Arboricultural Society was held at No. 5, St. Andrew Square, Edinburgh, on Monday, Professor Bayley Balfour presiding. The Secretary, Mr. W. J. Moffat, intimated that the membership was now over 600, including eighty-five new members. After the office-bearers had been elected, the chairman delivered his presidential address. He said the society was in a prosperous condition, and the record of membership had again been beaten this year. Referring at considerable length to the order of the Board of Agriculture prohibiting the use of home-grown timber in Government contracts, he said the Council had instituted an inquiry into the matter, and the protest made to the board had had the effect of the prohibition being removed from Scotland, so far at least as concerned the work under the Board of Agriculture, an eloquent tribute to the society as representing the interests of arboriculturists in Scotland. The attendance at the classes at the Botanic Gardens had been excellent, and the examinations satisfactory all round, and he deprecated the statement made by the chairman of the Forestry Committee of the Highland and Agricultural Society to the effect that the lectures at the gardens were in opposition to the University course. He regretted that the society had not yet been able to set apart an Endowment Fund, and proceeded to speak in favour of the establishment of an agri-horti-arboricultural institution in Edinburgh, by which present methods and the funds supplied for technical instruction could be better utilised. He considered that the difficulties in such a course were not insurmountable, and threw out the suggestion that the Town Council should make an addition to the Royal Veterinary College for such teaching.

Dr. Cleghorn moved that the council be instructed to promote by every means in their power the endowment of a Forestry Chair in Edinburgh University, and to hand over for that purpose the contributions, now amounting to £2,200. Mr. Duff seconded, and the resolution was agreed to. It was remitted to the council, with powers, to consider the arrangements for next year's excursion, which it was proposed should be to Ireland.

Silver Medals were awarded to the following members for essays and papers sent in: Messrs. W. A. Mackenzie, Strabane, Brodick; D. Robertson, Novar; A. T. Williamson, 7, Kew Terrace, Edinburgh; Mr. Hutchinson, Carlowrie; Arch. Mitchell, Dunraven Castle, Glamorganshire; R. M. Milne, Edinburgh; Alex. Murray, Murthly, Perthshire. Bronze Medals were given to Mr. John Smith, Ramsey, Hunts; Mr. Wm. Inglis, Brodick Castle, Arran; and Mr. Alexander Campbell, Scone. The Gold Medal was awarded to Mr. D. F. Mackenzie, Mortonhall. The meeting terminated with the usual votes of thanks.

The annual excursion of the society started from Princes Street Station, direct for Windsor, in the afternoon. Some 140 members sent in their names, amongst them being Sir A. Muir Mackenzie, of Delvine, Professor Bayley Balfour, Professor Boulger, Colonel Bailey, R.A., Major Macleod, Messrs. Malcolm Dunn, John Methven, John Watson, Robert Wallace, Alex. Thomson, Trinity, etc.

THE LATE MR. W. THOMSON.

THE portrait which we give on the opposite page of Mr. William Thomson, Junr., of Clovenfords, whose death on the 30th ult. was recorded in our last issue, will be of melancholy interest to his many friends among the readers of this journal. An able, active man and genial warm-hearted friend, his passing away in the prime of life has caused many a pang of sorrow, and great sympathy is expressed in all quarters for his family.

VIOLAS AT CHISWICK.

The collection of Violas now being grown upon trial in the gardens of the Royal Horticultural Society at Chiswick is very extensive. They are planted in beds upon the grass alongside of the middle walk, and some of them are grown upon a narrow border running along the back of a Box hedge on the same piece of ground. The planting was accomplished in March and the beds mulched with coco-nut fibre. The Violas commenced flowering soon after, and have continued in a very floriferous condition ever since. There are blanks in some of the beds where the plants have died off, but this defect is entirely confined to those beds which were occupied with Violas last year; and if the cause of their dying off is attributable to that fact, it suggests a rotation of crops as the remedy or else the supplying of some necessary constituent of plant food which the plants abstract from the soil in greater quantity than ordinary stable manure or Nature supplies in the course of a season. Notwithstanding this fact the trial has demonstrated that Violas will grow and give satisfaction even in the south of England and the neighbourhood of London, if cultivators only take a slight precaution with regard to their necessary requirements, which are not numerous. They can be depended upon for bedding purposes, even on a somewhat extensive scale, for which the numerous first-class varieties offer every facility. Cuttings dibbled into cold frames in September will give any quantity of plants for putting out in March or later according to convenience, but the earlier the better.

Varieties Receiving Three Marks.

The committee appointed to examine the subjects on trial at Chiswick have given three marks to eleven of the varieties in the beds, and which were grown there last year. With two exceptions they have been given to varieties of the ordinary type and two have been given to rayless Violas. These last have been considerably increased by a fresh addition, but although they include several splendid varieties, no awards have yet been given. Possibly a longer acquaintance with them is desired before coming to any decision. The award given to William Neil is very deserving, for its light rosy flowers are very pretty and are produced in profusion all through the season. The self-coloured dark blue-purple Mrs. C. Turner was also recognised. The stems are dwarf and flower very continuously. Bridesmaid is now getting pretty well known as a free flowering primrose-yellow kind with a darker lip. Victoria is related to Countess of Hopetoun in the robust stems and foliage, but is more vigorous than that variety, and the large somewhat wavy flowers are of a purer white with a small yellow eye. Of all the yellow kinds, Ardwell Gem is a most valuable and persistent bloomer, with procumbent stems, and large pale yellow flowers, with a darker lip. Less refined if a more robust grower is Lord Elcho, with large, nearly circular, deep yellow flowers, and a golden lip. A large white variety with long blue rays on the three lower petals has received the same approbation as the rest, but there are many other varieties which we should prefer to it. The petals are thin and the flower is by no means particularly refined. Amongst particoloured flowers Queen of Scots is a handsome sort, but it does not always flower very satisfactorily. The flowers may be described as white, with a rich violet-purple centre hiding the rays. Of quite another colour is The Mearns, the three lower petals being deep purple, and the upper ones purple at the base, while the remainder is white suffused with pale blue. Amongst rayless Violas the two that received the distinction were Sylvia and George Muirhead. The latter is the most distinct, having primrose-yellow flowers, and a darker lip, with a golden-yellow blotch extending in five rays down upon it. The plant is dwarf, robust, and free flowering. We fail to see that Sylvia differs so widely from the Countess of Hopetoun to warrant the retention of both, particularly in a limited collection. We should also have given the three marks to Sylvia White or King of Whites, for they are one and the same thing for all practical purposes, and a keen eye fails to distinguish between them. They have large, circular, pure white flowers, while those of Sylvia are creamy-white.

The Late Mr. W. Thomson, Junr.

Good Old Sorts not Certificated.

Besides the above there are numerous other varieties which have flowered well and which find numerous admirers amongst various classes of society, and some of which will be largely cultivated whether they are certificated or not. Amongst the edged varieties are Duchess of Fife and Goldfinch, both sports from Ardwell Gem, and have the same habit. They are now so well known and esteemed that description is unnecessary. Blue Cloud is an admirable white variety with a blue edge, but it flowers best in spring and again in the autumn. Columbine is a beautiful old Pansy with a banded edge, but that, as well as Lucy Ashton, can hardly be kept true to name in certain seasons, as they become heavily striped or else sport into a very dark shade of colour. Seedlings from them behave in the same outrageous way. Those who like striped flowers cannot complain of their absence this year. A curious mixture of colours is Moonlight, which some admire and others do not. All of the above are exceedingly floriferous.

Variously coloured flowers are very numerous, and a free-flowering one in the way of The Mearns is Neptune, the three lower petals of which are plum purple with a white blotch at the edge, while the top petals are white shaded with lavender. The top petals of Ariel are deep sky blue, while the rest are white, variously edged. It is an attractive little flower. Rosine has the three lower petals rosy-purple, and the upper petals white with a rose base vanishing on to the white. Even prettier is Princess Beatrice, which has the three lower petals of a dark rose with the base of all three of a blackish violet and the upper two of a soft rose. The combination is very attractive, and would no doubt be prized by those who like particoloured flowers. Quite of another type are the clouded flowers of Dawn of Day and Lilias. The former is rather an unsatisfactory plant to grow, but it succeeds handsomely at Chiswick. The flowers get to large size, and are clouded, veined, netted or splashed with pale lilac-blue in a varying manner in different flowers. There must be some peculiarity of soil here which enables it to appear to such advantage, for in other suburban gardens it thrives but indifferently. The flowers of Lilias, on the other hand, are white, netted with sky blue on the upper petals, and on the edges of the rest. They are delightfully fragrant, and the plant is easy to grow.

Marchioness of Tweeddale is a free flowering white variety, but at some parts of the year it becomes splashed with light blue. Several good white and creamy white varieties have already been mentioned amongst those receiving three marks. A comparatively new variety is Annie King, of a soft lilac with a bronzy orange blotch extending down from the eye. It is a free bloomer. Of the paler blue varieties, none in our opinion excel Duchess of Sutherland, which may be described as lavender with the top petals faintly tinted with purple. It is extremely floriferous all through the season. In some collections we have seen it for years under the names of Mrs. Turner and Bessie Clark, which should go to prove its popularity. It is used to a considerable extent in the neighbourhood of London, at least for mixing with Pelargoniums in bedding designs, for which the somewhat rambling stems are well adapted, while the flowers offer a most beautiful contrast to the foliage of bicolor Pelargoniums.

Amongst dark blue kinds we should mention the free flowering Holyrood, the rich violet blue of Archibald Grant, the violet purple of Archibald Cameron and the dark blue purple of Mrs. C. Turner already mentioned. From thence they graduate to the crimson purple of Crimson King and the reddish purple of Trentham Purple. The rosy William Neil, quite indispensible, has already been mentioned. Amongst good yellow varieties, Ardwell Gem and Lord Elcho have also been noted. Wonder forms a beautiful contrast to Ardwell Gem in its close, erect habit. If not crowded by other plants, nor too closely grown by itself, it is also very dwarf and flowers from the earliest spring till late in the autumn. It has gone off rather badly at Chiswick this year, but we are familiar with its capabilities in other gardens, and should not dispense with it. The flowers are primrose yellow with a darker lip. Many growers consider Bullion the best yellow for bedding

purposes, on account of its free flowering properties and golden yellow flowers; but unfortunately when examined at close quarters, the flowers are seen to be badly formed. The two lateral petals reflex away from the lip, detracting from the refinement of the flower, but with this exception it is a most desirable bedder.

In an early issue, we intend to give an account of the beautiful race of rayless Violas, both the large types and the miniature forms raised and sent on trial by Dr. Stuart of Chirnside, N.B. Those above described have been sent by Messrs. Dobbie & Co. of Rothesay, N.B. We should like to see the culture of beauitful Violas greatly extended, no matter what the types are. Nor have we any desire to prescribe limits to any good race whatever.

A SUBURBAN BANK HOLIDAY FLOWER SHOW.

The fourth annual show of the Beddington, Carshalton, and Wallington Horticultural Society was held on Monday last in Carshalton Park under most favourable circumstances. The society had issued a well-considered schedule, and this, with other attractions not closely identified with horticulture, brought together a good company, so that there should be no uneasiness as regards the financial results. The most attractive feature of the show this year was a new class included in the schedule at the instigation of Mr. A. H. Smee, who provided the prizes, and which might with great advantage be introduced into the schedules of other societies, particularly those which have for their object the advancement of the working classes in rural districts. The competition was for the best dinner for five persons—a working man, his wife, and three children, the menu to include at least two vegetables, the value of each dish to be stated, and the whole not to exceed two shillings.

This novel class brought out a strong competition and the various "spreads" were judged by points, the following being the maximum scale:—soup, eight; fish, eight; entrees, ten; roast or boiled meat, pudding or pie, ten; vegetables, twelve; sweets, six; fruit pudding or pastry, six; savoury or cheese, six; bread, four; salad, four; sufficiency, four; cost, six; and skill in preparation, twelve; or a grand total of ninety-eight points. The first prize was won by Mrs. Stevens with fifty-four points. This exhibitor put the cost of her dinner at two shillings, and for this sum she provided soup, pressed beef, scarlet runner beans, custard, potatos, plum tart, and bread. These, with the exception of the potatos, could hardly be beaten so excellent were all the other dishes in quality. The beef was garnished with parsley and beet cut in thin slices, and with the exception named these viands were fit to be set before anyone. The second prize went to Mrs. Barr who had a breast of mutton, Potatos, cheese, bread, rizine milk pudding, Apple tart, bread and butter pudding with Currants, vegetable marrow, lettuce, and extract of herb beer, of the exhibitor's own make. This exhibitor scored fifty-one points, and may be considered a close second, while well ahead of the third prize winner, Mrs. Evans, who had sheep's head, potatos with white sauce, bread, scarlet runner beans, tapioca pudding, and mutton broth with pearl barley. Extra prizes were awarded to Miss Culverhouse, whose exhibit consisted of cutlets dished up on rice decorated with cooked tomatos and sliced lemon, potatos, bread, and five apple dumplings; and to Mrs. E. Davis, who had stewed beef with carrots, cabbage, potatos, bread, and plum pudding, the whole costing 1s. 6½d. Mr. Smee himself set up a table, on which each article was most daintily dished up, and included cheese, butter, mackerel, meat pie, bread, scarlet runner beans, and potatos, the total cost of which was 1s. 9½d. The table was set off with flowers, and the viands calculated to tempt the most fastidious appetite, and the whole served as an object-lesson of first-rate importance.

Another important competition was for nine distinct vegetables to be arranged on a 4 ft space, called forth the best energies of the judges, most of the exhibits being of a high order of merit. £5 was offered to be divided proportionally with the points of merit awarded to the collections, each exhibit to include a selection from the following: nine tubers of Potatoes, three Cauliflowers, nine Onions, thirty-six pods of Peas, twenty-four pods of Broad Beans, six Carrots, three Marrows, fifty Kidney Beans, three Cabbages, six Parsnips, six Turnips, and Parsley admissible for garnishing. The vegetables throughout the show were, with few exceptions, very good indeed, and under the trying circumstances attending the prolonged drought, reflected the highest credit upon those who contributed to this fine display. Looking round a show of this kind, it is rare, indeed, that we do not notice some striking illustrations of the right and the wrong way of doing things, and there was an instance of this here in class nine, in which a prize was offered for six herbs, distinct kinds. With one exception the bunches of herbs were shown in a loose, untidy way, and withered, while the first prize lot were shown in a basket, and fresh as they were in the garden. In the classes for Onions, too, a few bulbs were shown which were fearfully mutilated by the roots being more than cut off, and some of the samples would have been much improved by a little more cleaning.

In the classes for window plants there where shown Ivy-leaved and Zonal Pelargoniums Fuchsias, tuberous rooted and ornamental foliaged Begonias, Gloxinias, Ferns, and Isolepis, and with few exceptions, these were good examples of careful cultivation; but while the poorness of the Zonal Pelargoniums in one or two instances was very noticeble, the Tuberous Begonias were on the whole good. In the fruit classes good examples of Gooseberries, Black, Red, and White Currants, Cherries, Plums, Apples and Pears, were shown, but for the prizes offered for Grapes, Melons, Peaches, &c., there was a poor competition. Tomatos were plentiful and good throughout the show, Sutton's Perfection and Ham Green Favourite seeming to be the favourite kinds in the district. A row of Tomatos in pots grown with single stems ran down the centre of one tent and produced a pleasing effect, being well done. The miscellaneous groups, arranged for effect on a space of 80 square ft., occupied a considerable amount of space in one tent, and the whole reflected great credit upon the exhibitors, both for skill in cultivation and taste in arrangement. Mr. Cummins, gardener to A. H. Smee, Esq., was placed first with a well displayed group, consisting of Orchids, Ferns, and other fine foliaged plants, and a plentiful use of Orchids gave him an advantage over the others, and his setting up was also better. Mr. J. H. Stevens took the second prize with a well-arranged group, conspicuous in which were good examples of the Campanula pyramidalis. Mr. Glover was third with a good, but somewhat heavy, arrangement, in which Hydrangea paniculata figured conspicuously. At each end of the centre table of one tent was placed a group of Salpiglossis, looking exceedingly bright and pretty. If exhibitors of miscellanous groups would only grow a few of these and use them, they would sometimes much improve the appearance of their exhibits by introducing a few of them.

At five o'clock there was a conference presided over by E. J. Halsey, Esq., chairman of the Surrey County Council, and Mr. J. Wright gave a most interesting address, which was listened too very attentively by a crowded audience. Having a few good object-lessons on the table before him, Mr. Wright dwelt briefly on judging by quality rather than mere size, illustrating his point with samples of Vegetable Marrow taken from the first, second, and third prize lots, the first prize being fair sized examples, tender, and good for cooking, the second larger and harder skinned, while the third were very large and hard skinned. His next illustration was a Potato plant grown with a single stem, strong and robust, with a splendid crop of fine tubers. Then he showed a plant with several stems, all weak and with a miserable, worthless lot of tubers. This was to show the superiority of high cultivation over ordinary and careless methods. Then taking up samples of Apples, he again illustrated the economy of high over poor cultivation by showing that the crowded small fruit were not only worthless, but owing to the fact of their taking a much larger percentage of mineral constituents from the soil than good marketable fruits do, they actually cost more to produce.

Among miscellaneous exhibits was a group of fine foliage and flowering plants contributed by the Messrs. Peed, of Streatham; a splendid bunch of Harrison's Pink Celery, the only example of this vegetable in the show; a stand of cut Roses from Mr. Wm. Taylor, Osborn's Nurseries, Hampton; and a group of cut hardy flowers from Mr. King, of Beddington. The distribution of prizes at eight o'clock brought a very enjoyable day's outing to a close. I took notes of the prize-winners in most classes, but have not particularised many of them, for the reason that to do so at these local shows is only to fill up your pages with matter which is of interest only to those in the immediate locality.—*G.*

THE MARQUIS OF HUNTLY ON COTTAGE GARDENING.

The Marquis of Huntly made a happy little speech in opening the Insch Flower Show on Saturday, 5th inst. After returning his warmest thanks for the hearty way in which he had been received, and the kind words spoken of him by Mr. A. M. Gordon, of Newton, in introducing him, his lordship avowed his ignorance of horticulture, taking comfort to himself in the knowledge that Scotchmen in the old days must have known little about flowers, or surely they would have selected for their national emblem a different badge from the Thistle. Flower shows, he considered, infused a spirit of emulation which incited to industry and to the improvement of the produce of the garden. He was glad to know that the Insch Horticultural Society was so well supported by the neighbouring proprietors.

There was nothing that had made more progress in the county of Aberdeen than cottage gardening, and, he made bold to say he looked with more favour upon the giving of gardens to the cottars and the encouraging of cottage gardening than he did upon small holdings. He believed there was a large population who would be more satisfied with cottages and cottage gardens, and would also be better remunerated, than they would be with small holdings. Referring to the people of Aberdeen, Lord Huntly was of opinion that while they could not be so well up in horticulture as people living in the country, they at least showed a strong liking for flowers, and by way of illustration he alluded jocularly to their anxiety while on holiday to annex the flowers by the wayside. He hoped the association would continue to prosper.

Major Leith proposed a vote of thanks to Lord Huntly for opening the exhibition, and alluded to the benefits to be derived from the cultivation of window-grown plants. The vote was enthusiastically agreed to. The show was one of the best that has been held under the auspices of the association, the pot plants, flowers, and vegetables being in many classes above the standard of former years, while fruits, particularly Gooseberries and Apples were large sized and of good quality.

FLOWER SHOW AT EARL'S COURT.

The exhibition on the 9th and 10th inst. was devoted to displays of flowering and foliage plants, and kindred subjects arranged for effect, as well as for cut flowers. Singularly enough there was only one class for fruit, but the miscellaneous exhibits of that kind added largely to the appearance of the show, which was held as usual in the large tent in the western gardens. One of the lines of staging was removed to make more room for the large groups of stove and greenhouse plants, Crotons, herbaceous subjects, and Lilies, which were effectively arranged in semi-circular groups along one side of the tent. Concurrently with this another line of staging was widened to accommodate the numerous miscellaneous exhibits. It was the general opinion of all who saw the plants when put into place that they had never been more tastefully displayed. It must be acknowledged that no plants are calculated to produce more charming effects than well arranged banks of hardy flowers.

The first prize for a group of flowering and foliage plants, arranged in a space not to exceed 200 ft., was awarded to Messrs. J. Laing & Sons, Forest Hill, who had an effective display of Palms, Crotons, Caladiums, Alocasias and others, enlivened by tuberous Begonias, Gloxinias, Orchids, Liliums, Campanula pyramidalis, Achimenes, and other subjects in flower. The first prize in the amateurs' class, for a large group, was awarded to Mr. G. Wythes, gardener to the Duke of Northumberland, Syon House, Brentford. Palms, Asparagus, Celosias, Tuberoses, and Campanulas were the features of the group. Mr. C. Turner, Slough, had the only group of Liliums, and was accorded the first prize. They consisted of Lilium speciosum and its varieties, and

L. longiflorum Harrisi. Mr. W. Howe, gardener to H. Tate, Esq., Park Hill, Streatham Common, was the only exhibitor of a group of Crotons and Dracænas, and received the first prize. He was rather hampered for room, so that his group took an oblong shape. The Crotons were particularly well coloured. The first prize for a collection of hardy herbaceous flowers was taken by Messrs. Paul & Son, Cheshunt, who had a most conspicuous group of Phloxes, Lilies, Roses, Sunflowers, Statices, and others. The Statices were worked in amongst the others in great profusion, and added much to the general effect. The second prize went to Mr. E. F. Such, Maidenhead, who made a bold attempt at original display in a somewhat concave bank rising behind with a gorgeous set off with Gailiardias mixed with Asparagus. An extra prize was awarded to Messrs. J. Laing & Sons, who certainly had a very meritorious group arranged in the usual style, it was more than half circular rising gradually behind, and besides the Lilies, Phloxes, Gaillardias, Roses, Lobelia splendens Victoriæ, and other things in season, they had some German Irises as a second crop of bloom. The first prize for herbaceous flowers in the amateurs' class was awarded to Mr. G. Wythes, who had Phloxes, Hydrangea paniculata grandiflora, pyramidal Bellflowers, Lilies, and others. Mr. G. H. Sage, gardener to Earl Dysart, Ham House, Richmond, was second with a more extensive collection, including some fifty varieties in fresh and attractive condition. The collections of twenty-four varieties of hardy herbaceous plants made a fine display, and contained masses of Phloxes, Sunflowers, Echinops ruthenicus, Malva moschata, Rudbeckia purpurea, Statice latifolia, Anemone japonica, Montbretia Pottsii, Conopsis lanceolata, Veronica longifolia subsessilis, one of the finest of all, Chrysanthemums, Gladioli, Chelone barbata, Dracocephalum speciosum, Achillea Eupatorium, Lilium chalcedonicum and others too numerous to mention. These displays should encourage the more extended cultivation of a most useful and not expensive class of plants which thrive and flourish satisfactorily even in dry seasons like what the present has been and is again renewed as dry and hot as ever. The first prize for twenty-four bunches was awarded to Messrs. Paul & Son, Mr. M. Cuthbertson, Rothesay, Scotland, being a good second. Mr. E. F. Such took the third place, but his flowers were not very tastefully displayed in this case. The first prize for twelve bunches in the amateur's class was awarded to Mr. A. Newell, gardener to Sir E. Sanders, Fairlawn, Wimbledon Common. Mr. G. H. Sage was a good second, having fine bunches of Malva moschata alba and others already named. The third prize went to Mr. G. Wythes who had a large bunch of Nymphæa alba, and another of Anemone japonica alba in his group. An extra prize was awarded in this class to Mr. E. Tickner, gardener to John Watney, Esq., Shermanbury House, Reigate. There were seven entries in the class.

The first prize for six dishes of hardy fruit was awarded to Mr. G. Wythes who had Apples, Pears, Peaches, Nectarines, Plums and Morello Cherries. Mr. G. H. Sage took the second award, he had three dishes of Plums, but added a fine dish of Mulberries. Mr. T. A. Hester, gardener to W. G. Dawson, Esq., The Links, Plumstead Common, took the third place.

In the miscellaneous class a large and effective display of hardy herbaceous plants was made by Messrs. Barr & Son, Covent Garden, on a raised bench ascending in terraces and occupying most of one end of the tent. The salient features of the collection were Lilium tigrinum splendens, late flowering Phloxes, Sunflowers, Statice latifolia, Eryngiums of various species, Rudbeckia speciosa, Pentstemons, Balsams, Gladioli, Veronicas, and the bold effective Reed Mace (Typha latifolia), with long black beads. (Silver Medal.) An extensive display of Gladioli was made by Messrs. Kelway & Son, Langport, Somerset. The collection included many new varieties of exquisite colour, with six to twelve open blooms on a spike and numerous buds. Cannas, Belladonna Lilies, Veronica longifolia subsessilis, Gaillardias, and other herbaceous plants formed part of the same exhibit. (Silver-gilt Medal). A bold and effective group of Campanula pyramidalis, with its white variety, edged with ferns and tall Panicums, was set up by Mr. J. Hudson, gardener to the Messrs. de Rothschild, Gunnersbury House, Acton. (Silver-gilt Medal.) A side table was occupied with hardy flowers by Mr. M. Cuthbertson. Phloxes, Iceland Poppies, Gaillardias, early Chrysanthemums, Gladioli, and Delphiniums were the prominent features of this exhibit. (Silver Medal.) Cut foliage of choice deciduous trees and shrubs, some in flower or fruit, and including Ampelopsis Veitchi ruffordensis, Acer platanoides Schwedleri and many ornamental Conifers, was exhibited by Messrs. W. Barron & Son, Elvaston Nurseries, Borrowash, Derby (Silver Medal). A collection of 100 spikes of Hollyhocks, cut full length, with their foliage all perfectly free from disease, and all consisting of named sorts, was set up by Mr. John Forbes, Buccleuch Nurseries, Hawick, Scotland. He also had a large group of East Lothian Intermediate Stocks in half-a-dozen varieties grown in pots. They formed tall plants with numerous spikes of bloom (the first spike being over). About 80 per cent of them came perfectly double, and the colours were distinct with no trace of striping. Antirrhinums and Penstemons were also specialities (Silver Gilt Medal). A tasteful lot of Cactus, Pompon, single, and other Dahlias, as well as Sweet Peas, was shown by Messrs. J. Cheal & Sons, Crawley, Sussex (Silver Medal). Some stands of show Dahlias, in fine condition, were exhibited by Mr. J. Walker, Thame, Oxon, (Silver Medal). Messrs. J. Cheal & Sons also had an attractive display of ornamental Gourds, Apples, Pears, and Plums, the Apples being finely coloured (Silver Medal). A collection of Apples, neatly displayed in baskets and plates, were shown by Messrs. S. Spooner & Sons, Hounslow, Middlesex (Silver Medal). Mr. R. Nicholas, gardener to Earl Fortescue, Castle Hill, South Molton, North Devon, exhibited eleven huge Pineapples (Silver-gilt Medal). Mr. Alfred W. Young, 137, Holmesdale Road, South Norwood, exhibited cut flowers of Begonias and Gloxinias (Bronze Medal). A fine collection of Apples, Grapes, Peaches, Plums, Tomatos, Pears, Mulberries, etc., was shown by Mr. J. T. Hoar, gardener to T. J. Cooper, Esq., The Grange, West Molesey, (Silver Medal). Roses and herbaceous plants were shown by Messrs. Paul & Son, Cheshunt, (Silver Medal. Twenty-two dishes of fruit including grapes, Melons, Peaches, Plums, Cherries, Apples, &c. were shown by Mr. A. H. Rickwood, gardener to the Dowager Lady Freake, Fulwell Park, Twickenham. (Silver Medal) Mr. T. A. Hester, gardener to W. G. Dawson, Esq., exhibited a good collection of Apples, Pears, Plums, Cherries, Peaches, Apricots, &c. (Silver Medal). Cut flowers of Chrysanthemums, including five blooms of Edwin Molyneux, Annie Clibran, Elaine, Admiral Symonds, Marie Hoste, C. Wagstaff, Mary Anderson, and several others were exhibited by Mr. A. McMillan, Trinity Cottage, Edinburgh. He also had four plants bearing three to four large blooms each, and all in fresh condition (Silver Medal). A small but interesting group of Lily of the Valley for the season of the year, was exhibited by Mr. T. Jannoch Dersingham, Sandringham (Silver Medal). Begonia semperflorens Vernon's, Caraguata cardinalis, a new Carnation named Stanstead Beauty, and others were exhibited by Messrs. J. Laing & Sons. A table of various floral arrangements was arranged by Miss Lilian Hudson, Gunnersbury House, Acton. Some of the taller devices were bold and effective (Silver-gilt Medal). A splendid dish of Peaches was shown by Mrs. Pocock, Cranford Gardens, Cranford, (Bronze Medal). Seedling Cucumbers were shown by Mr. F. K. Eames, Cross Roads, Twickenham.

PALM GROWING IN UNITED STATES.

One hundred and ten thousand feet of glass, and every foot earning money, is a sight worth going miles to see. The above florist's dream is to be found at Henry A. Dreer's establishment at Riverton, New Jersey. Outside in the large grounds surrounding the houses the same condition of affairs exists. Every available foot of ground is filled up with "up to date" varieties of plants, and all in good condition. We feel we are safe in saying that this is not only the largest, but also the most successful, nursery of its kind in this country. Palms and Ferns are to be seen here by the million, in all stages of growth and in the greatest variety. Cocos Weddeliana is grown in large quantities, the annual sowing being some 100,000 seeds.

"The demand for Cocos," said Mr. Eisele, who kindly conducted us through the houses, "already large, is constantly increasing, thousands being used for dinner table ferneries alone. A notable feature of this Palm is that freezing the seed does not seem to affect the germ. We received a consignment of seed last winter, which you can see came up very well, nearly, if not all, the seed germinating, and yet it had withstood for two or three days a temperature of 28°. The seed comes from Brazil, and is probably gathered in mountainous districts, where they may have occasional frosts. It is quite different with the Areca; if the seed of this speces is subjected to a temperature of 40° for any length of time, it is sufficient to chill the seed to such an extent as to destroy the germ.

"The last lot of Palm seed received came in sealed tin lined cases, packed in a material that looked like sawdust; it was just a trifle moist, and started the seeds to swelling, so that they are now commencing to germinate, although they have only been planted since the 1st of July. There are 50,000 Areca seeds in this lot and they look very promising. I hardly like to say what the result would have been in case of delay in the delivery."

"You still import, do you not?"

"Yes, more than ever, mostly Kentias and Latanias; we can never hold on to the young stock long enough to get it above a 5-in. or 6-in. pot."

"Is it not cheaper to import the larger sizes than to grow them?"

"No; they can be grown profitably here, but the demand has been so great for all kinds of Palms, particularly the larger sizes, that we have to go to European markets to supply it. There are two ways to get up a stock of large Palms; one is to put up a prohibitive price on the growing stock, and as the plants grow raise the figure until the required size is reached. The other is to fill a house or range of houses with selected stock which is not to be sold until it has attained the desired size."

"What varieties of Palms sell the best?"

"Arecas and Kentias are now the leaders: the Latania held the van for a long time, and there is more of it sold every year, but the demand for the others has increased to such an extent that they are now the most popular Palms. Four houses in this large range, which is 100x130, are filled with Arecas in the centre and Kentias in the side beds."—*American Florist.*

THE SWEET PEA.

It would be interesting to know what was the exact character of our charming Sweet Pea when first introduced from Sicily about 200 years ago; but we may reasonably suppose the original form was purple in colour, because Philip Miller, writing about thirty years afterwards, speaks of it as the "broad-leaved, hairy, soft chickling, with a large and very beautiful purple, sweet-smelling flower, commonly called sweet-scented Peas." Chickling is an old common name applied to Peas, but not much in vogue in our days.

The Sweet Pea is Lathyrus odoratus. Lathyrus is derived from la, to add to, and thorous, an irritant to increase excitement, referring to the supposed qualities of the seeds. It is an annual; that is to say, it grows, flowers, and dies away in the space of a year; though it is not an uncommon practice to treat the Sweet Pea as a biennial, sowing the seeds at the end of the summer or early autumn, preserving the plants through the winter, and flowering them in summer, before the plants obtained from seeds sown in spring can come into bloom. During the first century of its culture in this country the varieties increased but slowly, as a very reliable catalogue of annuals published in 1817 gives but six, obtained, there is no doubt, from sports; and up to twenty years ago the increase of varieties was very slow indeed. Then it occurred to a very intelligent and enterprising gardener—Mr. Henry Eckford—to try to increase the varieties by cross fertilisation, and he has succeeded to a remarkable degree; at the present time it would not be difficult to obtain as many as fifty varieties, the results of Mr. Eckford's praiseworthy work; and while giving us new colours and combinations of colours, he has greatly improved the size and substance of the flowers also. The Pea, though it seeds freely, does not readily lend itself to artificial fertilization, because the organs of generation are contained in a petal which takes the shape of a keel, and which holds them firmly in its grasp. The flower, when it is artificially impregnated, has to be taken at a certain stage of its youth, and the pistil

has to be liberated from the keel before it can be operated upon. Mr. Eckford accomplished the same work with culinary Peas that he has with the sweet-scented varieties, and is doing so still and with the best results. There is this peculiarity about the impregnated Peas—supposing the ripened seed pod contains eight Peas, no two of them scarcely will produce plants exactly alike, and from a pod can be obtained dwarf and tall growing types, round and wrinkled varieties; the colour of some in a ripe state white or cream, others green, and others a mixture of cream and green. Pea flowers that have not been impregnated by artificial means may be expected to produce their kind, though some amount of sportiveness occasionally takes place. Sweet Peas have varied in the same way, and a fertilised pod has been found to produce several distinct varieties.

NEW VARIETIES OF SWEET PEAS.

I have before me, as I write, a catalogue of Sweet Peas issued by Mr. Eckford. It contains forty-two new varieties of his own raising, and as during the last few days he has exhibited a dozen more, some idea of the extent of his work may be obtained. Of his newest varieties which have been distributed, I may mention Mrs. Eckford, delicate shaped primrose, a colour in sweet peas of which our forefathers never dreamed even; Dorothy Tennant, pucy violet or blue, a charming variety; Emily Eckford, reddish mauve, approaching a true blue—very fine indeed; Lady Penzance, very bright rose, extra fine; Blushing Beauty, soft pink, suffused with violet; Firefly, glowing crimson, very fine and showy; Countess of Aberdeen, delicate blush; Venus, Salmon buff, delicately shaded with rose pink; a very distinct and beautiful variety; Lady Beaconsfield, salmon and rose, the wings pale yellow; Stanley, a deep maroon self, which has been described as by far the finest dark variety yet raised; Royal Robe, delicate blush pink; Ovid, bright rosy pink, a very pleasing flower; Gaiety, the standards white, striped and flaked with bright rosy lilac; and Duke of Clarence, rosy claret, the wings shaded with violet, very fine. Of older standard varieties of Mr. Eckford's raising, I may mention Mrs. Gladstone, delicate pink and blush; Imperial Blue, blue shaded with mauve; Cardinal, bright shining crimson scarlet; Orange Prince, bright orange pink; Mr. Sankey, pure white; Senator, creamy ground, striped and flaked in violet, very fine; Captain of the Blues, bright purple and pale blue; Princess Victoria, dark cerise and mauve-pink; and Splendour, rich, bright, pinkish-rose, extra fine, which I take to be one of the most useful varieties Mr. Eckford has raised. Here, then, is a list of varieties which, if anyone would grow next season, they would find to be not only extremely ornamental in the garden, but valuable for cutting from. The introduction of so many new and pretty varieties of Sweet Peas has given a great impetus to their cultivation, and Mr. Eckford reports that it is necessary he should harvest seeds by the ton in order to supply the demand; indeed, in most gardens, one can now find some patches of Sweet Peas.

CULTURAL NOTES—PREPARING THE GROUND.

If anyone would grow fine blooms of Sweet Peas the soil must be good; it should be deeply dug and well manured some time before the time for sowing arrives, and then it should be thrown up rough for the elements to operate upon it.

SOWING THE SEEDS.

When the time comes round for this, all that is necessary is to fork the ground over, making the surface fairly fine; then to draw a seed drill with a hoe, about 3 in. deep, and sow the seeds very thinly in it. The Sweet Peas appear to be more branching in character than the culinary varieties; and as a general rule these fragrant Peas are sown so thickly that they actually starve each other, and thus the period of bloom is lessened. But where the plants can stand singly in well-manured ground, they grow strongly, produce very fine flowers, and bloom continuously. Mr. Eckford recommends that when the seeds are sown they be covered with 2 in. of soil, and when the young plants begin to appear, to go along the row with one foot on each side of it, treading down the soil and making it thoroughly firm for a distance of 18 in. on each side of the row. A sowing can be made in the open as early as February, with successional sowings in April and May. When the plants are large enough they should have Pea-sticks placed on either side to give the plants necessary support.

Sweet Peas can be sown in an open border early in September, provided it is in a sheltered position, as against a wall or fence. If the plants can be brought in safely through the winter they grow strongly, bloom freely and earlier, and are invariably finer in quality than when sown in spring. To sow Sweet Peas at any time in poor ground is courting failure. It is worth a journey to Wem to see the individual plants of Sweet Peas Mr. Eckford grows. The possibilities of branching in a Sweet Pea are by no means understood, and they are usually sown so thickly that the plants cannot branch, which is their natural bent, as they would if more room were given them.—*R. D.*

GARDENING MISCELLANY.

HOW TO CURE TOBACCO.

FIRST: Pull the leaves off the main stem where quite free from moisture; lay them on each other until a pile about 1 ft. or 15 in. high is made; several piles will be required for a moderate supply. Second: Take them to a *dry* loft or room, and place them side by side, closely, so that a piece of board can be laid flat on the top, and on this a few stones or weights, the object being to press the leaves firmly enough to bring about *slight* fermentation. This serves to turn the leaves yellow, and care must be taken that the fermentation is only *slight*. Third: Spread all out singly on a dry floor or shelf for several days (away from sun heat): about ten days will suffice. Fourth: Sprinkle very lightly (or steam the leaves); this done, pack them together as before and press for a few days; *slight* fermentation will again take place, but be very careful to see that the leaves do not rot, which will be the case if they were wetted much in sprinkling. Fifth: Spread the leaves out again until dry and brown, when, if the work has been properly done they may be packed closely in a box and pressed by placing a slate with a few bricks on the top to keep all firm. The leaves which I cured in this way were excellent for fumigating plants, and as an old smoker who tried some in his clay dhudee said, "Tis werry good."—*A. J. D., Mount Ballan.*

CAMPANULA OR PLATYCODON.

GARDENERS always deprecate the changing of old-established names, even in cases where the name is erroneous, but when a good, or correct and old-established name is altered surely they have cause to grumble. A case in point occurred at the meeting of the Royal Horticultural Society on the 25th ult., when Platycodon grandiflorum Mariesii was exhibited under the name of Campanula. Now if Platycodon is to be placed under Campanula, then there are numerous other genera of plants belonging to the Bellflower family which ought to suffer the same fate. But this should neither be encouraged nor permitted. For instance there are species of Wahlenbergia, Microcodon, Leptocodon and Codonopsis, as well as Platycodon which all agree with one another in having fruit which bursts at the top between the calyx lobes, whereas the fruit of Campanula opens by pores below the calyx, in fact near the base. There are several genera of plants more nearly related to Campanula, and all scattering their fruits in the same way. Many of them have flowers closely resembling those of a Campanula, yet there is no desire nor necessity for altering the names to Campanula, for this would only make confusion worse confounded. The changeing of Platycodon would lead some to suppose it to be a new plant, which they probably have already got. This sort of thing should be discouraged.—*A. Gardener.*

MEDALS AS PRIZES.

I WAS amused by your remarks last week as to the practice of giving medals as prizes, a practice which is most objectionable when they are offered without any money accompaniment. When, however, a medal is added to a money prize which is worth competing for, it does become of some value as a record of the successful competitor having won a certain prize. Of course, the offering of medals by trade firms is simply one method of gaining a cheap advertisement, and I think compilers of schedules are much to blame for allowing it to be done. When applications are made by people who wish to offer medals, I always advocate giving them a chance of offering money to the value which the medals are said to be worth, and if that is not agreeable, refuse to accept the medals altogether. I have often noticed that one firm not only offers nothing but medals, but surround them with such a lot of special conditions as to quite bar any ordinary gardener from competing. I think there are very few people, except specialists, who have the time when they ascertain the name of any particular plant or flower to further inquire where it was raised and who raised it.—*G. H. S.*

ORCHID NOTES AND GLEANINGS.

Aerides Leonis expansum.

SOME of the species of Aerides are notable for their agreeable fragrance, no less than the beauty of their flowers, and as they last some time in bloom their presence in the Orchid houses is very acceptable at this season of the year. That under notice flowered finely for some time past in the nursery of Messrs. J. Veitch & Sons, Chelsea, and has both a delicious fragrance and beautiful flowers to recommend it. The latter are produced in arching or drooping racemes, and have white sepals and petals faintly shaded with rosy-purple at the margin, and slightly spotted at the base. The three-lobed lip has the lateral lobes spreading falcate, and white spotted with purple; the terminal lobe is reflexed at the sides, serrate round the apex, and deep purple fading almost to white near the base. The varietal name would apply to this spreading character of the lobes of the lip, and which in many species of Orchid are closely infolded over the face of the column, as in O. odoratum and others. Some of the winter flowering species are notable for their fragrance in winter as this is in summer.

SOCIETIES.

Royal Horticultural, *August 8th.*—The exhibits were both numerous and extensive on Tuesday last. Orchids were not so plentiful as at former meetings, as they are now mostly out of season, but stove and greenhouse plants, Begonias, Gladiolia, Hollyhocks, Campanulas, Phloxes, and other hardy herbaceous plants were shown in abundance. Roses, Sweet Peas, and Carnations were also conspicuous, and as fresh as they were in the earlier part of the summer. Fruit was also shown in some quantity. A Silver Banksian Medal was awarded to Messrs. F. Sander & Co., St. Albans, for a group of Orchids, including fine pieces of Aerides Sanderiana, Calanthe Sanderiana, Vanda Sanderiana, Cypripedium Thayerianum, and the curious Grobya Amherstiana, with flowers of singular form. A similar award was accorded to Sir Trevor Lawrence, Bart. (gardener, Mr. W. H. White), Burford Lodge, Dorking, for a smaller group of Orchids, including showy kinds like Aerides Lawrenciana Sanderiana, Miltonia spectabilis, Lælia elegans Turneri Purple Prince, Cattleya blessensis, Cypripedium Ano-superbiens, and the curious and beautiful Schomburgkia Lyonsii, having the sepals and petals variously combined, and the latter often appearing absent. He had also a showy collection of a strain of Gladiolus named G. Childsi, with large and expanded flowers, in several cases showing distinct traces of G. Sanderianus, which had no doubt been used in the parentage. The flowers were notable for their large size and rich colours. Forming part of the same group was a collection of Cannas, also notable for the size and rich colour of the flowers. All were cut from the open ground. Masdevallia Lowii, a very distinct type, was shown by R. J. Measures (gardener, Mr. H. Chapman), Cambridge Lodge, Camberwell, who also had Cypripedium Youngianum, richer in colour than in other cases of the same plant; and C. Numa superbum, Lælia elegans Schilleriana Johnsonii, and other varieties of this type, were shown by Thomas Statter, Esq. (gardener, Mr. R. Johnson), Stand Hall, Manchester. A new hybrid Lælia named Novelty was exhibited by Messrs. J. Veitch & Sons, Chelsea. The small flowered and sweet scented Earina suaveolens was sent over from the Royal Botanic Gardens, Glasnevin. Flowers of the beautiful Oncidium spilopterum were shown by W. J. Thompson, Esq. (gardener, Mr. W. Stevens), Walton Grange, Stone, Staffs. Cattleya granulosa Schoffieldiana and a Miltonia were exhibited by Major Joicey (gardener, Mr. F. J. Thorne), Sunningdale Park. He also had a well-flowered piece of Vanda Sanderiana, bearing eleven open flowers on a spike. A plant of Saccola-

hium Blumei majus, hearing a lengthy spike of bloom, was exhihited hy Mr. Owen Thomas, of the Royal Gardens, Windsor.

A Silver-gilt Banksian Medal was accorded to Messrs. J. Laing & Sons, Forest Hill, for a large group of stove and greenhouse plants, including Palms, Dracænas, Caladiums, Strobilanthes Dyerianus, Begonia semperflorens Vernons, the beautiful New Holland plant Baberingtonia camphorosma, and Abutilon Souvenir de Bonn. A Silver Flora Medal was accorded to Messrs. H. Cannell & Sons, Swanley, Kent, for a group of tuberous Begonias, single and double, including a long line of the douhle white Octavie in a floriferous condition. A Silver Flora Medal was awarded to Messrs. Kelway & Son, Langport, Somerset, for a large collection of Gladioli, many new kinds, some of which were certificated. They also had a collection of Sunflowers, Eryngium planum, Gaillardias in some quantity, and other herbaceous plants. A Silver-gilt Banksian Medal was accorded to the Messrs. de Rothschild (gardener, Mr. J. Hudson), Gunnershury House, Acton, for a large group of Campanula pyramidalis in blue and white varieties, all of which were well grown and flowered in pots. Messrs. E. D. Shuttleworth & Co., Fleet, Hants, exhihited Phloxes, Pentstemens, Lilies, Gladioli, and other herbaceous plants as well as Roses, and were accorded a Silver Banksian Medal. A Tropæolum named Boule d'Or, a Cockscomb named Sunrise and other flowers were shown by Messrs. Dickson, Chester. A group of greenhouse Ferns, Begonias, Coleus Distinction, and other subjects was shown by Mr. C. Holden, 61, Warwick Road, Ealing. Clethra alnifolia, C. speciosa, and Roses were exhibited by Messrs. Paul & Son, Cheshunt, and they also had a larger collection of cut Roses, Lilies, Begonias, Cannas, and hardy herbaceous plants, for which a Silver Flora Medal was awarded. A new early flowering Chrysanthemum named Lady Fitzwigram with white flowers, and Pelargonium Mrs. Wright were exhibited hy Mr. H. J. Jones, Ryecroft Nursery, Hithergreen, Lewisham. A large collection of Sweet Peas in named varieties was exhibited by Messrs. Dohhie & Co., Rothesay, N.B., as well as a collection of Carnations, which must still he gay in the cooler climate of the north. Being somewhat novel thus late in the season, and the Sweet Peas neatly arranged in hunches, a Silver Flora Medal was awarded. A group of dwarf Antirrhinums, some Cactus Dahlias, early Chrysanthemums, and orange and orange-scarlet flowers of tuberous Begonias were exhihited by Messrs. H. Cannell & Sons. A Silver Flora Medal was awarded to Mr. John Forbes, Hawick, Scotland, for a large collection of Hollyhocks cut with the full length of their stems, and forming the finest exhibit of this popular old flower that we have seen in London for some twenty years. All were named varieties, including many fine ones, and were remarkable for their clean foliage and absence of disease. A small group of Caladiums, a Croton, and a Dracæna, several of which were certificated, was exhibited by Mr. Bause, South Norwood; Lilium elegans Batemannæ L. Ukeyuri, Milla hiflora, &c. were exhibited hy Mr. T. S. Ware, Hale Farm Nurseries, Tottenham. A collection of Cactus, Pompon, show and single Dahlias, as well as Pentstemons, and Sweet Peas was staged by Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, Sussex, for which a Silver Banksian Medal was awarded. A collection of very fine varieties of Cannas was exhibited by Messrs. Vilmorin-Andrieux & Co., Paris. Some well-flowered hunches of Tecoma grandiflora were exhihited by Mr. Beasley, gardener to the Right Hon. Lord Ashcombe, Denbies, Dorking, for which a Cultural Commendation was accorded. Hedera Helix tesselata was shown by Miss Browning-Hall, Algiers. A pot plant of Primula Poissoni was exhihited by G. F. Wilson, Esq., F.R.S., Weyhridge and Wisley.

At a meeting of the Fruit and Vegetable Committee, a Silver Knightian Medal was awarded to Messrs. J. Veitch & Sons, Chelsea, for a collection of hardy fruit, including Apples, ornamental Siherian Crabs, Pears, Morello Cherries, and Plums; of the latter there were 33 dishes, mostly, if not all, different varieties. They also had some fruiting trees of Peaches in pots. A Silver Banksian Medal was awarded to Mr. R. Nicholas, Castle Hill Gardens, South Molton, for a group of eleven large Pine Apples. Melons were shown by Mr. W. Palmer, Cobden Villas, Andover; by Mr. Thomas Webster, gardener to R. H. Murray, Esq., Spinfield, Great Marlow; hy Mr. T. W. Sansom, Widworthy Court Gardens, near Honiton, Devon; by F. C Carr-Gomm, Esq. (grower, Mr. A. J. Reid), Farnham Chase, Farnham Royal, Slough; and by Mr. Geo. Wythes, Syon House, Brentford. A new ridge Cucumber named Baker's Triumph was shown by Messrs. Jarman & Co., Chard. A collection of ornamental Gourds was exhihited by Messrs. J. Cheal & Sons, showing great variety. They also showed a collection of Apples, Pears, Plums, and ornamental Crabs, for which a Silver Banksian Medal was awarded. The Apples were particularly well coloured. A hox of Tomatos was shown hy Mr. A. G. Freer, Nelson Nursery, Nelson Road, New Brompton, Kent. A Silver Banksian Medal was awarded to Mr. Owen Thomas, Royal Gardens, Windsor, for a collection of Peaches, Nectarines, Apples, Pears, and Melons.

WHAT TO DO IN THE GARDEN.

Dracænas.—Specimens that have seen good service and are now getting too tall to be admissible in most ordinary kinds of decorative work may have their tops taken off and rooted. In the case of very hard-wooded kinds, such as D. Goldieana, or large-lieaded specimens, it would be safer, perhaps, to ring them just under the leaves and place two halves of a pot round them, filling the same with some light material till roots are formed, and then remove the already rooted plants.

Crotons.—Plants in pots so small that they could not be expected to winter well, may have a shift now, and they will get sufficiently estahlished before the short and sunless days arrive to pass the winter safely. Continue to strike good strong shoots of well-coloured and narrow-leaved kinds so as to furnish a stock of small plants for decorative purposes.

Gloxinias.—As late batches of Gloxinias come into hloom and show the quality of the flowers, mark those that are worthy of preservation for early flowering next year. It is of no advantage to keep old and exhausted tuhers when good batches can be quickly and easily raised from seeds.

Gardenias. — Continue to syringe the plants freely, with the object of keeping them clean and healthy. Some cultivators, if they have the convenience of pits in which they can plunge them, take off the lights in the evening so as to expose them to the night dews and induce the plants to rest and ripen their wood.

Hard-Wooded Plants.—Many hard-wooded greenhouse plants will ripen their wood better if now removed to the open air and stood on a bed of ashes, to prevent the ingress of worms, for the next six weeks or more according to the state of the weather. There will be less danger now of the roots next the sides of the pots getting injured through the heat of the sun as they would a few week ago.

Azaleas, Heaths, etc.—Should we have much sunshine, hut more especially drying winds, after these plants are placed in the open air, it will be necessary to give great care to watering for a time, as the soil, especially on the top and round the sides of the pots, soon gets dried up after removal to the open air.

Show and Fancy Pelargoniums.—The earlier batches that were cut hack some time ago will now have hudded sufficiently to be ready for repotting. Shake out the roots and reduce the ball to such an extent that smaller pots may suffice for a time. Trim the roots if necessary, and use good fibrous and mellow loam with a little sand for repotting them. No water heyond syringing will he required for a week after repotting.

Zonal Pelargoniums.—All plants intended for winter flowering should be kept in the open fully exposed to sunlight and sufficiently far apart to avoid all crowding. The pots may he plunged to advantage, hut on the proper exposure of the plants to sunlight will depend the ahility of the plants to flower well when taken indoors. Well ripened, short-jointed wood is all essential.

Calceolarias.—In order to have good plants for spring-flowering the sowing of the seeds should no longer he delayed. Sow the seeds in pans of mellow, loamy soil, made smooth on the top, and after sowing sprinkle some fine material over the top to keep the seeds in position. Cover with a pane of glass and shade from bright sunshine till the plants are up, when they should be well exposed to light though not to direct sunshine.

Vines.—The present is a good time to remake the horders of the early vinery where such is necessary. Should there be an inside and an outside horder, only one of them should he renewed now, leaving the other till next year. Before commencing have all the necessary material to hand, including loam, hones, charcoal, and brick-bats for fresh drainage. Cover this drainage with a layer of turf placed upside down, and replace the roots in such a way that they will be 9 in. below the surface. Then cover them up and tread the soil firm. Keep the house rather close for some days, and shade if necessary till the roots commence to grow afresh.

The Orchard House.—While the fruits are still ungathered from trees grown in this house the foliage must not be wetted. Should red spider show itself after the fruits have been gathered the remedy can readily be applied by means of clean water and the garden engine. Pinch any strong growing shoots that the trees may be making. Trees requiring repotting may have this operation accomplished any time now after the fruit is gathered, but before the leaves fall.

Strawberries.—Runners layered in pots should now be ready for transferring to their fruiting pots. Four parts of good fihrous loam to one of good farmyard manure will constitute a good compost in which to pot them.

Propagation of Hardy Plants.—Pansy cuttings may now be put in, especially where they are wanted for pot culture in spring. Phloxes may be increased by the division of old plants, but it is a good plan to raise young plants from cuttings for making fresh plantations, and the present is a good time to do it. Pentstemons likewise if inserted in boxes now will make nice plants before spring. Rooted cuttings of Alyssum saxatile, Arabis, Aubrietias, Erysimums, and other subjects for spring hedding may be planted out in the reserve garden.

QUESTIONS AND ANSWERS.

NAMES OF PLANTS.—*D. Rymer*: Aerides quinquevulnera, and Catasetum macrocarpum. *H. F. R.*: The annual is Gilia androsacea otherwise known as Leptosiphon androsaceus. The spiny plant is Centaurea Calcitrapa, a British weed on chalky soils. *Enquirer*: 1, Acer Lobelii; 2, Rohinia Pseud-Acacia; 3, Lonicera Xylosteum. *P.M.*: 1, Paparer orientale; 2, Artemesia vulgaris variegata; 3, Centaurea montana alha; 4, Anchusa italica; 5, Bupthalmium salicifolium; 6, Lindelophia spectabilis; 7, Helianthus decapetulus; 8, Aconitum variegatum; 9, Chrysanthemum latifolium, often called C. lacustre.

NAMES OF FRUITS.—*H. W.*: Plums: 1, Mitchelson's; 2, Old Orleans; 3, Kirke's; 4, Denyer's Victoria.

WASPS.—*W. S.*: The method of destroying wasps' nests most commonly adopted is to get some gas tar in a zinc pail or other vessel, dips some rags into the tar, thrust them into the entrances to the nests and set fire to them. It is of course not advisable to do this until after dark when most of the wasps are at home. Another plan is to dissolve ahout half-a-pound of cyanide of potassium in sufficient boiling water to cover it. Saturate some pieces of cotton wool in the poison and push them with a stick into the entrances to the nests, nearly closing the apertures. In half-an-hour's time dig out the nest and destroy them. Cyanide of potassium is a dangerous poison and must be carefully handled.

GLOXINIAS FOR EARLY FLOWERING.—*Pinkie*: We understand that you refer to old tubers which you are keeping over for another year. If so withhold water as the leaves are ripening off, and when the latter have thoroughly withered up stand the pots in some dry, warm house or corner of a house where they will not he subjected to drip. They will die if you put them in too cold a house as they are tropical plants. Ahout the end of January or some time in Fehruary shake out the tuhers and pot them up singly in small pots in a compost of loam, leaf soil and peat. The soil used should he fairly moist so that little or no watering heyond syringing will be necessary till they have started into growth. As the small pots get filled with roots, shift the tuhers into flowering pots, ranging from 5 in. to 8 in. in diameter according to the size of the tuhers, taking care not to hreak the hrittle leaves.

BOUVARDIAS.—*Pinkie*: You can prevent your plants from flowering simply hy pinching out the tips of the shoots whenever, or even hefore, they show flower huds. Lift and pot them ahout the middle of Septemher or later according to the weather, and place them in an intermediate house with a temperature ranging from 45° to 50°. After the turn of the year, pinching should be discontinued and the plants watered occasionally with weak liquid manure to stimulate them into good growth.

STRIPED FRENCH MARIGOLDS.—*Dobbie & Co.*: An exceedingly fine strain, which we have often much admired.

TREE FERNS.—*Pinkie*: The tree fern stems should have been packed in moss when being sent home, to prevent them from getting dried up on the journey. Small or young stems are more likely to get dried up and killed than large ones, which have more substance to retain the moisture. The usual method of dealing with them when they arrive is to pot them up, and stand them in a warm fernery where they will not at first require much water at the roots, but the stems must frequently be syringed with water at the same temperature as that of the house, to encourage them to put out fresh growth. If the stems have hitherto been kept dry for a long time the chances are much against them being alive now. We expect they are species of Alsophila or Dicksonia, and after being started into growth an intermediate or even greenhouse temperature would suit them.

COMMUNICATIONS RECEIVED.—W.K.—G.W.C.—S. & S.—G.L.—P.M.—J.S.—B.L.—W.H.S.—R.—W.S.—L.G.—W.B.G.

TRADE CATALOGUES RECEIVED.

JAMES VEITCH & SONS, King's Road, Chelsea, S.W.—Hyacinths and other Bulbous Roots.

JOHN DOWNIE, 144, Princes Street, Edinburgh.—Dutch Flower Roots.

DICKSONS & CO., 1, Waterloo Place, Edinburgh.—Bulbs and Plants for early forcing.

WM. CLIBRAN & SON, 10 and 12, Market Street, Manchester.—Dutch and other Bulbs, etc.

JOHN PEED & SONS, Roupell Park Nurseries, Norwood Road, S.E.—Bulbous Flower Roots.

WILLIAM SYDENHAM, Tamworth.—Pansy List, 1893.

WILLIAM KENYON, Walmersley, near Bury, Lancashire.—Select list of Carnations and Picotees.

JAMES DICKSON & SONS, 32, Hanover Street, Edinburgh.—Selected Hyacinths and other Spring Flowering Bulbs.

COVENT GARDEN MARKET.

August 9th, 1893.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples..... per bushel	1 0	6 0	Plums.....½ sieve	1 6	2 6
Filberts, per 100 lb.	30 0	35 0	Melons ... . each	1 6	2 6
Grapes, per lb.	0 9	2 0	Pine apples.		
Peaches ... per dozen	3 0	8 0	—St. Michael's, each	2 6	6 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, per lb.	0 4	0 6	Lettuces ...per dozen	2 0	3 0
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 0	1 6
Cabbages ... per doz.	3 0	4 0	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Cauliflowers, Eng. dz.	3 0	5 0	Radishes... per dozen	1 6	
Celery.....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers .....each	0 4	0 8	Spinach ... per strike	4 0	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	2 0	4 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Bouvardias, per bun.	0 6	1 0	Mignonette... 12 bun.	2 0	4 0
Carnations...per doz.	1 0	3 0	Pelargoniums, 12 sps.	0 6	0 9
doz. bunches.....	4 0	8 0	— scarlet.....12 bchs.	3 0	6 0
Cornflowers, dz. bun.	1 6	3 0	Pyrethrum doz. bun.	1 6	4 0
Eucharis ...per doz.	3 0	6 0	Primula, double, bun.	0 6	1 0
Gardenias 12 blooms	2 0	4 0	Red Roses, doz. bhs.	3 0	8 0
Gladiolus White, dz bn	12 0	18 0	Roses, yellow, dozen	2 0	4 0
Heliotropes, 12 sprays	0 4	0 6	— Red..... doz. blms.	1 0	1 6
Lavender...doz. bun.	4 0	8 0	— Saffrano...per doz.	1 6	2 0
Lilium Harrisii, doz. blooms	2 0	4 0	— Tea ..... per dozen	0 6	2 0
Lilium speciosum doz. blooms	1 6	3 0	Stephanotis, dz. sprays	2 0	3 0
Maidenhair Fern, 12 bs.	4 0	6 0	Sweet Peas, doz. bhs.	3 0	6 0
Marguerites, 12 bun.	2 0	4 0	Sweet Sultan, dz. bhs.	2 0	4 0
			Tuberoses, per doz	0 4	0 6

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Campanula, per doz.	6 0	9 0	Liliums, various, per doz.	12 0	24 0
Cissus discolor...each	1 6	2 6	Lobelia .....per doz.	3 0	4 0
Cyperus .....per doz.	4 0	12 0	Marguerites, per doz.	6 0	12 0
Dracæna term., doz.	18 0	36 0	Nasturtiums, per doz.	3 0	4 0
Dracæna viridis, doz.	9 0	18 0	Mignonette, per doz.	4 0	6 0
Evergreens, invar. doz	6 0	24 0	Palms in variety, each	2 6	10 0
Ferns, invar., per doz.	4 0	18 0	Palms, Specimen ...	15 0	63 0
Ferns, small, per 100	4 0	8 0	Pelargoniums ... doz.	6 0	12 0
Foliage Plants, doz.	12 0	60 0	— scarlet.....per doz.	3 0	6 0
Fuchsia .....per doz.	6 0	9 0	Rhodanthe .....doz.	4 0	6 0
Hydrangea, per doz.	9 0	18 0			
Ivy Geraniums...doz.	4 0	6 0			

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FLOWER SHOWS, 1893.

Revised to date.

AUGUST.

15,16.—Cardiff Flower Show.
16.—Bishop's Stortford Flower Show.
16.—Eling (Hants) Flower Show.
16.—Reading Flower Show.
16.—Kingswood St. George Flower Show.
16.—Salisbury Flower Show.
16, 17.—Bilston Flower Show.
17.—Parsonstown (King's Co.) Horticultural Society's Show.
18.—Devon and Exeter Horticultural Society.
18, 19.—National Co-operative Flower Show at the Crystal Palace.
22.—West Malvern and Mathon Flower Show,
23, 24.—Shrewsbury Summer Show.
23, 24.—Gladioli Show at Earl's Court.
25.—Royal Horticultural Society of Ireland.
29,30,31.—R.H.S., Agricultural Hall.
30.—Easingwold Flower Show.
30, 31.—Bath Autumn Show.
31.—Thame Flower Show.

SEPTEMBER.

1,2.—National Dahlia Society's Show at the Crystal Palace.
2.—Stretford Flower Show.
2.—Bridge of Allan Flower Show.
5, 6.—Brighton Autumn Show.
6,7,8.—National Chrysanthemum Society at the Aquarium.
8.—Bute Rose Show at Rothesay.
12,26.—R.H.S., Drill Hall.
13,14.—Royal Caledonian Horticultural.
13, 14.—Dahlia Show at Earl's Court.
27.—N.C.S. Floral Committee.
27 28, 29.—Hardy Fruit Show at Earl's Court.
27, 28.—County of Gloucester & Cheltenham R.H.S.

OCTOBER.

10,24.—R.H.S., Drill Hall.
11,12,13.—National Chrysanthemum Society at the Aquarium.
25.—N.C.S. Floral Committee.
28,29.—Havant Chrysanthemum Show.

NOVEMBER.

1,2.—Kent County Chrysanthemum Show.
1,2.—Battersea Chrysanthemum Show.
1,2.—Barnstaple Chrysanthemum Show.
1, 2.—Steyning Chrysanthemum Show.
2,3.—Forest Gate and Stratford Chrysanthemum Show.
2,3.—Ascot Chrysanthemum Show.
2,3.—Highgate Chrysanthemum Show.
2,3,4.—Cornwall Chrysanthemum Show.
3,4.—Grimsby Chrysanthemum Show.
6.—St. Neots Chrysanthemum Show.
7,8,9.—National Chrysanthemum Society at the Aquarium.
7,8.—Easthourne Chrysanthemum Show.
7, 8.—Brighton Chrysanthemum Show.
7,8.—Kingston Chrysanthemum Show.
7,8.—Sevenoaks Chrysanthemum Show.
7,8.—Leeds Paxton Society's Chrysanthemum Show.
8.—Evesham Chrysanthemum Show.
8.—N.C.S. Floral Committee.
8, 9.—Bath Chrysanthemum Show.
8,9.—Barnsley Chrysanthemum Show.
8, 9.—Brixton, Streatham, etc., Chrysanthemum Show.
8,9.—Bournemouth Chrysanthemum Show.
8,9.—Bath Chrysanthemum Show.
8, 9.—Dalston Chrysanthemum Show.
8,9.—Guildford Chrysanthemum Show.
8, 9.—Northamptonshire Chrysanthemum Society.
10.—Exeter Chrysanthemum Show
10.—Windsor Chrysanthemum Show.
10,11.—Derby Chrysathemum Show.
10,11.—Bradford Chrysanthemum Show.
11.—Bacup Chrysanthemum Show.
11.—Batley Chrysanthemum Show.
11.—Crewe Chrysanthemum Show.
14, 15.—Ipswich and East of England Chrysanthemum Show.
14, 15.—Plymouth Chrysanthemum Show.
14,15.—Croydon Chrysanthemum Show.
14,15.—Hartlepool Chrysanthemum Show.
14,15.—Cardiff Chrysanthemum Show.
14,28.—R.H.S., Drill Hall.
15.—Ealing Chrysanthemum Show.
15.—Reading Chrysanthemum Show.
15,16.—Birmingham Chrysanthemum Show.
15,16.—Bristol Chrysanthemum Show.
15,16.—Cranbrook Chrysanthemum Show.
15,16.—Great Yarmouth Chrysanthemum Show.
15,16.—York Chrysanthemum Show.
15, 16, 17.—Hereford Fruit and Chrysanthemum Show.
16, 17, 18.—Edinburgh Chrysanthemum Show.
16, 17.—Royal Horticultural Society of Ireland.
17.—Crediton Chrysanthemum Show.
17,18.—Stockport Chrysanthemum Show.
21,22.—Manchester Chrysanthemum Show.
22.—Beverley Chrysanthemum Show.
22,23.—Dundee Chrysanthemum Show.
23,24.—Norwich Chrysanthemum Show.
24,25.—Eccles Chrysanthemum Show.

DECEMBER.

5,6,7.—National Chrysanthemum Show at the Aquarium.
12.—R.H.S., Drill Hall.

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For Index to Contents see page 810.

"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, AUGUST 21st.—Trade Sale of Dutch Bulbs at Protheroe & Morris' Rooms.
TUESDAY, AUGUST 22nd.—West Malvern and Mathon Flower Show.
WEDNESDAY, AUGUST 23rd.—Shrewsbury Summer Show (two days).
Gladioli Show at Earl's Court (two days).
THURSDAY, AUGUST 24th.—Trade Sale of Dutch Bulbs at Protheroe & Morris' Rooms.
FRIDAY, AUGUST 25th.—Royal Horticultural Society of Ireland.
Orchid Sale at Protheroe & Morris' Rooms.

The Gardening World.
Edited by BRIAN WYNNE, F.R.H.S
SATURDAY, AUGUST 19th, 1893.

THE HEAT.—The present summer is maintaining its record splendidly, and the recent warmth, really of the most tropical kind that we have long experienced, has still further helped to redeem our climate from its ancient reputation. Certainly, let the summer break up when it may, we shall have to admit that it has been one of the grandest within remembrance. But the recent heat has done wonders in relation to harvesting and maturation. In all directions the ingathering of the harvest has been most rapid, and whilst in that respect the farmers have gained much, labour has lost. Still the fine weather, in assisting such rapid harvesting in ripening up the Corn so bright and hard, has done very much to help recompense for the moderate Corn crops found in some other directions.

Whilst the heat has been so generally felt the rains have been less generous to all. We could, at the moment of writing, do with several hours of steady rainfall everywhere, except in those favoured districts, especially in the west, where there has been abundance. The air is highly charged with electricity, and at any moment there may be heavy downpours; but then these are at best but temporary changes, which pass away as speedily as they come, and still leave the summer gloriously beautiful. We see on every hand the season's growths on trees and shrubs of all descriptions maturing and ripening admirably, and where the fruit crops are light the drought is not trying the trees too severely and there is every reason to hope that fruit buds will be stout and plentiful for cropping next season.

The heat is, as it were, killing both moulds and various other plant diseases. We hear nothing of any moment respecting the Potato disease, and although it does now seem certain that the tuber crop must be a moderate one, absence of size will be largely compensated for by soundness and an entire absence of rot of any description. Somehow, and in spite of the drought the winter green crops look very well and there is every prospect that vegetable food will be abundant in due time. Really, whilst we are having magnificent weather, we have after all but little to find fault with in other directions.

MARKET APPLES.—There is so abundant a crop of Apples and they are so early in maturing this season, that prices are unusually low. We had good evidence of that the other day from an extensive grower, who said that whilst he had never before sold gathered Lord Suffields for less than three and sixpence to four shillings per bushel, now he could not obtain more than two shillings and sixpence. We have no doubt whatever, but that many householders would like to be able to purchase so cheaply. Instead of which, however, when they go to market in their humble way they are charged 2d. per pound, or about 8s. per bushel, so that the consumer profits little by the low price the unfortunate grower obtains; but then that is nearly always the case.

Very likely the present prices of Apples are somewhat affected by the numbers that fall from the trees, for such rains as we have had have hardly touched tree roots. The fruits too are rather smaller than usual, and samples have much to do with prices. Without doubt prices for all hardy fruits will for a short time rule low. Apples especially have an enormous crop of Plums to compete with, but these will have disappeared in a few weeks, and then Apples will be more in request. No doubt many who have been looking for special profits on their fruit will be disappointed, but a very abundant crop is seldom remunerative, whilst the best paying is invariably that which is the finest and best grown.

If prices on the one hand should cause some intending planters to pause, on the other hand the heavy crops of the year will give encouragement. No doubt good samples of the later Apple gatherings will pay well, but there must be no undue haste to sell.

SOME GOOD FUCHSIAS.—We were much interested recently, in looking over a large collection of Fuchsias in a provincial nursery, to see how many fine new sorts have got into commerce, and how large, free and beautiful, many of them are. Fuchsias are not grown in this nursery in the least degree as specimens, but in large quantities as small bush plants in 48's, some of them having been in that sized pot for four or five years. All that is required of them is to produce cuttings in the spring, and these they give in abundance. The plants are put into gentle warmth and then as fast as tops are formed these are taken off, set thickly into shallow boxes filled solely with common surface sand, into which they root freely, and from these boxes the rooted cuttings are lifted, packed in a little moss and sent out by thousands.

If the stuff is cheap it is stout and good, and being soon worked off gives little trouble. It is a pleasure to learn that such a big demand still exists for Fuchsias, due largely, no doubt, to their great popularity

as bedding plants. We could hardly look upon the collection without feeling some of the spirit of the old war horse raging within us, and longed to be able to grow specimens as in the days that are passed. Would that hundreds of gardeners would try to do this again.

A remarkably fine selection, beginning with doubles, would include Duchess of Edinburgh, grand white corolla, and a noble flower; Mathias Duval, violet corolla; Archimede, dark purple corolla; Beauty of Cleveland, giant double white; Monument, striped rose and purple corolla; Molesworth, very free and fine white; Papin, dark violet; and T. Desbois, blue corolla. Of singles, Le Verrier, plum corolla; M. Joule, navy blue; Display, wonderfully, free deep red; Delight, white corolla; General Roberts, crimson and plum, a fine variety for pillars; Improved Rose of Castille, first rate; Lye's Perfection, carmine corolla, very beautiful; and Mrs. F. Glass, white, pink corolla. That is a selection of sixteen sorts very hard to beat, and well worthy the attention of any grower who may wish to improve upon his existing stock of Fuchsias.

A New Knight.—The Queen has been pleased to confer the honour of Knighthood upon Dr. J. H. Gilbert, F.R.S., who has been associated for more than fifty years with Sir J. B. Lawes in the agricultural experiments conducted at Rothamsted.

Judges at Chicago.—The Horticultural Judges appointed by the British Royal Commission for duty at the Chicago Exhibition were Mr. George Nicholson of the Royal Gardens, Kew, and Mr. C. F. Sander, St. Albans.

Mr. Richard Staward, Langlee Gardens, Galashiels, has been engaged as gardener to John Cockburn, Esq., Glencorse House, Milton Bridge, N.B.

A Remedy for Wasp Stings.—A correspondent of a daily paper recommends the following simple remedy for wasp stings: Cut an onion in half and apply the cut part to the wound. This will be found to give instant relief, and has been tried with success also for bee stings. Another correspondent recommends that the wound be immediately wet and have a piece of common soda applied to it.

Mr. J. A. Cox, for over nine years foreman at Aldenham House, Elstree, has been engaged as gardener to the Hon. A. Holland Hibbert, Munden Park, Watford.

Mr. J. Golding, for seven years gardener at Sharcombe, Wells, has become gardener to Mrs. Roe, at Kendall Hall, Elstree.

Beech Mast Oil.—The crop of Beech-masts in the State forests of France are valued this year at £170,000. In the British Isles and the United States this nut goes to waste. In France it is carefully gathered in the last week of September and the first of October and taken to oil presses. The oil extracted from the Beech-mast is the most delicate in flavour, and the least liable to clog or turn rancid. When the number of Beech trees in a State forest is not great in any particular district the Beech-masts are given away to the poor people of the place. Beech-mast oil is dearer than the oil of the Provence olive, and French cooks and mechanics prize it highly.

An Oddfellows' Flower Show and Fete.—For the tenth year in succession the August Bank Holiday was set apart in Frome, Somersetshire, for the Floral and Horticultural Exhibition and Fête, held under the auspices of the "Loyal True Briton" Lodge of Oddfellows, and in many respects the show was the most successful of the whole series. The weather was all that could be desired; the exhibition was decidedly the best, in point of entries, quality of the exhibits and tasteful arrangement; and the number who passed the turnstiles and the total receipts were nearly equal to last year, the amount received being £126 4s. 2d. The exhibitions have been the means of adding over £100 to the Lodge Benevolent Fund, and the committee have a substantial sum in hand to meet such contingencies as a wet day.

Horse Racing at Flower Shows.—A South Durham paper offers a timely protest against what it regards as an attempt to organise something like a "leather-flapping" race meeting in the limited space of an exaggerated circus ring in conjunction with flower shows. It appears that during a race of this character at the Middlesbrough Flower Show, one of the riders, owing doubtless to the acuteness of the turns, was thrown from his horse and sustained injuries of so serious a character that he had to be removed in a cab to the North Riding Infirmary. Notwithstanding this warning, the promoters of the North Ormsby Show subsequently risked the hazardous experiment, with the result that one of the riders was thrown, and required the attentions of two doctors.

New Plants Cerificated in Ghent.—At the last meeting of the Syndical Chamber of Belgian Horticulturists, held in Ghent, Certificates of Merit were awarded to Mr. L. Desmet for Carludovica palmæfolia and Poinsettia pulcherrima variegata; to Mr. A. Van. Imschoot for Anguloa eburnea, Lælia elegans Turneri, Cattleya Eldorado var. Wallisi, Cattleya Shepherdiana var., and Phajas Humboldti; to Mme. Henri de Warvin de Rouselle for Vanda cœrulea var.; to Mr. Szewczik for Begonia fulgens; to Mr. François Debois for Adiantum cuneatum var. and Philesia buxifolia; to Mr. Jules Hye for Cypripedium Youngi and Odontoglossum Schroderæ; and to Mr. J. Moens for Cypripedium Haynaldianum var. Malle. Clothilde Moens.

Agricultural Fertilisers and Feeding Stuffs.—The House of Commons Grand Committee on Trade have concluded their revision of the Fertilisers and Feeding Stuffs Bill, introduced by the Minister for Agriculture (Mr. H. Gardner). Sir J. Gorst presided. It was agreed that County Councils should be empowered to appoint officers to take, on behalf of buyers, samples for analysis of the products dealt with by the measure. It was resolved that any person fraudulently tampering with such samples should be liable to six months' imprisonment, and that the Board of Agriculture itself, as well as other parties mentioned in the measure, might prosecute under it. The Bill as amended was ordered to be reported.

The Hampton Court Vine.—The *Standard* having recently stated: "We believe it is tolerably well settled that 'the great grape vine' of Hampton Court was planted in 1763 by Lancelot Brown." A West Hampstead correspondent replies as follows:—"I only know that I have always heard my late father say that the great vine at Hampton Court was planted by an ancestor of his, whose name was Robinson, and who most certainly was at Hampton Court, and that George III. presented him on the occasion with a snuff-box, which said box my father always treasured, and which I have, and value. It is tortoiseshell, inlaid with silver, and very pretty. Oddly enough, it is only about three weeks since I was speaking to a cousin about the great vine, and I said, 'Well, you know an ancestor of ours, a Mr. Robinson, planted that vine, and I have the snuff-box that George III., gave him when he planted it.' The reply was, 'Yes, I have always understood from my father (he was own cousin to my father, and one of his names was Robinson) that such was the case,' and the remark was made that I ought to have the fact engraved on the box. I have a mourning ring which my father always wore, and which I now wear, in memory of Thomas Robinson, Esq., died 18th April, 1810, aged eighty-four. I imagine that must have been the man."

Grand Yorkshire Gala.—A general meeting of the guarantors and life members of the above was held at Harker's Hotel, York, on the 11th inst., Alderman Sir Joseph Terry in the chair. The recommendation of the council that the sum of £251 be handed over to the York charities was approved. The sum of £175 was added to the reserve fund, bringing it up to £2,000, and the remaining balance carried forward to next year's account. Mr. Alderman Milward, who seconded the motion of adoption, congratulated the committee on the sum which had been devoted this year to charitable purposes, pointing out that the reserve fund of £2,000 being now completed, the profits of future years would be handed over direct to charity. The Chairman moved a vote of thanks to the Lord Mayor for accepting the office of president of the council, and for his donation of special prizes, the resolution being cordially carried. Votes of thanks were also given to Sir Joseph Terry, chairman of the council, Mr. E. Rooke, J.P., vice-chairman, and Mr. Jos. Wilkinson, hon. treasurer. Colonel Tomkinson (commanding 1st Royal Dragoons), and Col. Conyngham (1st Royal Scots) having been thanked for the services of the bands of their respective regiments at the gala, Mr. J. Welburn's courtesy in the provision of clerical and general assistance was suitably acknowledged, and thanks were further accorded to Messrs. Backhouse, Sutton, and other donors of prizes, and also to Mr. C. W. Simmons (secretary). The dates of the gala were fixed for next year as June 13th, 14th, and 15th.

Apple Trees Flowering.—It is somewhat extraordinary and worthy of record that at Gunnislake, in the West of England, there are numerous apple trees in blossom for the second time this year. In one garden there is a tree from which the fruit from the first blossoming has not yet been picked, and it is now in blossom the second time; and in another instance a cherry tree is in blossom. Truly the seasons are changing or Nature is.

The connection between fishing and gardening is not recognised as a rule, nor does it appear at the first glance that a combination of the two industries could be brought about with any practical result. Yet the attempt is now being made. The executive of the Cornwall Fisheries Exhibition now in progress at Truro have this week held a show of fruit and vegetables, as an auxiliary movement whereby fruit and vegetable culture may be fostered, thus adding to the somewhat precarious earnings of the Cornish fisher-folk. To this end the mild climate of the Cornish coast lends unrivalled advantages, and there is no reason why the idea should not be largely adopted. The flower and vegetable show was a great success.

"Mazzard" Fairs are peculiar, we believe, to Cornwall, and equally as peculiar is it that the common Mazzard (or Black Cherry) has proved scarcer at these fairs during the present than for many previous years, although Apples, Pears, Plums, and the like fruits have scarely ever been equalled in abundance or lowness of price. One writer of note has it that these Mazzard fairs recall an old celebrity who at one time had the monopoly of the Mazzard market, who, long before the days of railways, used annually to go to the Mazzard market on the borders of Cornwall and Devon and arrange with the growers for the supply to the various market towns of the west. She was the middleman (or woman), and everything depended on her will, so much so that on occasions when some of the sellers in various towns offended her, she punished them by not allowing them to have any Mazzards to sell, to the great discomfort of Mazzard-loving residents, who were obliged to forego their favourite fruit or to send to neighbouring towns to purchase. The middlewoman aforesaid was one who once seen would not soon be forgotten. She wore a gown and blue apron, and a man's rough jacket, hat, and thick boots, carried a cart whip, drove her horses in carts, and had a strong bass voice. A woman of character and determination, her life was a practical comment on "Women's rights"; genial to her friends, she was the terror of those who in any way opposed her.

Peter Lawson & Son, Limited.—In the report of the directors of this company the net profits on the past year's trading are shown to be £5,380 16s. 5d., to which £2,974 12s. 9d. is added, this amount having been carried forward from the previous year. A dividend of 10 per cent. per annum, free of Income Tax, was declared, this leaving £3,105 9s. 2d. to be carried forward to this year's account.

Ealing Gardeners' Society.—The members of this Society and their friends, to the number of sixty-one, held their fifth annual outing on Tuesday last. Leaving Ealing in the morning they took train to Taplow, and walked to the Thames banks at Maidenhead, from whence they went up the river by steam launch to Henley, and after luncheon there, visited the splendid gardens of Mrs. Noble, Park Place, Henley-on-Thames, under the able management of Mr. Stanton. They then returned to the steam launch, on board of which they partook of tea while the home journey was being effected, and catching the last train at Taplow for London, reached home after a very enjoyable day.

PLANTS RECENTLY CERTIFICATED.

THE various subjects mentioned hereunder were exhibited at the meeting of the Royal Horticultural Society on the 8th inst., when various awards were accorded them. The Orchids certificated at the same time are recorded under "Orchid Notes and Gleanings."

MONTBRETIA CROCOSMIÆFLORA PLENA. — The flowers of this variety may be described as semi-double, for although the centre is fairly well filled up the segments are by no means crowded. They are yellow shaded with orange, and heavily so externally. First-class Certificate. Exhibited by Sir Trevor Lawrence, Bart. (Mr. Bain gardener).

CANNA MICHELET.—The leaves are ovate and glaucous, and the plants are apparently dwarf, but as the specimens were cut from the open ground the height was not shown. The segments of the flowers are large, obovate, and of a rich crimson-scarlet. Award of Merit. Exhibited by Sir Trevor Lawrence. Bart. (gardener, Mr. Bain).

GREVILLEA BANKSII.—The leaves of this species are deeply pinnatisect with linear-lanceolate segments, rather widely separated, and in this respect it differs from the well-known Grevillea robusta. The plant is, however, equally graceful, and may in time become popular if it can be readily propagated from cuttings or if seeds are obtainable. First-class Certificate. Exhibited by Messrs. J. Laing & Sons. This plant also received a First-class Certificate at Earl's Court on the 9th inst.

CALADIUM PRESIDENT DE LA DEVANSAYE.—The leaves of this variety are moderate in size, shield-shaped, and of a uniform soft red, with exception of the principal nerves, which are carmine, and a slender, narrow edge, which is green. Award of Merit. Exhibited by Messrs. J. Laing & Sons.

BEGONIA SEMPERFLORENS VERNONS.—The leaves of this fine bedding variety are of a beautiful, bronzy-metallic-red, especially when grown in full exposure to sunshine. The glossy lustre which they possess adds much to their attractive appearance. Award of Merit. Exhibited by Messrs. J. Laing & Sons.

DRACÆNA ALEXANDER LAING.—The narrow and gracefully arching leaves of this variety are of a dark bronzy-metallic-green, with a red edge. The upper leaves are often wholly red, as in the case of D. terminalis. Award of Merit. Exhibited by Mr. C. F. Bause, South Norwood.

CROTON MADAME ERNEST BERGMAN.—The leaves of this attractive variety are oblong or narrowly obovate, and of a golden or almost orange-yellow, reticulated with crimson veins, and having small green patches between the veins. Award of Merit. Exhibited by Mr. C. F. Bause, South Norwood, who also exhibited and received an Award of Merit for Caladium President de la Devansaye, described above.

LIATRIS PYENOSTACHYA.—The flower stems of this composite attain a height of 3 ft. to 5 ft., and the flowering portion occupies 18 in. or more of it. The unbranched stems form dense, cylindrical spikes, covered with oblong, purple heads of flowers which commence expanding at the top of the stems, proceeding from thence downwards. The leaves are linear, and rather densely arranged. First-class Certificate. Exhibited by Messrs. Paul and Son.

PHLOX ETNA.—The flowers of this variety are of a dark orange-scarlet with a crimson eye, but as in the case of many other Phloxes that are highly-coloured, they are liable to fade or burn with the sun before they really drop. Award of Merit. Exhibited by Messrs. Paul & Son.

TRITOMA OSIRIS.—A plant of this grown in a pot had a stem 5 ft. high, bearing a dense, conical, elongated or cylindrical head of flowers. The latter are slender, drooping, gradually widened to the mouth, and yellow with orange filaments and yellow anthers; the latter appear when they burst. Award of Merit. Exhibited by Messrs. Paul & Son.

CANNA DUCHESS OF YORK.—The flowers of this variety are of large size, and golden-yellow, beautifully spotted all over with scarlet. The spots are more elongated on the small lower segment and practically form crimson stripes. Award of Merit. Exhibited by Messrs. Kelway & Son, Langport.

GLADIOLUS GROVER CLEVELAND.—The flowers of this variety are of a dark rose, deepening to scarlet towards the edges of the segments, which have a slender, white midrib to each. The small, inferior segment is white on the lower half. Award of Merit. Exhibited by Messrs. Kelway & Son.

GLADIOLUS ALFRED HENDERSON.—The flowers in this instance are of a soft scarlet-red with a medium purple stripe on the two lower segments. Twelve flowers were fully expanded and numerous others in bud. Award of Merit. Exhibited by Messrs. Kelway & Son.

GLADIOLUS DUKE OF YORK.—Here the flowers are of handsome proportions, and orange-red fading towards the centre. The two lower segments are silvery white with a purple band on each. Award of Merit. Exhibited by Messrs. Kelway & Son.

GLADIOLUS JOHN WARREN.—In this case the flowers are orange-salmon, with a few short scarlet stripes reaching from the edge inwards. The lower segment or often two of them have a crimson purple blotch just where they recurve. The throat is likewise crimson. Award of Merit. Exhibited by Messrs. Kelway & Son.

HOLLYHOCK AMARANTH.—The flowers of this variety are of good average or even large size, and perfectly double, forming a semiglobular mass of a deep rose colour. The petals are undulated. Award of Merit. Exhibited by Messrs. Webb & Brand, Saffron Walden.

HEDERA HELIX TESSELLATA.—The leaves of this Ivy are moderately broad and three-lobed, but often considerably elongated and ovate with a cordate base, deep green, and netted with yellow much in the same manner as Lonicera flexuosa aureo reticulata. Award of Merit. Exhibited by Miss Browning-Hall, Algiers.

CANNA KONIGIN CHARLOTTE.—Plants of this, at least when grown in pots, do not exceed 18 in. in height, bearing ovate, glaucous leaves. The flowers are large and bright scarlet, with a distinct yellow edge. Award of Merit. Exhibited by Mr. W. Pfitzer, Germany.

CANNA LOHENGRIN.—The flowers of this variety are large and of a uniform scarlet, with exception of the small recurved segment, which is striped with yellow. Award of Merit. Exhibited by Messrs. Vilmorin, Andrieux & Co., Paris.

CANNA GLOIRE D'EMPIL.—The segments of the flowers of this variety are large, obovate, and of a rich scarlet-red. Award of Merit. Exhibited by Messrs. Vilmorin, Andrieux & Co., Paris.

CANNA CAPTAINE DE SUZZONI.—The flowers of this sort are large and yellow, spotted with scarlet much in the same way as Duchess of York described above. Award of Merit. A dark variety named President Carnot also received an Award of Merit. Exhibited by Messrs. Vilmorin, Andrieux & Co., Paris.

NEW MELONS.

MELON ROYAL PRINCE.—This variety was obtained from Triumph crossed with Hero of Lockinge. The fruit is small, globular, and light yellow reticulated with grey. The flesh is white or slightly tinted with red, of great thickness relative to the size of the fruit, juicy, and sweet. Award of Merit. Exhibited by Mr. W. Palmer, Cobden Villas, Andover.

MELON COUNTY COUNCILLOR.—The seed parent of this cross was Triumph, and the pollen parent Blenheim Orange. The globular fruit is of small size and grey externally. The flesh is deep scarlet, of great thickness, and of rich aromatic flavour. Award of Merit. Exhibited by Mr. W. Palmer.

MELON HERO OF ISLEWORTH.—This was obtained from Wythe's Seedling crossed with Syon House. The fruit is small, globular, green, and heavily netted all over with grey. The flesh is thick, dark green, and of a rich aromatic flavour, quite different from those which are merely sweet like sugar and water. Award of Merit. Exhibited by Mr. G. Wythes, Syon House, Brentford.

Unseemly raid on a Garden.—On Friday last the fuse factory of Mr. Edward Tangye, of Redruth, (eldest brother of the Messrs. Tangye, of Birmingham, the celebrated engineers), took fire, and unfortunately the mob who assembled had the impression that the fire would extend to the vineries, than finer are not to be seen in the west. Acting on this impression the people played sad havoc, appropriating about a ton weight of fine Grapes and destroying the well-cultured vines, to say nothing of clearing the fruit trees in the well-kept garden, and when the police eventually got the upper hand of the people the destruction was found to be such that many years will not renew.

SCOTTISH ARBORICULTURISTS IN THE SOUTH.

THE large party of members of the Royal Scottish Arboricultural Society which left Edinburgh on the 7th inst., did not reach Windsor until past midnight, but all were ready for the early breakfast on Tuesday morning, and at half-past eight the labours of the day commenced. With Queen's weather favouring them the members of the society spent a delightful day in inspecting the ancient home of the Kings and Queens of England, and in walking and driving through the magnificent Royal domain, with its wealth of arboreal and other beauties. After viewing the glories of the Palace, the visitors were taken in charge by Mr. Owen Thomas and shown over the whole of the beautiful gardens, which extend to fifty-one acres within and without the walls. The practical gardeners of the company declared everything to be admirably organised and in perfect order, and the specimens of fruit and flowers which were seen growing outside and under glass were certainly admirable. The company, under Mr. Thomas's care, walked along the shady Castle slopes, and at every step saw something to interest them. A visit was next paid to the kennels, where the Queen's pet dogs were seen. Hard by was one of a vast number of splendid Elms growing in the Park, whose fluted bole was 20 ft. in circumference. A visit was next paid to the spot where stood a famous tree, namely, Herne's Oak, which readers of the "Merry Wives of Windsor" will remember is mentioned in that play. Unfortunately, that historic tree was blown down in August, 1863, but a month later the Queen planted on the spot where it stood an Oak sapling, and set forth the incident on a bronze tablet.

WINDSOR FARMS AND FORESTS.

The beautiful dairy erected at the Home Farm by Prince Albert in the 21st year of Her Majesty's reign was next inspected, and at the Prince's Shaw Farm the splendid stock was shown to the visitors. In this locality was seen the Jubilee Avenue, planted in that year by the Queen and members of the Royal Family. It consists entirely of Evergreen Oaks. After inspecting the Flemish farm, luncheon was served to the visitors in a large marquee erected in a field adjoining the house of Mr. Tait, land steward. Mr. Simmonds, surveyor of parks, presided, and gave the toast of "The Queen," which was received with loud cheers, as was also that of "The Prince and Princess of Wales and the other members of the Royal Family." Mr. John Methven, vice-president, in the unavoidable absence of the president, asked the members of the society to join with him in conveying to Her Majesty the Queen their respectful and heartfelt thanks for the gracious permission Her Majesty had accorded to them to visit the Royal domain of Windsor, and for the magnificent hospitality she had shown to them that day. He proposed that the society should send a telegram to Her Majesty at Osborne to that effect, and this was most cordially agreed to. To further add to the instruction and pleasure of the members during their drive, which was now entered upon, in the great park a neat little book, prepared by Mr. Simmonds for the occasion, was put into their hands at luncheon, and served as an admirable itinerary of the route. It may give some idea of the domain when it is mentioned that there are in it 42½ miles of gravel roads, 68 miles of grass drives, 78 miles of fencing, and ponds, one of which is the well-known Virginia Water, which covers an area of 130 acres. The company, among other things, saw the Prince Consort's Memorial Oak, planted by the Queen on the spot where Prince Albert finished his last day's shooting in 1861; a plantation of Maiden Oaks, about thirteen acres in extent, planted immediately after the Armada scare; William the Conqueror's Oak, which girthed 37 ft.; Queen Adelaide's Beech, and a number of fine old Pollard Oaks, near the forest gate. An inspection was likewise made of the Prince Consort's sawmills, the Royal Vine at Cumberland Lodge, which at present has 1,700 bunches of Grapes upon it, the Royal schools, and the statue of the Prince Consort. The drive was continued to Virginia Water, and at Belvedere Fort tea was served, and here, in commemoration of the visit, a Prince Albert Fir, presented to the society by Mr. A. Milne, of Messrs. Dickson & Sons, Hanover Street, Edinburgh, was planted by the president and council. The drive home took the party by the Cumberland Obelisk, the Rhododendron Rise, and the famous Long Walk, which is two and a half miles n

length, and Windsor was reached at half-past seven o'clock.

THE ANNUAL DINNER.

At eight o'clock the annual dinner of the society was held at the White Hart, under the presidency of Mr. John Methven, vice-president. Mr. Michie, forester, Balmoral, was croupier. The guests included the officials of Windsor Castle, who had contributed so much by their kindness to the enjoyment of the day; Mr. Harry J. Veitch, Chelsea; Mr. Forbes, Burnham Beeches; and Mr. Herrin, Dropmore. The toast of "The Queen" was again specially honoured, and the healths of the guides for the day, proposed by Colonel Bailey, was also cordially received. Mr. Simmonds proposed the toast of "The Royal Scottish Arboricultural Society," and spoke of the pleasure it had given them to receive so influential a society at Windsor. Mr. Methven replied. Mr. James Watt, J.P., Carlisle, gave "The Land Agents," which was replied to by Lord Salisbury's estate agent from Hatfield. Mr. Dunn, Dalkeith, gave the toast of "The English Arboricultural Society;" and Mr. Michie that of "New Members," which was replied to by the youngest member of the society, Mr. Annand.

CLIVEDEN AND DROPMORE.

On Wednesday morning the party visited the Duke of Westminster's woodlands at Cliveden, Lady Fortescue's estate of Dropmore, and the famous Burnham Beeches. Leaving Windsor at ten o'clock in a dozen well-filled breaks, the party drove through the town of Eton to Cliveden, where they were met by Mr. Nisbet, who acted as guide through the policies, and Mr. Harry J. Veitch. The Duke of Westminster, who was encountered in the course of the walk upon the terrace, was introduced to several members of the Council, and on the motion of Mr. Dunn a vote of thanks was given to his Grace for his kindness in opening the policies to them. The Duke, in a word, said he was very glad to see the Society.

The next place visited was Dropmore, which to the lover of conifers holds in England the same place in his regard as Murthly does in Scotland. It was made what it is by the culture and taste of the late Earl and Countess of Grenville, and it is worth a long day's journey to go to it to see growing, in many cases with unexampled luxuriance, representative specimens of all the known coniferous trees in the world. The visit to Dropmore was greatly enjoyed by all, and Mr. Herrin was cordially thanked for his kindness and attention.

The south-east road was then taken for East Burnham Beeches, amid the sylvan shades of which Mr. Harry Veitch hospitably entertained the party to lunch. Colonel Bailey, in proposing a vote of thanks to the guides of the day and to Mr. Veitch for his hospitality, expressed also the satisfaction of the company that the Corporation of the City of London had acquired so charming a spot for the citizens of London. The company then, under the charge of Mr. Forbes, the ranger, drove along many of the most charming of the grassy rides, and saw the most of the curious old pollarded Beeches, many of them from 500 to 700 years old, which are, however, too well-known to require description. On the way back to Windsor, the party made a call at East Burnham Park, the residence of Mr. Veitch, the grounds of which are at present being laid out in a beautiful way; and also digressed from the road to pay a hurried visit to the quaint old church and churchyard of Stoke Poges where the poet Gray wrote his world-famed "Elegy in a Country Churchyard." Windsor was reached at six o'clock, and an hour afterwards the large company journeyed over the South-Western Railway to Southampton, and made the South-Western Railway Hotel their headquarters for the next two days.

IN THE NEW FOREST.

On Thursday morning, crossing Southampton Water to Hythe at nine o'clock, the visitors took carriages there and drove to the Forest by way of Beaulieu Abbey, a most interesting ecclesiastical foundation of the thirteenth century, which, with the estate on which it is situated, now belongs to Lord Henry Scott, Baron Montagu, the eldest brother of the Duke of Buccleuch. Amid the ruins of the Abbey the party spent a short time. Shortly after leaving the pretty village of Beaulieu, on the Exe, the party found themselves in the New Forest. It was a lovely day, the sun shone brightly, the air was clear though oppressively hot, and the Forest scenery, looking its best, was correspondingly enjoyed. As the horses toiled along the yellow, gravelly roads, there was ample opportunity of surveying the scene. From a small pamphlet which the Hon. Gerard Lascelles kindly wrote for the benefit of the members of the Scottish Arboricultural Society, it appears that the present Forest comprises in all a tract of 92,395 acres. Of this vast area 27,658 acres are private property, and the rest are classified as follows:—Open heath and pasture, 40,478 acres; open lands with timber, 4,500 acres; enclosed plantations, 11,138 acres; open plantations, 6,532 acres; and freehold and copyhold of the Crown, 2,089 acres; the Crown belongings being thus something like 64,000 acres. Of this area, 4,500 acres are occupied by old woods, planted prior to the year 1700; 16,670 acres are under plantation of dates varying from 190 to 25 years of age; 11,000 acres are set down as rough pasture; and the balance has been described as "unfit for either agriculture, growth of timber, or pasture." The soil of the whole area is a flinty gravel, varying very much in quality, and though heather is growing everywhere, there is not in the New Forest anything like the peat deposits which are known in the Highlands of Scotland. From the Gorse-fringed road leading to Lyndhurst, the Forest capital, the eye wandered over great plains covered with Heather in richest bloom, with here and there a few scrubby trees breaking the flatness of the surface. At another point the view was bounded by plantations of Scots Fir, a tree which thrives wonderfully well on the poorest soil of the Forest, or by some of the other plantations of hardwoods. Then the carriages would drive into a tree-clad hollow, and emerge again into the open to disclose the same familiar aspects of scenery. Herds of cattle and ponies were frequently encountered; now and again a house was passed; but otherwise the solitudes seemed unbroken by life. Very few birds were seen, and of game hardly even a rabbit was visible. At the top of one of the stiffest hills which were encountered, a glorious prospect burst upon the sight. On every side, as far as the eye could reach, was

A MAGNIFICENT AMPHITHEATRE

of undulating woodlands, with the beech, already taking on its golden autumn hue, coming in well against the darker foliage, while right ahead, upon rising ground, could be seen the spire of Lyndhurst Church and the mansion-houses of the Chancellor of the Exchequer and Lord Londesborough. On the outskirts of Lyndhurst, situated in the very heart of the Forest, is a capital golf course, and as the carriages passed along the occupants gave a cheer to several players of the game who were encountered. The carriages drew up at the Crown Hotel about half-past twelve o'clock, and half an hour later luncheon was served in the New Forest Hall. Colonel Bailey presided, and the Hon. Gerald Lascelles was the guest of the Society on the occasion. The Chairman proposed the deputy surveyor's health, and afterwards that gentleman kindly showed the party over the Verderers' Hall, a building which dates from the time of Queen Elizabeth, and in which Forest Courts are still held for the settlement of common rights and the granting of shooting and other kinds of licences. One of the curiosities of the place, which was hung round with woodland trophies, was an oaken dock on which no tool had passed save an axe. In it forest defaulters have still to stand for trial. During the rest of the afternoon, under the kind escort of Mr. Lascelles, the party drove or walked through some of the more interesting parts of the Forest, examining the old and new plantations, admiring the show trees, and seeing for themselves how impossible it is to hope that woodlands open to cattle can reproduce themselves by natural means unless they are fenced. Perhaps, the most delightful woodland passed through in the course of the day was the Mark Ash Wood, some 300 acres in extent in which are growing Beeches dating from the days of the Tudors. These two had been pollarded in their youth, and though they have not assumed the grotesque forms of the Burnham Beeches, the effects of the pollarding were viewed with much interest. One of these giants, which had just died, was 18ft. 4in. in girth. The wood abounds with adders, and one was killed 19in. in length. Horses and men alike arrived dead beat at Southampton about half-past eight o'clock in the evening after an exhausting but most profitable and delightful day in the forest.

Friday morning found only some seventy or eighty ready at nine o'clock for the drive through the Forest to Lyndhurst, the exhausting walk of the previous day having told severely upon some of the weaker members, who sought to reinforce their shattered powers by a sea trip to the Isle of Wight.

A DRIVE THROUGH THE FOREST.

The woodland scenery which was passed through surpassed in beauty that which was so much enjoyed. One historic forest glade was traversed, and if fewer giant trees were met with, the party had the satisfaction of seeing what many of the most competent authorities have pronounced to be two of the best Oak plantations in the country. After leaving Lyndhurst the route taken was by Minstead Manor, which, with its fine parks, fruit-laden orchards, and stately trees, is a veritable oasis amid the forest wastes. Thence the road was by Malwood, the residence of the Chancellor of the Exchequer. Permission was kindly granted to view the grounds, and with the situation of Malwood, the suitability of the Elizabethan character of the architecture to the site, and the tasteful manner in which the policies, extending to about three acres, had been laid out, the whole party were greatly charmed. Malwood is built on one of the highest parts of the Forest, and commands the most beautiful and extensive views of the surrounding country. From this place the party walked up the valley, which opens up pleasantly towards the west, and visited in succession a number of woods of Beech and Oak and Scots Fir of various ages. In nearly all of them there was a great undergrowth of fresh glistening-leaved Holly, which, it seems, has grown up in an extraordinary way all over the forest since the deer were removed in 1851. From Bentley the party proceeded to Stoneycross, a delightful little village in the Forest, and leaving their carriages there, they walked again to the Rufus Stone in the Cauterton Valley, where lunch was served about half-past two o'clock. Colonel Bailey presided, and proposed a vote of thanks to Mr. Lascelles and his assistants for their kindness to the company during the two days they had been in the Forest. They were especially indebted to Mr. Lascelles for writing and putting at their disposal so excellent a history of the arboriculture of the district. Mr. Lascelles, in reply, said he had been only too pleased to welcome them to the Forest. It had been to him a great pleasure to see them, and to accompany them in their walks. As to the pamphlet, he might mention that a great deal of the information it contained had never before been printed. It was quite accessible to the public, only it was contained in Forest records, which were not often consulted. There was an impression abroad that the cultivation of the Forest only commenced in the reign of William and Mary in the year 1700, but that was a great mistake, for they had records to show that planting had been engaged in as far back at least as 1530, and from that date to the middle of the present century there was more planting and more care given to the trees than there had been since. He hoped they would all take away with them pleasant memories of the Forest. He should certainly look back on their visit with pleasure, and he hoped it might not be long before they returned to Hampshire. After a short rest, carriages were taken again at Stoneycross, and a hearty cheer was given to Mr. Lascelles previous to his departure for Lyndhurst. Driving by the pretty village of Cadman, on the northern boundary of the Forest, Southamptom was reached at 5.30. Shortly after seven o'clock a special train from Southampton took the party to London, where they rested for the night at the Grosvenor Hotel, Pimlico.

KEW GARDENS AND EARL'S COURT.

On Saturday the party divided the day between Kew Gardens and the Forestry and Gardening Exhibition at Earl's Court. They were admitted into Kew shortly after nine o'clock, and left soon after mid-day for Earl's Court, where they were received by Mr. H. E. Milner and entertained to luncheon, Mr. Milner presiding. The Chairman, in proposing "Prosperity to the Royal Scottish Arboricultural Society," said it was with great pleasure that the directors welcomed the members of that society to the Forestry Exhibition to see what had been provided for the profit and amusement of the people. Mr. Dunn, in responding, said this was an occasion which would go down in the records of the society. It was an occasion on which the members had reaped as great benefits as on any previous excursion, and they had beeu enabled to store their

minds with knowledge which they could not acquire at home. He did not say that arboriculture had been so closely followed in England as in Scotland, but there were many notable instances where forestry was very well done in the south, and if it only received more encouragement it would produce better and more profitable results. Mr. Dunn then gave "Prosperity to the Gardening and Forestry Exhibition." He said they had been entertained in the most hospitable manner by the directors of the Exhibition, to whom they felt much indebted. The Chairman, in responding, said the directors had received help from nearly all the learned societies, and from Her Majesty's Commissioners of Woods and Forests, and others who had sent in exhibits, which they would have an opportunity of inspecting in a few minutes. Her Majesty had sent from Balmoral some very interesting specimens. The Forestry Court had been arranged by their excellent friend Mr. George Caddell, who was associated with the very successful Forestry Exhibition in Edinburgh. Colonel Bailey proposed a vote of thanks to the secretary of the society, Mr. Moffat, who briefly responded. A similar compliment was paid to Mr. Caddell on the proposition of Mr. Watt, and County Councillor Buchanan, Penicuik, proposed "The health of the Chairman," which was cordially pledged After lunch, a visit was paid to the forestry room in the Exhibition, where Professor Curtis described some of the features of the collection. The party then broke up, but about forty met together again on Monday morning and paid a visit to Hatfield on the invitation of Lord Salisbury.

TAUNTON FLOWER SHOW.

The Taunton Flower Show has long held its own as the best in the West of England, and the last one, held on the 10th inst. well maintained its high reputation, being not only an advance on Taunton form, but one of the best displays seen in England this season. The Society again enjoyed its usual luck in the matter of weather, having a glorious day for the annual festival, and notwithstanding the long drought the whole of the exhibits were of a remarkably high character. The total number of entries was about 1,540, showing an increase of more than a hundred over last year. A considerable portion of this increase took place in the cottagers' classes, where several additional third prizes had been offered for competition, and this, of course, must be very gratifying to the committee, for while they encourage the visits of noted amateurs and professionals, they do not forget to draw out the more humble growers, whose exhibits made so fine a display on this occasion. The number of exhibitors at the show was about 200, while the value of the prizes was £285, being £30 more than last year.

The exhibits were staged in six large tents, and admirably arranged. In the open class for twelve stove and greenhouse plants Mr. Cypher, of Cheltenham, was first with a grand lot, including noble specimens of Croton Thompsoni and C. Mortefontainensis, Dipladenia amabilis, Statice profusa, Erica Aitoniana, Bougainvillea glabra, &c. Mr. Mould, of Pewsey, who came in second, also had a good lot, and Mr. W. Brock, of Exeter, was third. Mr. Cypher also took premier honours with six stove and greenhouse plants, eight fine foliaged plants, four Orchids and two new plants. Mr. W. Brock had the best group, Miss Tod, of Southampton, (gardener, Mr. W. Peel). being a good second. In the amateurs' classes Mr. Brock was also first with a group, and for twelve stove and greenhouse plants the same exhibitor and Miss Tod equally divided the first and second prizes. Mr. Brock had also the best six and four stove and greenhouse plants, showing in the former class fine examples of Ixora Williamsii, Clerodendron Balfourianum, Dipladenia hybrida, Cycas revoluta, Stephanotis floribunda, and Croton Baroness James de Rothschild.

Cut flowers were staged in considerable numbers, and Messrs. Keynes, Williams & Co., Salisbury, beat Dr. Budd of Bath with thirty-six Roses, but were beaten by him in turn for eighteen. With twelve Show Dahlias, Mr. G. Humphries, Chippenham, came in first, and Messrs. Keynes, Williams & Co., second, Mr. J. Nation of Taunton being third. For a dozen fancy varieties the Salisbury growers were first, and Mr. Humphries second, Messrs. Keynes, Williams & Co. had also the best exhibits of Cactus and Pompon varieties. The premier award for twenty-four Spikes of Gladioli went to W. H. Fowler, Esq., and Mr. Pritchard of Christchurch had the finest lot of cut hardy Herbaceous Plants.

In the Fruit Classes, Mr. Iggulden, gardener to the Earl of Cork, Marston House, Frome, was one of the most successful competitors, securing the first prizes for collections of eight and four dishes respectively, and several other awards. His collection of eight dishes consisted of fine samples of Muscat of Alexandria and Madresfield Court Grapes, Jefferson Plums, Bellegarde Peaches, Pine Apple Nectarines, William's Bon Chrétien Pears, a Golden Gem Melon, and Moorpark Apricots. The best collection of eight dishes of Vegetables came from T. M. Guest, Esq., and included splendid examples of Giant White Celery, Veitch's Autumn Giant Cauliflowers, New Intermediate Carrots, Ponderosa Tomatos, Satisfaction Potatos, Excelsior Onions, Ne Plus Ultra Runner Beans, and Autocrat Peas.

Messrs. Veitch and Son, of Exeter, showed a box of pods and a plant in a large flower-pot of their French Bean, which comes between the Dwarf and the Runner Bean. It is called Veitch's Climbing French Bean. It grows about 6ft. high and is clothed with handsome pods, from top to bottom. The pods resemble those of the "Canadian Wonder," and are very abundant. Coming early and being of such fine quality, the Bean will, without question, become a favourite. In another tent Messrs. Veitch and Son showed, also not for competition, an exceedingly miscellaneous collection of choice stove and greenhouse plants and cut flowers. The centre of the stand was occupied by a group of Japanese lilies of various colours, intermixed with palms. There was also shown a lot of choice hardy Perennials and Alpine plants, all in fine condition and excellent bloom. The Alpine plants included many rare specimens from the higher mountain regions, some of them shown in this country for the first time. The collection of Messrs. Veitch also included Apples, Dahlias. and decorative palms, all of a very beautiful appearance. Messrs. Jarman and Co., of Chard, showed, not for competition, a collection of seedling Antirrhinums and a box of seedling Lupins, a very fine lot of Statice latifolia, specimens of their Somerset Hero Onion and the Rousham Park Hero, besides a nice collection of plants. Mr. B. R. Davis, of Yeovil, showed, not for competition, a lovely collection of Begonias, which he has made a specialty for the last fourteen or fifteen years. Messrs. Kelway, of Langport, showed a large and magnificent collection of Gladioli and plants in pots, and the judges awarded them several certificates of merit.

ROSES FOR WINTER BLOOM.

The best plants are produced from cuttings taken in February. These should be placed in fine sharp sand which should be maintained at a constant temperature of 65°; the temperature of the greenhouse should never be over 55°. Careful watering should be practised, so as to keep the sand moist, but not water soaked. If proper attention to details has been given the cuttings will be ready to remove from sand by the 1st of March, as the cuttings average about four weeks in rooting. The young plants are then carefully removed from the sand and potted in 2½-in. pots; great care should be exercised in potting, so as not to break the roots, and watering should be very light until the roots have taken a good hold. As soon as the pot becomes filled with roots the plant is then shifted to a 3½-in. pot. By May the plants are ready to be planted, and the house should be ready to receive them. As Roses love light, heat, and good air, great care should be exercised in building a Rose house. The best style of a greenhouse is one built running east and west, with the longest slope to the south. Iron is the best material to use for rafters and purlins, and wood for sash bars and sides. The glass should be double thick, of good quality and size. Ventilators should be placed at the ridge and along the south front of the house.

Two methods of planting can be used—either benches or beds made with a foot of stone drainage and about a foot of soil. Either system, with proper treatment, will produce good flowers. The soil is very important, as Roses require a fairly heavy and rich soil. The best way to obtain a proper supply is to take the sod from a pasture, or if that cannot be had any good grass land where good sod can be obtained will answer. This should be stacked up in March, the sod placed with the grass down. Alternate layers should be made of sod and cow manure to a height of 5 ft. By May the bed should be turned and taken into the greenhouse. In planting the best result is obtained by giving the plants 15 in. in the row and 18 in. between.

When planted the house should be wired for the support of the plants. The best plan is to use number fourteen for the upper and lower wire, and number eighteen for the upright wire. The Rose house now only requires careful watering, syringing, airing and weeding to produce fine blooms. The winter temperature for most varieties should be 55° at night, 65° in cloudy weather, and 75° on bright days.—*American Gardening.*

THE VEGETABLE GARDEN.

Some Notes on Peas.

I send you some samples of Peas, some new, or assumed to be new ones amongst them. The season has not been a particularly favourable one for testing Peas, hence you must judge them as they are. They were all sown on April 24th, along with Exonian and Cannell's English Wonder, which, belonging to the first early section, are of course over.

Rodger Cutler (*Hurst & Son*) is of the Champion of England type, and said to supersede that variety. It grows 6 ft. high, and has broader pods than the Champion, but is very similar in quality.

Oracle (*Laxton*).—I like this variety better than I did last year. It grows 3 ft. high, produces long pods in pairs, well filled with green Peas, and is a good cropper. It is very similar to Sharpe's Queen, but may be considered an improvement on that variety.

Duke of York is the earliest of the batch sent, as you will see by the condition of the pods. It grows 3 ft. high, is a good cropper, and of good quality.

Alderman (*Laxton*) grows 4 ft. high and is claimed as an improvement on Duke of Albany, but I fail to see where the improvement comes in.

Conundrum (*Day*) is much like Roger Cutler, but is a better cropper. It grows 6 ft. high, and produces its pods in pairs. It has a broader pod than Champion of England, and is later.

Sharpe's Queen is a good cropper, and when well grown, bears long handsome pods. Height 3 ft.

Stanley (*Horsforth*) is a good useful variety, 2 ft. high, a good cropper and of good quality.

Daisy (*Carter*) has not done so well with me this season, but is a good useful variety for any garden. Height 2 ft.—*B. Lockwood, Gardener, Low Hills, Lindly, Huddersfield.*

[Rodger Cutler and Conundrum have both long, broad, handsome pods, well filled with white Peas; the last-named being the sweetest flavoured. Oracle has a long, well filled pod also, but more curved than Sharpe's Queen, and not so sweet. Duke of York is of the Ne Plus Ultra type, with well filled pods of large green Peas, and Alderman appears to be much of the same stamp. Stanley has a handsome, straight pod, averaging ten fine green Peas in a pod, and very sweet.—Ed.]

CABBAGE.

The old plantation which gave supplies in the spring and summer will now be so infested with green fly and caterpillars, as not to be worth leaving any longer. Clear the ground, and prepare another piece for the first planting of those sown in July which will soon be ready to go out. Make another sowing for late planting.

CELERY.

Earth Celery according to the time it will be wanted for use. Clean off all side shoots and tie loosely with matting. If wanted specially clean for any particular purpose, put a brown paper collar round each plant to keep the earth from getting among the leaves, and before earthing sprinkle the trenches with soot to keep off slugs, &c.

APPLES.

Keep a sharp eye on the Apples, and when quite ready, carefully gather, and store in a cool Fruit-room. Many sorts are ripe much before the usual time, and it seems strange to be gathering them so soon, but when they begin to drop freely no good is to be gained by leaving them on the trees. I gathered, on August 11th, a very good crop of Yellow Ingestrie, and the fruit was much finer than usual; the trees had of course been mulched and watered. This is an Apple worthy of more extensive cultivation either for private use, or market, as it is a very regular cropper and a very pretty yellow Apple. Ecklinville is also off the trees early. Grubs of many kinds are very plentiful this year.—*G. H. S.*

FLORICULTURE.

The Florists' Laced Pink.

The spring of the present year, with its unusual drought and scorching heat, proved most injurious to the growth and blooming of the Pink; and not only the Pink, but all other outdoor florists' flowers have similarly suffered, and the dates of exhibitions were in consequence upset, and all had to be altered in hopes of suiting, as far as possible, the early bloom. But with all these precautions disappointment was the result, the Pink exhibitions especially proving to be considerably too late for the bloom, both in regard to the Midland and Northern Sections. I have seen no report of any exhibition being held this year of the Southern Section of the National Pink Society, and neither have I noticed any allusions to it one way or the other, not even a line from its respected honorary secretary, Mr. Ranger Johnson. Let us hope that the great efforts and valuable support this gentleman bestowed upon the society a year or two ago may not dwindle into oblivion, but on the contrary that we may be favoured periodically with a few lines of his useful and encouraging advice.

Our good friends, the Rev. F. D. Horner, Mr. Wardell, Mr. Lakin, Mr. Arthur Brown, and Mr. G. Paul, Bridge-of-Weir, N.B., have done much in the past to keep the Pink before notice, and these true lovers of their old favourite flower will not be backward in the future, I feel convinced, in contributing occasionally a few lines in its favour, so that all young florists may be continually reminded of the pleasure in store for them by including amongst their other fancies the *sweetly scented* florists' laced Pink. The Pink has lost one of its oldest patrons by the death of our much esteemed friend, the late Samuel Barlow, and his support was indeed great, for he was ever ready to promote its welfare, and never backward in praising and expatiating upon the flower he had loved and cherished from his boyhood! There are a few other men, both young and old, who still exist and who will never allow the Pink to sink into obscurity. Pardon me, therefore, for once more appealing to amateur florists, and especially to the numerous ones who have already taken up the Carnation and Picotee, for their support, and for asking them to voluntarily become members of the National Pink Society in their respective localities.

The apparent failure of the Pink exhibitions this season is attributable to no causes its supporters could control, and whilst the Midland and Northern Sections are fairly well supported they are still hopeful of further encouragement, and their subscription lists are open to enlargement. The florists' laced Pink, although one of the oldest flowers in cultivation, is only in its infancy as regards developing into perfection, and such a state of perfection it may reach by perseverance and careful fertilization which will place it in excellence not second to the Picotee. Its delicious scent will always be many points in its favour, and its petals, both in substance, shape, and refinement, can be found now in some varieties equal to any Picotee, and my opinion is that in time the Pink will succeed in endearing itself in the eyes and hearts of all florists, and in all probability stand pre-eminent to the Picotee.—*James Thurstan, Finsbury House, Richmond Road, Cardiff.*

RAYLESS VIOLAS AT CHISWICK.

Amongst the extensive collection of Violas now on trial in the gardens of the Royal Horticultural Society, at Chiswick, is a good percentage of rayless Violas sent by Dr. Stuart, of Chirnside, near Berwick. The term "rayless" is meant to include all those Violas which have no lines or streaks radiating from the eye of the lip nor from the base of the two lateral petals. As a matter of course, this term would also include the miniature Violas represented by Violetta, which may be described as the starting point, not from which all the miniature strain emanated, but which practically gave the stimulus for the creation of a new race. There is practically, then, two distinct strains of rayless Violas, a large and a small flowered one, but it must be acknowledged that when well grown many of the miniature varieties have flowers of a size intermediate between the two extremes.

Large Flowered Varieties.

Countess of Hopetoun was one of the parents of the large flowered section of rayless Violas, but that even shows rays in the heat of summer, particularly when the plants are getting played-out through dry weather. Sylvia may be regarded as the type by some, as it seems to be pretty constantly rayless and was one of Dr. Stuart's seedlings. Sylvia White and King of Whites appear to us identical, and are certainly much purer in colour than either of the two previously mentioned, and which are creamy-white. Albino is like Sylvia, but it has the large yellow blotch of Violetta upon the lip and is both dwarf and floriferous. Sweet Lavender is a pale or lavender blue variety with a white blotch at the base of the lip, and is like the last in habit and free-flowering nature. George Muirhead we described in a previous issue as having received three marks from the Chiswick Committee, an honour which was also accorded to Sylvia.

A number of new varieties has this year been added to the list on trial, and the most of them belong to the large flowered type. Queen of the May and Cynthia are pale sulphur-yellow varieties that are too closely similar for both to be retained. The last-named has a slightly larger golden eye, showing the effect of Violetta. Primulina is a shade deeper than Cynthia, but otherwise similar, and being the most distinct should merit the preference. Cordelia and Christiania are white varieties with a large golden blotch at the eye; but the latter is the purest white of the two, and is in fact a larger and improved form of Sylvia's Rival, an older and beautiful form. Christiana would here again be the form we should retain. The palest of the self-coloured blue varieties sent to Chiswick is Niobe, which may be described as a pale lilac-blue, fading to lavender, with a golden eye. It is dwarf and free flowering. For those who like pale coloured varieties it is certainly an acquisition. It is quite distinct from Sweet Lavender, and that again pales before Blue Gown, the finest of all the rayless blue sorts. The flowers are large, circular, and bright purple-blue, with an indigo blue shading in the centre. The eye is small and golden-yellow, without any blotch as seen in Sweet Lavender. Being of the same dwarf and floriferous habit as the latter with finer and richer flowers, it should prove useful for edging beds of other plants or for mixing with dwarf subjects by way of contrast.

Claudia is a variety which is pure white on the inner face, but is uniformly shaded with lavender on the back, and that shines through the petals making its effect visible on the white ground. The flowers of Mary Scott are large, wavy, and creamy-white, but likewise washed with lilac on the back and occasionally having a splash of the same colour on the face. Striped flowers are by no means plentiful amongst this strain, but Border Witch is an exception and has large flowers, striped, lined, and netted with lavender or lilac-blue on a white ground. It is a robust and free flowering variety and may prove useful to take the place of Dawn of Day, which many growers find a difficult sort to grow satisfactorily.

Miniature Varieties.

As already remarked, some of the sorts which may be placed in this group have flowers of tolerably large size, and in fact equal to those of several old and distinctly rayed varieties that are well known and more or less extensively grown all over the country, including Blue Bell, True Blue, Ariel, Beauty of Chipping Norton, and many others. Quite equal to those in size is Snowdrift, which would be of remarkable purity were it not that a faint shade of colour suffuses the back of the petals, and shines through upon the face of the flower according to the incident rays of light. Notwithstanding this defect it is certainly a choice and handsome sort, with a small golden yellow eye. Some connoisseurs consider Blush Queen as the best and choicest of the miniature types, because so delicately flushed with blush lilac. The lip has the golden blotch of Violetta. The flowers are larger this year than last, slightly darker in colour, and very freely produced. White Lady is of the palest sulphur when it expands, but soon becomes white with the exception of the blotch of Violetta upon the lip. It grows erect, compact, and flowers freely. As the name hints at the fact, the top petals of Summer Cloud are netted or clouded with pale blue. The lip has the golden blotch of Violetta. The variety is certainly pretty. Marginata and Springville are too nearly identical to be retained as distinct varieties. They are white, and lightly but variously edged with blue, and having the blotch of Violetta on the lip. It seems a matter of fancy as to which of the two should be retained, for we cannot see a difference between them as grown in the beds. Another edged variety is Picotee, which has evidently been derived from Ariel or one of the same strain. It behaves exactly in the same way as seedlings derived from Ariel. Sometimes the flowers are pure white and rayless with a small golden yellow eye, or they may have a few rays; the edge may be more or less distinctly and neatly edged with blue; the back may be variously shaded or marbled on the back with a blue shade, toning the white; some flowers again are lined or netted on the face almost like Dawn of Day. It is certainly a pretty and free flowering variety, but very fickle and inconstant. There are two miniature yellow varieties in the collection, namely, Golden Gage and Old Gold, but the latter is certainly the prettiest. The flowers are oblong-oval, with a golden yellow lip, and the rest is paler with a white edge. The foliage, if not the habit of the plant, is better than that of Golden Gage and the flowers darker.

CALADIUMS.

Caladiums are once more coming to the front for decorative purposes. Improvement continues to be made, as is evidenced by the new varieties being brought before the public from time to time and honoured with certificates. We are pleased to see the introduction of the smaller-leaved kinds, for they are useful for decoration in cases where large plants would be inadmissible. Large specimens with huge leaves are all very well for exhibition purposes, but dwarf kinds or small plants of the larger and beautiful leaved kinds are always in request. Varied and delicate colouring is a feature of the newer varieties, while at the same time it cannot be ignored that some of the old kinds can hardly be surpassed in these respects. Caladium Argyrites is one of the best known and indispensible of the miniature kinds, and it has a beautiful companion in C. minus erubescens with small deep red leaves, with a broad green border. Not much larger is Le Nain Rouge with small crimson-red leaves. Marguerite Gelenier is also of dwarf habit with delicate rosy-pink leaves. Very suitable also for table decoration is Souvenir de Para, having small crimson leaves with a pale green margin. New varieties suitable for decorative purposes are recorded by us from time to time. The varied colour markings of Caladiums, often difficult to describe, may be gleaned by reference to the accompanying illustration, for which we are indebted to Messrs. J. Veitch & Sons, Chelsea.

THE SWEET PEA.

"R. D.'s" very interesting notes in your last issue, relative to the above subject, must be my excuse for troubling your readers with an amplification of those views. As "R. D." himself publishes a very respectable list of the "Sweet" things here mentioned, I have a right to assume that he, as a nurseryman and lover of hardy plants generally, has given a good deal of attention, particularly to the matter now under review. His comments on varieties, culture, etc., must be extremely useful to those who, like myself, are desirous of acquiring a more extended knowledge of this class of plant. But Sweet Peas, unfortunately, like some other forms of what should be fragrant vegetation—notably Roses and Carnations—have elected to abandon that special qualification by which they are universally known and sought after, and have given us instead beauty in colour and form it is true, but *minus* their chief characteristic—fragrance.

A Rose or a Carnation by any other name would smell as sweet will be readily granted—that is when they are odoriferous at all—but a Sweet Pea, by virtue of its specific designation, belies its name if odour is entirely absent from its bright papilionaceous flowers. The Rose and the Carnation produce some [many—Ed.] scentless forms; we are accustomed to them; fragrance is not, in their case, implied; but the "Sweet" Pea without sweetness is more than can be endured. And yet this serious defect is, I believe peculiar to not a few otherwise fine varieties. How many, it would be instructive to

learn, as "R. D." points out that there are now about fifty kinds in cultivation.

Cross-fertilization, while it undoubtedly adds to the size and brilliancy of the flowers, seems also to repress certain other qualities, such as perfume and hardiness, which are quite as great desiderata to those who love nature not too largely diluted. The preference for large, bright, showy blossoms finds much support in some gardens, and horticultural societies also encourage it, so that, should the rage continue, our sweet scented floral beauties are likely to be replaced by those of a more gaudy, not to say meretricious, character.

As I am indebted to "R. D." for the trial of two varieties of this description, I trust that he will use his influence to prevent such a catastrophe, because nurserymen and *littérateurs* have it in their power to recommend only those sweet things which are a distinct advance all round upon the original species.

Sweet Peas are not only ornamental garden objects, but as a commercial commodity are in great demand. I know a garden where it is no exaggeration to say that if the rows were placed end to end, the distance covered would exceed a mile. The varieties grown are all, I believe, sweet-scented, being the odoriferous progeny of the famed Sicilian species, Lathyrus odoratus. This year I have used L. Napoleonis and L. cæruleus as pot plants, as well as in the open border. The former is a bright, rich rose, and the latter a soft sky blue, but both, unfortunately, lack that essential quality already deprecated.

As pot culture is, perhaps, not generally understood, I may here remark that, properly carried out, the result is such as to give unique effects, if not to create quite a *furore* amongst the other occupants of a large conservatory, to which they should be transferred when at their best.

Pots 8 ins. or 10 ins. in diameter should be used, with the usual concomitants of fibrous loam and rotten manure. The seeds may either be sown now or in the spring, four seeds per pot, according to requirements. When the seedlings are sufficiently advanced, stout, twiggy Pea-sticks must be firmly placed in position to enable the plants to assume their scandent habit. A little tying here and there, the coolest of treatment, and a liberal use of the watering pot, will accomplish such elegant results as it should not be in the province of anyone to dispute. —*C. B. G., Acton, W.*

THE ROYAL BOTANIC SOCIETY.

A MORE melancholy document—even in these days of universal financial catastrophe and depression—has seldom been submitted than the annual report of the Royal Botanic Society, read by its Secretary, Mr. Sowerby, at the Museum in the Gardens, Regent's Park, on Thursday afternoon. It is not that the pounds, shillings, and pence involved are so very important, or that anybody in particular is greatly the poorer for the absurdly unsatisfactory character of the society's report. We call it "melancholy," because it illustrates in a special and unique manner the hopeless failure, the miserable muddle, the ridiculous fiasco which the managers of a great London institution may make of their property and of its prospects when they will not or do not take the trouble to understand the London in the midst of which they live. We will first borrow a few figures from the balance sheet which Mr. Sowerby had to read to the disconsolate Royal Botanists. From March to July there had been 17,915 visitors to the gardens. The statement of accounts showed receipts:—General subscriptions, £2,785; exhibitions and evening fête, £1,909; loan from bankers, £1,000; balance in hand, £104. The payments included in liabilities of 1891 and previous years, £1,162; garden labour, £2,430; meeting, exhibitions and fêtes, £1,324. The liabilities amounted to £17,781. Mr. E. Ledger was, very naturally, of opinion that the position of the Society was "anything but satisfactory." "The present," he said, "was the worst balance sheet that they had ever had, and now the lease had only eight years to run." Nearly £18,000 of debt—cash in hand a little over £100, and only 18,000 visitors in the whole five summer months, not a third of the number that many a place of popular resort often collects in a single day! Consider meanwhile what a property, what a position, what superb advantages, and supreme attractions such a society possesses! Suppose we said to a really intelligent and gifted body of managers, "Here is a beautiful garden, in the heart of a beautiful park, with lovely lawns, large conservatories and glasshouses, and air as good as can possibly be got inside the twelve miles circle. It is rich already with the rarest specimens of the floral and sylvan world; this very year new plants both of economic and scientific interest and value, have been added to the collections, including the Mangrove (Rhizphora), which has only this year been successfully grown; also the remarkable ant habitation plants (Myrmecodia), presented by the president of the Linnean Society. There are croquet and tennis grass plots, and the place is in the middle of Regent's Park, the very centre of a swarming and intelligent population, next door to the Zoological Gardens, and eight minutes from an underground station. Can you make it pay?" What would the intelligent and gifted body of managers reply? "Make it pay!" they would exclaim. "Why, give us but a free hand with such a spot, and we will very quickly establish a Kew Gardens in the centre of the Metropolis; we will have 'all the world and his wife' coming constantly thither; we will transform it into a paradise of pleasure in the summer weather, and a winter retreat of warmth and wonderful sights and lessons in the cold season. Only give us such a chance, and we will pay a dividend of 20 per cent. in less than no time, and make millions of Londoners happy, and instructed beside."

So would intelligent and gifted managers, who know London and its social needs, reply; and why have we then, from such a society—with such magnificent advantages—these wretched results? Simply for the reason that the management of the place has stagnated in the hands of persons who, like those similarly situated in many a spot which might be named, have no understanding of their time, of public needs, of possible developments. These Royal Botanic Gardens have the making in them of one of the most attractive places of relaxation and instruction combined throughout the whole metropolis. The handsome and spacious area rented by the Society might become a perfect Garden of Armida; for though the London air will not permit delicate flowers, like Roses, to bloom successfully even in the park, much has been done, and very

TYPICAL VARIETIES OF CALADIUMS.

much more might be done, to render them splendidly representative of indigenous and exotic vegetation. Take the mangrove alone, this year for the first time thriving in the grounds. What a public attraction might be made of it if folks could be led to understand that this is the great extender of islands and continents! It fringes the shores of bays and river-mouths, for ever arresting and solidifying the sand and mud with its arched roofs, until it has erected a delta, or a foreshore, when it passes away, bequeathing new successors to fight the sea. But botany would be only the background of such gardens as the "Royal Botanists" have allowed, as it were, to run to seed. Look at their absurd regulations! The public can only enter by orders from Fellows of the society, artists and students being admitted on the recommendation of their teachers. Fancy all the inner circle of the beautiful park given up to a management with this ridiculous rule of entry! Who takes the trouble to ask for orders? The public likes to see an inviting place, and pay its sixpence or a shilling, and enter straightway. This is one senseless point. Another is that in the large space enclosed smoking has been always forbidden. At the disconsolate meeting lately held a highly sensible Fellow objected very much to smoking being prohibited, and thought it ought to be allowed in certain portions of the garden. The chairman promised that the question of smoking in particular portions of the gardens "should be considered." Should be considered! As if smoking could do anything but good to the plants; as if anything except financial failure and disaster were to be expected from a body who hold under lease one of the most naturally attractive spots in the capital, and, while keeping as many people as possible out of it by absurd limitations of entry, forbid them, when inside, refreshments, tobacco, freedom, and pleasure of any substantial kind!

No wonder the balance sheet of the Royal Botanic Society is such a depressing document, and its return of visitors so miserable contrasted with that of its near and popular neighbour the Zoological Gardens. Yet we cannot banish from mind that any body of people holding such a space of open and beautiful grounds as these fellows owe a debt to all London as well as to their subscribers. They have no business to darken the place with puritanical regulations; they have no business to rest content with a few flower shows, and tennis matches, and croquet parties—calling that a year's work. They have no moral right to shut it, as far as possible, against the flower loving and fresh air loving London citizen, for the sake of a few, who afterwards grumble because the public or the State will not pay their debts. The gates of such a place should be thrown wide; admission should be easy and immediate; within there should be found, besides the beauties of floral Nature, the simple pleasures which make repose more desirable. There should be music, there should be kiosks for refreshment and reading, there should be shady and comfortable chairs and seats, there should be available good tea and coffee and light food at reasonable prices. With ideas like these to animate them and to re-animate their misused property, we should soon hear no more of debts and deficits in connection with such an ideal London retreat. Nor let it be thought or said for an instant that it is in our purpose to suggest the transformation of the Royal Botanic Garden into a Jardin Mabille or a Closerie des Lilas. We would have it always and specially dedicated to the delightful science which finds a seat there—to botany, which next to astronomy is perhaps the best worth earnest study of all branches of wisdom at the present time. But what on earth is the sin of a cigar, or the crime of a cup of tea, or the flagitiousness of a sally lunn, that these things, and music, should not be blended with the observation of Nature's variety and loveliness, and for how long must we continue to see such eligible spots as these gardens paralysed and petrified in the hands of people, insensible alike to their own interests and those of the public at large? The financial difficulties of the Royal Botanic Society are the just Nemesis of its unintelligent administration. Sir Augustus Harris, if he had a free hand, would turn the fair green pleasaunce into a centre of delight and instruction for millions upon millions of Londoners and country visitors who do not to-day know even where to find its entrance gates.—*Daily Telegraph.*

The Carnation its History, Properties, and Management, with a descriptive list of the best varieties in cultivation. By E. S. Dodwell. Third edition, with supplementary chapter on the Yellow Ground. London: GARDENING WORLD Office, 1, Clement's Inn, Strand, W.C. 1s. 6d.: post free, 1s. 7d.—Ade.]

GARDENING MISCELLANY.

BIG GOOSEBERRIES.

HAVING read what Mr. Mackellar has had to say as to some recent weights of exhibition gooseberries, I turned to the record found in the "Fruit Manual," (edition of 1862), where there is stated the highest known weights of certain large varieties up to that time, and found that Mr. Mackellar's 29dwts. 26grs. for London is a long way beaten by 34dwts. 7grs., Wonderful coming next with 28dwts. 12grs., Conquering Hero 26dwts. 3grs. Catherine 27dwts. 14grs., and Companion 26dwts. 8grs. These weights will show that there are some big records to be broken, although when broken what earthly good has been accomplished I fail to see. Is there not a misprint in Mr. Mackellar's note putting Lord Derby at 22dwts. 17grs. as the heaviest fruit, when the next heaviest is put at 29dwts. 26grs? Should not the Lord Derby have been 32dwts.?—*A.D.*

COUNTESS OF HOPETOUN VIOLA.

HAVING regarded the excessive drought and heat which marked all the earlier summer I was much surprised, when visiting Mr. Mortimer's Nursery Garden at Farnham recently, to find this beautiful white Viola blooming so wonderfully, and on a thin, light gravelly soil too that is the reverse of holding. No higher tribute to the value of this variety as a white-flowered summer bedder could well be paid. I have seen no white variety that is at all its equal, even the pure white Snowflake does not at all compare with the Countess in endurance, whilst it has a compact habit. This Viola, which is one of the largest flowered, has very largely superseded white bedding pansies, very few of which have good white flowers or good habit.—*A.D.*

THE VARIEGATED JAPAN HOP.

I THANK you for the recommendation of my Variegated Hop, which appeared in your last issue, and think if you could see some of my stock you would like it even more than you appear to do now. The weather was with us in Germany so very dry and hot that only those Hops really established themselves and show their true character which had plenty of water given to them. I have single plants growing on tall poles that are 12 ft. high, and from 3 ft. to 4 ft. in diameter, clothed with beautifully variegated foliage from top to bottom. I notice that you say I sent some plants to the Drill Hall, Westminster, but I have not sent any there. [The exhibition card stated that the plants were exhibited by our correspondent.—*Ed.*] It may be of interest to some to know that the best way of raising the plant is to sow the seeds in the open ground in the autumn about one or two inches deep. Early in April they will grow freely, but care must be taken in the meantime that mice and birds do not reach them, for they are very fond of the seeds. It is also best to sow them where they are to make their growth, rather than to transplant them in spring. If the seeds should be sown in pans or boxes, be careful to avoid giving them any bottom heat, or they will germinate very poorly, and perhaps fail altogether.—*Frederick Rœmer, Quedlinburg.*

CALLIRHOE INVOLUCRATA.

THE flowers of this Malvaceous plant are of a large size and of a rich rosy-purple with a white eye. They are borne singly in the axils of leaves or bracts on procumbent stems that vary from 1 to 2 ft. in length. The habit of the plant makes it suitable for planting in the pockets of rockwork, so that the stems may spread and hang over the ledges. The flower stalks themselves are of considerable length, and thereby facilitate their being used for cut flower work.

ANTHEMIS BIEBERSTEINII.

SOME of the species of Anthemis are ornamental, border, or rockwork plants, and others mere weeds. A. nobilis which has been renowned in medicine for its febrifugal and tonic properties has established itself in this country, making itself a disreputable weed on lawns, where it insinuates itself amongst the grass and is most difficult to eradicate. That under notice has much cut hoary leaves, with linear segments, and all confined to the short procumbent stems. The long stalked flowers have a bright yellow disc and rays, and are shown prominently above the carpet of leaves. It is a native of the Caucasus, and keeps on flowering for the greater part of summer. Although it has been introduced for some time, it is seldom met with in gardens, but may be seen on the rockery at Kew.

LYTHRUM VIRGATUM.

THOSE who object to the vigour and height of L. Salicaria for border work will find in L. virgatum a neater and more refined plant. The stems are slender and twiggy as the specific name indicates, and grow about 18 in. to 2 ft. in height according to the soil and season and bear a profusion of deep rosy-purple flowers. Like the better-known British species already mentioned it likes a fair amount of moisture, and will succeed best if planted in a tolerably moist position, but in the full sun if free flowering is desired.

RUDBECKIA HIRTA.

WHILE this may be compared to R. speciosa it hardly equals it in decorative horticultural value. The stems are slightly taller and bear oblong-elliptic or lanceolate leaves, the larger ones and most of them being confined to the base. The flowers are, however, 2 in. to 3 in. in diameter, golden yellow, and surround a deep brown and shortly conical disc. The plant varies from 18 in. to 2 ft. in height according to conditions, and is certainly a showy plant, but most not be grown in a water-logged soil. If the latter is well drained, but not dry, it will succeed better than if otherwise.

ANTIRRHINUM YELLOW BEDDER.

LOOKING round Mr. Forbes' nursery, at Hawick, the other day, I was much pleased with a yellow bedding Antirrhinum, which, I understand, is to be sent out in the spring as a companion to the well-known white and crimson bedders. The plants of Yellow Bedder are growing alongside of the others, and has all the appearance of being as compact and floriferous; in fact, I counted nearly thirty spikes of bloom on one of the plants. The colour is sulphur-yellow, with a golden-yellow mouth without spot or flaking of any sort; height about 15 in. It will, I feel sure, be welcomed as a decided acquisition, this line of colour being a long-felt want in Antirrhinums. I have seen many so-called yellows, but not one before that has the all-round good qualities of Yellow Bedder.—*Visitor.*

INTERNATIONAL FRUIT SHOW AT ST. PETERSBURG.

The Russian Society of Fruit Culture will hold an International Fruit Show, under the patronage of the Czar, at St. Petersburg, in the autumn of 1894, with the object of showing the present condition of the cultivation of fruit and vegetables, of viticulture, of the cultivation of various special plants, and the manufacture of their products. The exhibition will comprise the following sections: 1, fresh fruit; 2, fresh vegetables; 3, dried fruit and vegetables, preserved or treated by other processes; 4, wine, cider, perry, and other fruit beverages; 5, hops and medical herbs; 6, seeds; 7, fruit trees and bushes; 8, horticultural implements and appliances, and technicality of production; 9, literary, scientific, and educational accessories, collections, plans, &c. Applications for further information should be addressed to the offices of the International Exhibition of Fruit Culture, 1894, Imperial Agricultural Museum, Fontanka, 10, St. Petersburg.

DWARF BEDDING BEGONIAS.

HAVING recently read a paper in THE GARDENING WORLD with the above heading, it occurs to me that my experience may be of some service to those who feel disposed to test the double Begonia as a bedding plant. Requiring two beds of crimsons we started early in January a few old tubers of Begonia Marquis of Stafford (a variety originally sent out by Messrs. Laing, of Forest Hill) and struck the cuttings as soon as they could be obtained. These were grown into nice plants and bedded out at the end of May, and at the present date (August 15th) the beds are evenly covered with large well shaped flowers of the finest glowing crimson, carried well above the foliage. They have been equally good for weeks past, and show no signs of failing in splendour. The plan here indicated relieves one of keeping any great stock during the winter, and of making any preparation for the ensuing year beyond that of storing away three or four old tubers of such varieties as may be thought useful for the purpose. The great secret of having double Begonias good and persistent is to pick off the seed flowers as soon as they appear. —*Somersetshire Rector.*

TREES FOR ROADS.

In a paper on "The Selection and Cultivation of Trees for Roads," read at a recent meeting of Municipal and County Engineers at West Bromwich, Mr. F. Smythe, Surveyor to the Finchley Local Board, said the selection should, of course, be studied in connection with subsoil and situation. The Western Plane (Plantanus occidentalis) was the best tree for towns, as it is but little affected by smoke or acids in the air, gives a clean stem to a considerable height, and will stand any amount of hard weather. It does not, however, do so well in bleak situations exposed to the dry, cold east winds of spring. It is suitable for planting in a heavy soil, and if grown on gravel or other dry subsoil requires to be frequently watered in its young state. Another kind (P. acerifolia) is even hardier, and might be mixed with P. occidentalis in an avenue. The Poplar is another fine road tree, more especially where a quick effect is required. It will grow under all kinds of adverse conditions and in any soil, and in towns has the same characteristics as the Plane—of always having a clean shiny leaf. It requires, however, to be kept hard pruned in its young state. The Canadian Poplar (P. canadensis nova) is one of the best kinds, as affording the most shade and being one of the quickest growing. The black Italian (P. acladesca or monilifera) is also a very good kind, but the Canadian is to be preferred. The Sycamore (Acer pseudo plantanus), or plane-leaved Maple, is in Mr. Smythe's opinion, one of the best trees for road planting, and not nearly so much used for this purpose as it deserves. Like the Poplar, it will thrive anywhere, and for shade, symmetry or foliage it is only excelled by the Plane. It thrives almost as well in a bog as on the driest situations, nor is it effected in any way by temperture.

The European Lime (Tilia europæa) does well on a a gravel or chalk subsoil. On clay it does not grow to so large a size as on a drier substratum, on account of its roots being in a young state, very impatient of moisture, and on this account at Finchley, where the subsoil is clay, it has been planted in front of shops where the width of footway would not allow a tree of more luxuriant growth being used. It is not advisable to plant it in towns or smoky districts, as it has a tendency in dry weather to cast its leaves and produce honeydew, a glutinous liquid, covering the whole of the upper surface of the leaves. There is also another variety, the Mississippi Lime (Tilia Mississippiensis), which grows to a large size in some parts of the North of England. The Elm (Ulmus), is not so much used as a road tree as it ought to be, no doubt by reason of its slow growth; but the author drew attention to what is known as the Camperdown Elm, a variety of the Wych Elm (Ulmus montana), and one of the quickest growing of its class. There is a short avenue of these in the author's district which, in his opinion, cannot be surpassed as an example of road planting.

FINSBURY PARK.

The bedding in this park is now in its prime, having derived considerable advantage from the recent rains. The site is more elevated and exposed than any of the other large London parks, and the soil is a heavy clay, yet notwithstanding these disadvantages, the grass is all that could be desired, particularly in the better kept parts. Visitors who enter by the Finsbury Gate can see the bedding, which is mostly concentrated at the Manor Gate, by ascending the hill under the shade of an avenue of Black Poplars, which although not the best kind of tree for the purpose, yet thrive with remarkable vigour on the clay, and have already attained wonderful dimensions. They have been shedding their leaves and littering the grass for some time past, but Limes, Planes, and various other avenue trees have been behaving in the same unsatisfactory way elsewhere owing to the unprecedentedly dry summer.

Amongst the trees and shrubs near the Manor Gate, as well as on the front of the lodge, which has a northern aspect, Mr. Melville, the superintendent, has been making various trials with the Flame Flower (Tropæolum speciosum) with a view to getting it established; and he is likely to succeed, for many of the small pieces of root have made wonderful growth, and some of them are flowering and promise well. On the opposite side of the broad walk and surrounded by a low hedge, is a fine piece of carpet bedding, termed the snake bed. It is narrow and winding; along the centre is a row of circles made up of Alternanthera versicolor, A. magnifica, and A latifolia, the latter being much brighter in colour than A. magnifica, to which it is most nearly allied. On each side of the circles are triangular plots of Alternanthera latifolia, A. major, and A. aurea nana, all remarkably bright in colour. The ground-work consists of Antenneria tomentosa growing in a sunk area, and the dividing lines are of Echeveria secunda glauca. There are also numerous central and dot plants of Cordyline indivisa, Brachyphytum aduncum, and Chamæpeuce diacantha. On the opposite side from this, on the left as the visitor ascends the rising ground is a circular carpet bed. Alternanthera aurea surrounds a Grevillea robusta in the centre, edged with Echeveria secunda glauca, and then a band of Mesembryanthemum cordifolium variegatum. Around these again are plots in the form of short arcs or segments filled with Alternanthera versicolor alternating with circles of the brightly-coloured A. latifolia. Here again are dot plants of Chamæpeuce, Cordyline, Pachyphytum bracteosum, and Santolina Chamæcyparissus incana, while the edge consists of Mesembryanthemum and Sempervivum tabulæforme, the latter being on the perpendicular sides.

Close by is a very effective mixed bed consisting of Arundo Donax variegata, Eulalia japonica variegata, E. gracillima, Canna Senateur Milland, with bold bronzy foliage; C. Emperor William II., with scarlet flowers; C. Louise Chretien, C. Antoine Crozy, Gladioli, Melianthus Major, Eurya latifolia variegata, Golden Privet, and the Ivy-leaved Pelargonium Ryecroft Surprise, with showy, semi-double, rose flowers. The edge consists of Chamæpeuce, Begonia semperflorens atropurpurea, and Cineraria maritima. On the whole, the bed is light, graceful, and showy, but by no means formal. On the rising ground above the American garden is a series of short, oblong beds on either side of the path, each pair corresponding to one another. Two beds of Begonia semperflorens atropurpurea mixed with Eurya and Cannas on a ground of Gnaphalium lanatum are very pretty. Further along a happy contrast is made between the purple-flowered Verbena venosa and the variegated foliage of Pelargonium Flower of Spring mixed with the above-named Cannas with the addition of C. Picturata, which has its yellow flowers more heavily spotted with scarlet than Louise Chretien. Next come two beds of mixed tuberous Begonias and Abutilon Thompsoni on a ground of Mesembryanthemum. Two others are occupied with Eucalyptus globulus and dark-flowered Heliotropes. Then comes a mixture of Petunia alba fimbriata and Celosia pyramidalis. Two beds of seedling Begonias of Ware's strain mixed with Abutilon Thompsoni make a brave display. It may here be stated that one and two year old tubers are much more satisfactory as far as the foliage is concerned than three year old roots. Two beds of dwarf Fuchsias mixed with Eucalyptus on a ground of Sweet Alyssum are now very showy. Begonia Worthiana has this season been added to the list of plants in the park, but the plants were too small to show their true character. Tuberous Begonias sown this spring have very fine foliage and are commencing to flower freely. They are mixed with Grevillea robusta. Behind the beds in the edge of the shrubbery are some bold plants of Echinops sphærocephalus and the Scotch Thistle (Onopordon Acanthium) of some. Further on is a pretty bed of Pelargonium Lady Cullum, a better doer than Mrs. Pollock, mixed with Cannas and Iceland Poppies. An unnamed tricolor Pelargonium edged with another named Miss Cox, interspersed with Acacia lophantha, is also noteworthy. A bright and varied bed of Pelargonium Flower of Spring, Fuchsias, Begonia Worthiana, and Iceland Poppies completes this series.

On a wide expanse of grass just a little beyond are three circular beds, of which Gladiolus Brenchleyensis and the G. Gandavensis strain are the most striking features. On closer inspection, one of them is seen to be occupied with China and Bourbon Roses on a ground of Viola Archibald Grant. Another has Roses on concentric belts of Viola Aurora, V. formosa and V. Duchess of Sutherland, all flowering freely. Along the sides of a winding walk on the top of the hill are two beds of Fuchsias in a floriferous condition, mixed with Eucalyptus on a ground of Gnaphalium, and edged with Pelargonium Flower of Spring and P. Madame Cellery. Two beds of Petunia nanu compacta in dwarf, bushy condition and striped flowers are mixed with green-leaved Cannas. Although raised from seeds, there are only one or two rogues in the bed. A single bed of Verbena venosa, Crystal Palace Gem, and Eucalyptus is bright and attractive. The Verbenas stand the weather well, and are excellent for an autumn display. Four small beds are intended for permanent clumps of Spiræa Aruncas and Bocconia cordota when they get established, but at present the night-scented Tobaccos are most prominent. A showy bed consists of Begonia semperflorens atropurpurea on a ground of the variegated Pelargonium Duke of Edinburgh. Near this is a sunk dell with three Planes planted on mounds, and at present occupied with groups of Palms, but in spring there is an interesting display of Tulips, Crocuses, Bluebells and Snowdrops, most of which are planted permanently. Not far from here is a shrubbery border, on the edges of which are clumps and masses of Phloxes, including Purity, a pure white form, and several salmon and other rich dark kinds, as well as Pentstemons, and Intermediate Stocks all of the excellent strains of Mr. John Forbes of Hawick, N.B. Masses of Viola Blue King, Pilrig Park, and a yellow variety as well as Salpiglossis, semidouble rose and scarlet Portulaccas, and Marguerite Carnations are just now in fine condition and very showy.

All of a sudden one comes upon the Surprise Garden consisting of a wide area planted with numerous beds on the grass. One of the more attractive beds consists of the Ivy-leaved Pelargonium Souvenir de Charles Turner, pegged down and flowering freely, while mixed with Begonias and Acacia Lophantha. Four angular beds at the corners of the area are planted with Verbena venosa and Centaurea ragusina candidissima, making a simple yet most effective display that can hardly fail to catch the eye. Two arching and angled beds of Pelargonium John Gibbons of a more brilliant scarlet than Henry Jacoby are most floriferous and noteworthy. They are interspersed with Eucalyptus. Neither can we omit a bed of the bronzy metallic-leaved Begonia semperflorens atropurpurea, mixed with Abutilon Thompsoni on a ground of Antennaria. A central, large circular bed of bronzy-leaved Cannas with scarlet flowers and one on either side with glaucous green leaves and yellow flowers will be striking when in full bloom.

Two carpet beds in the Surprise Garden are neatly designed, and noteworthy from the fact that they were planted with the object of avoiding the necessity of constant pinching and clipping so imperative in many cases of carpet bedding when certain plants are used. In the case of these two the experiment may be described as eminently successful, for this kind of work is reduced to a minimum. One of them consists of various figures of Alternanthera aurea nana, A. latifolia and A. versicolor on a ground of Antennaria tomentosa and edged with Echeveria secunda glauca. The centres are occupied with Cordyline and Grevillea, and there are dot plants of Pachyphytum bracteosum, P. aduncum and Sempervivums of the Canary Island type. The other bed was also planted from the same point of view, and in both cases the experiment has been a success, for very little trimming is required. The centre consists of a four-sided patch of Alternanthera aurea, surrounded by a line of Echeveria farinosa, then Alternanthera versicolor, and that in turn by Echeveria farinosa. A grouud work of Herniaria glabra follows, ou which are four arcs of Alternanthera latifolia, outside of which is an edging of Echeveria secunda glauca.

At the highest elevation of the park is a lake with an island in it, the edges of which are being planted, and will eventually relieve the barren aspect which the bed of the island has presented for many years past. Close by the lake is a rockery which has been constructed by Mr. Melville to improve a piece of unsightly ground upon which no grass would grow. It was made in winter and planted in spring, but already looks as if it had been established for a longer period of time. Many of the various plants used are grouped in masses of a kind or of allied and kindred subjects, so that a fine effect will be the result in a year or two. We noted masses of Olearia Hastii, Rosa rugosa, Gaillardias, Lobelia cardinalis, L. splendens Victoriæ, Sedum spectabile already in fine trim, Linaria pallida, Phloxes of the procumbent, P. subulata type, Aubrietia

deltoides Leichtlinii, Armerias and others. The masses of Perennial Candytufts must be conspicuous and effective in spring. Many of the above are flowering freely, including also Campanula pyramidalis, Hypericum Moserianum, and others. In one place is a fine bank of Yucca filamentosa and its little known variety, Y. f. flaccida with more upright leaves, recurved at the tip aud having stronger marginal fibres.

The hothouses for the raising and keeping of the more tender subjects are situated by the American garden, and a peep in there will show what preparations are being made for the annual display of Chrysanthemums in autumn. The bulk of the plants are dwarf and sturdy this year, and must flower earlier than usual, for the buds of many are already well set, There are some 3,000 plants of the large floweriug kinds and 700 Pompons. The latter are dwarf, bushy, and are intended for facing the groups of larger kinds in autumn. A new kind of flower pot is being used here, and which is as wide at the bottom as at the top to prevent the wind from upsetting them, as the plants get top heavy. A commencement has just been made to feed the plants. Altogether the park is well worthy of a visit, and reflects great credit upon Mr. Melville for his good management. A stately house to accommodate the Chrysanthemums in autumn is being built, about 90 ft. long and 30 ft. wide, but its construction looks better from an architect's than a horticulturalist's point of view.

THE ABBEY PARK FLOWER SHOW, LEICESTER.

So far as we know the popular annual flower show held in the Abbey Park, Leicester, on the Tuesday following the August Bank Holiday, is the only one in this country which is organised by the local corporation, and which devotes its profits to the improvement of the town parks The Abbey Park at Leicester, now one of the most beautiful in in the kingdom, occupies the site of a former morass, and is in itself a lasting monument of the wisdom and enterprise of the Corporation of Leicester at a time when the town was not so large or so rich as it is to-day. The glories of the park itself have often been descanted upon, but this year they seem to be even more manifold than in previous seasons, for the trees continue to grow luxuriantly, trying to top the grimy buildings and tall chimneys on the town side, and spreading themselves in ornamentation of other parts of the grounds; and the floral display in front of the Pavilion is one of the happiest achievements of the curator, Mr. Burn.

The attractions included, besides the flower show, an ample provision of good music, the very first desideratum of such a scene and such an occasion; aquatic sports and life-saving demonstrations in the river, under the superintendence of the Leicester Swimming Club; gymnastic performances and dancing; spacious refreshment pavilions, free from the cup that inebriates; exhibition of bees and honey, by the Leicestershire Beekeepers' Association; day-light and evening fireworks, balloon ascents, etc. The marquees utilised for the purposes of the show were this year erected on the Abbey Park roadside, in the vicinity of the new glass-house, which was used for the display of groups and plants. The new house, a moderately large, light, and airy structure, situated a little to the front and between the main entrance on the Park Road and the old Chrysanthemum House, was utilised for the display of ornamental groups, the most attractive section of the show. The visitor, on entering the house, came upon a gorgeous line of Pelargoniums in magnificent bloom to the left; on the opposite side was a charming exhibition of Begonias, Coleus, etc.; and a decidedly novel group of water bouquets exhibited by Mr. Smith, gardener to W. Raven, Esq., Portland House, Knighton, which was greatly interesting, and was awarded a special Silver-gilt Medal; down the centre a series of groups, which in the enlarged space allotted for the purpose, produced probably the finest work in this direction ever seen at Abbey Park Shows; and at the far end a platform was erected for the purposes of the opening ceremony, with a display of Ferns and other plants below, and flanked with plants of various kinds on a stand. The pillars of the house were already "mossed" at the base, and twined with climbers, which will no doubt show to advantage when the Chrysanthemum days come round. The first prize group was put up by Mr. J. Smith, gardener to S. Bennett, Esq., Holmdale. It was a most artistic exhibit, notable for beauty of form and decoration, a graceful display of light grasses, not overdone with flowers, yet bright, diversified, and well contrasted in colour. Mr. G. Barry, gardener to H. Snow, Esq., of Glenwood, gained the second prize with a magnificent group, very fine in form, but falling short in the lightness and beauty of decoration which characterised the premier group. The third prize was gained by Mr. W. Calvert, gardener to G. Oliver, Esq., Hughenden, whose group was also an excellent one.

A specially interesting feature of the show was a magnificent array of hardy herbaceous plants, occupying the whole of one side of a tent, exhibited by Mr. M. Cuthbertson, of Rothesay. Messrs. B. S. Williams & Son, of Upper Holloway, were also as usual to the fore in assisting the decorative and educational part of the show with a fine collection of insectivorous plants, including rare Saracenias and Nepenthes, which were greatly admired, and many splendid Dracænas, Crotons, Aralias, etc., one conspicuous plant being a seedling Amaryllis, named Mrs. John Burn, as a compliment to the much respected curator's wife. In the groups for market gardeners, Mr. H. Rogers secured first honours; Messrs. Biddles & Co., Loughborough, second; and Messrs. Yarde & Co., third, with very creditable collections. In the cut flower division, usually, the largest interest is centred in the Roses, and on this, as on previous occasions, they elicited the fullest encomiums. But a high meed of commendation should not be withheld from the twelve bunches of hardy annuals with which Messrs. Biddles & Co. took premier honours. Amongst the Roses, Messrs. James Cocker & Son, of Aberdeen, had a marvellous thirty-six, which were well seconded by Messrs. D. & W. Croll, of Dundee, and Mesrs. Harkness & Son were placed third. The same positions were maintained in the class for twenty-four Roses; but the places of first and second were reversed in regard to twelve Tea or Noisettes. Another most successful exhibitor was Dr. Budd, of Bath, who secured first place in the classes for six Roses, six Tea Roses, twelve Roses, and eighteen ditto. Messrs. Cocker & Son secured a first prize for twelve magnificent Horace Vernets, and Messrs. Croll for twelve Teas.

The fruit shown was of an excellent order of merit. The best eight dishes came from Mr. Goodacre, of Elvaston, Mr. McIndoe, Hutton Hall, Guisborough, coming in second, and Mr. Read, gardener to the Earl of Carnarvon, Burton-on-Trent, third. Mr. Goodacre had also the best three dishes, Mr. W. H. Divers, Kelton Hall, coming in second, and Mr. McVinish, Lockington Hall Gardens, Derby, third. The last-named exhibitor put up the best Black Hamburgh and Muscat Grapes, and in other Grape classes Mr. Messenger and Mr. Read secured premier honours. Mr. Divers showed the finest Peaches and Nectarines; and Mr. Goodacre the best Pine and green-fleshed Melon. Mr. Garaway had the best collection of vegetables.

ORCHID NOTES AND GLEANINGS.

Orchid Growers' Calendar.

CATTLEYA HOUSE.—Cattleyas generally are looking wonderfully well this season, and C. Trianæ and C. Mendelii are making up some grand growths. The tropical heat we are now getting is just what they want to thoroughly mature their growths, as plenty of air can be afforded them both night and day. During the past week the nights have been so warm that fire heat has been dispensed with. C. Bowringiana takes plenty of moisture at the roots now and until the growths are made up.

LÆLIA CRISPA now in flower is a grand summer flowering Orchid. It does best with us when grown at the coolest end of the house, at least, that is our experience. I have seen it grown warm, but it never seemed to look happy, and the flowers, when it did flower, were very puny and only lasted a few days.

MILTONIAS.—We have again a good show for bloom of the type, as well as of the dark form Morrelliana, all growing in baskets with very little material about their roots, just enough peat and moss only to retain moisture about the few roots that choose to enter the basket, for most of the roots on our plants are outside, where they get sufficient nourishment from the manure water that is poured over the floors in the evening and from the water afforded them by means of the syringe when damping down in the afternoon. Thrips have been troublesome amongst them this year, which is the first time that I remember having seen them on this Miltonia.

COOL HOUSE.—The time is at hand when the majority of the Odontoglossums will require repotting, for they, like most things, are quite a fortnight in advance of other seasons, but should the weather continue bright it will not be wise to be in too great a hurry unless they can be heavily shaded until they have got hold of the new material. On the other hand we do not care for the growths to be approaching maturity before commencing operations, as after the young growth has began to put out roots from its base there is always a danger of their getting damaged. Good peat and sphagnum moss is all that is required to do them well with a small bit or two of crock here and there as the work proceeds. If the plant has plenty of roots it will not be necessary to fill the pots more than half full of crocks, as we do not favour high potting now for Odontoglossums.

PROPAGATION OF FINE VARIETIES.—Having some fine varieties, which we wished to increase, we have divided them. Our plan, when the new growth is far enough advanced to have roots of its own, is to sever the last made up bulb with the growth attached from the old plants and pot up into small pots where it will soon get established, and although the new bulb will be small it will be quite capable of pushing a spike if allowed to do so, but of course no one would countenance this. The old bulbs will push a strong growth from the opposite side, and in about two years you will have two valuable plants where before you only had one. Bear in mind this should only be done when the plants are strong.—*C.*

Cattleya aurea.

A PRETTY and distinct variety of this grand Cattleya is now flowering in Mr. W. McArthur's collection at Maida Vale. The plant has sixteen healthy bulbs, six leads, and two flowers open, the latter being remarkable for the wide lip and deep pink splashings on the sepals and petals.

NEW ORCHIDS CERTIFICATED.

THE Orchids described below received Certificates according to merit at the meeting of the Royal Horticultural Society held on the 8th inst.:—

Lælia tenebrosa Walton Grange var.

THE sepals and petals of this variety are of great length and pale yellowish-green. The lip, on the contrary, is white, lined with purple in the interior of the tube, and the lamina crimson-purple, with a pale rose coloured blotch at the apex of both lamina and side lobes. In these respects it of course differs widely from L. grandis tenebrosa, but why it should be considered a variety of L. tenebrosa is more than we can divine, as that itself is only a variety of L. grandis, a highly variable species in a state of nature. A First-class Certificate was awarded it when exhibited by W. J. Thomson, Esq., Walton Grange, Stone, Staffordshire.

Miltonia Joiceyana.

THIS is merely a large flowered variety of M. Clowesii, with a much larger lip than in the type. The sepals are oblong, the petals much broader, and all of a rich brown with transverse gold reticulations and markings. The lip is of a soft pink with a violet blotch on and around the crest. The whole plant showed unusual vigour. A First-class Certificate was accorded it when shown by Major Joyce (gardener, Mr. F. J. Thorne), Sunningdale Park.

Cypripedium Thayerianum.

THIS was obtained from C. Lawrenceanum crossed with C. Boxalli atratum. The leaves are oblong and of a light yellowish-green, beautifully marked with a zig-zag tracery of deep green. The upper sepal is broadly ovate and of a heavy brownish-purple, but fading to a clearer purple on a white ground towards the edge. The petals are oblong-spathulate, and of a deep, shining brown at the top spotted with dark markings on the greenish-yellow ground of the lower two-thirds. The lip is of a deep shining brown except the tip, which is greenish. An Award of Merit was accorded it when shown by Messrs. F. Sander & Co., St. Albans.

Lælia Novelty.

HERE again we have a hybrid, and in this case L. Dayana was the seed parent and L. elegans the pollen parent. The pseudo-bulbs at present are small and fusiform, about 3 in. long, and bearing two or three oblong-lanceolate shining green leaves. The whole plant is only about 8 in. high. The sepals and broader petals are of a warm rosy-purple. The tube of the lip is white, except the lower side of interior, which has a median band of about five dark purple lines. The orbicular, undulate lamina is of an intense crimson-purple. An Award of Merit was accorded it when shown by Messrs. J. Veitch & Sons, Chelsea.

Cypripedium Œno-superbiens.

THE name above given is compounded from those of the parents of the hybrid, the seed parent being C. œnanthum and the pollen parent C. superbiens. The upper sepal is broadly ovate and of a light green spotted with brownish-black in lines along the veins, except towards the edge which is white, suffused with rose. The petals are brownish-purple spotted with black on the lower two-thirds of their length. The lip is of a deep shining brown. The leaves are oblong, moderately wide and deep green. An Award of Merit was accorded it when shown by Sir Trevor Lawrence, Bart. (grower, Mr. W. H. White), Burford Lodge, Dorking.

Aganisia ionoptera.

THE pseudo-bulbs of this rare Orchid are very small, bearing a few lanceolate leaves and a racemose scape about 2 ft. high. The sepals are ovate, often with a central purple spot. The petals are smaller, oblanceolate and bluish. The lip is three-lobed and white, with a few transverse purple bands. The flowers are comparatively small individually, but pretty in the aggregate. The blue or violet petals suggested the name. The species was originally introduced from Peru in 1871. A Botanical Certificate was awarded it when shown by Sir Trevor Lawrence, Bart

Earina suaveolens.

ABOUT six species of Earina are known to science, but they are seldom seen in gardens. All are natives of the Pacific Islands and New Zealand. The generic name comes from *earinos*, meaning spring, in reference to the time of flowering in their native country. The specific name of that under notice means sweet scented, and that is the chief quality to recommend it to the cultivator. The stems are slender bearing sessile, lanceolate leaves. The flowers are small and white with exception of the apex of the column, which is orange; they are borne in a dense terminal spike. It was sent over from the Royal Botanic Gardens, Glasnevein, by Mr. F. W. Moore, and was accorded a Botanical Certificate.

SOCIETIES.

Royal Botanic, *August 10th*.—The anniversary meeting of this Society was held at the Museum, in the Gardens, Regent's Park, Mr. C. Brinsley Marley presiding. Mr. Sowerby, the Secretary, read the report, which mentioned that the number of fellows remained stationary, 67 having joined during the past year. For the last few years the Society had carried on exhibitions and floral fêtes, leading to a more general utilisation of flowers in public and family rejoicings and festivities. The arrangements for tennis and croquet lawns had proved attractive. New plants, both of economic and scientific interest and value, had been added to the collections during the year, including the mangrove (Rhizphora), which, although many hundred plants had been introduced during the last forty-five years had only this year been successfully grown; also one of the remarkable ant habitation plants (Myrmecodia), presented by the President of the Linnean Society. The Society were constantly applied to for specimens and samples, and for information from medical, commercial, manufacturing, and other professions, but did not receive the smallest material assistance or public acknowledgment for this its special work, although the Society was burdened by the payment of heavy rent, rates, and taxes. From March to July there had been 17,915 visitors to the gardens. The statement of accounts showed receipts:—General subscriptions, £2,785.; exhibitions and evening fêtes, £1,909; loan from bankers, £1,000; balance in hand, £104. The payments included liabilities of 1891 and previous years, £1,162; garden labour, £2,430; meetings, exhibitions. and fêtes, £1,324 The liabilities of the Society amount to £17,781

The Chairman expressed regret that the gardens were not more popular; but was glad that they answered a very high purpose in the botanical world.

Mr. E. Ledger was of opinion that the position of the Society was anything but satisfactory. The present was the worst balance-sheet that they had ever had, and now the lease had only eight years to run. He objected very much to smoking being prohibited, and thought it ought to be allowed in certain portions of the gardens.

The Chairman would be very glad if the gentlemen would smoke in the conservatories (laughter).

Mr. Sedger said there were no gardens in Europe where smoking was prohibited. What the Society wanted was young blood upon the committee.

Mrs. St. Aubyn Hasket observed that in many public gardens in Germany smoking was prohibited on *fête* days.

The Chairman promised that the question of smoking in particular portions of the gardens should be considered. The Council had adhered to the original objects for which the Society was formed.

Mr. Arthur Rigg thought the Council acted wisely in not introducing changes too rapidly.

The meeting terminated with a vote of thanks to the Chairman for presiding.

WHAT TO DO IN THE GARDEN.

Epiphyllum truncatum.—This, having finished its growth, may now be relegated to a cooler house with more ventilation, so as to encourage the ripening of the wood, for by this means a greater quantity of bloom can be secured in winter.

Cyperus alternifolius variegatus.—Many of the plants of this old-fashioned subject are liable to go back to the green state. Therefore, when propagating for a fresh stock, the best plan is to select the best variegated specimen from which to take the cuttings or divisions as the case may be.

Variegated Pineapple—Small suckers taken from the tuft of leaves on the top of the fruit are the best to employ for getting up a stock of young plants. They grow more slowly, and make useful table and other decorative plants that last a long time, and are of a handy and useful size.

Greenhouse Rhododendrons.—Plants that are getting too large to be wintered in their present pots, should receive a shift into pots a little larger. Over potting is a disadvantage, especially when the plants have completed their growth and we are nearing the end of the season. Make the fresh soil quite firm to prevent the water from making its exit before saturating the whole of the ball.

Late flowering Azaleas.—When the latest flowered batch have completed their growth in the stove, they should be placed in a cool greenhouse. But previous to that, they should be hardened off partly by ventilating the house pretty freely in which they are in. Cuttings of any of them may be rooted by taking them off with a heel of the old wood, and inserting them in pots of peaty soil, and kept close with a bell-glass.

Calceolarias.—Those who have sown an early batch had better keep their eye upon the seedlings, and prick them off before they get crowded, otherwise many of them will damp off in a short time. It is not yet too late for sowing a final batch if desired.

Gloxinias.—The batch that flowered in early summer should be kept on the dry side and placed where the atmosphere can be regulated to suit them. The late display will now consist of seedlings that were sown about the beginning of February. If still making growth, assist them with weak liquid manure, but do not spill it upon the leaves.

Cinerarias.—Late sown batches should be potted on as they require it. Those intended for early winter flowering should now be in their flowering pots. Keep an eye upon insect enemies, such as green fly and thrips, fumigating upon their first appearance to prevent their spreading. Should mildew put in an unwelcome appearance, dust the leaves with flour of sulphur.

Chinese Primulas.—As in the case of Calceolarias and Cinerarias, cold frames are the best for this class of plants. Late batches should be potted up singly before they become crowded in the seed pans. Those sown in April should now be growing freely in 5-in. pots. Some of them may be inclined to throw flower trusses, but they should be removed. Double kinds that were top-dressed in June should now be well rooted, and the crowns, with their young roots, should be severed from the mother plant and potted up singly, if not already done.

Cyclamens.—Plants sown last autumn should now be put in their flowering pots, using good, turfy, mellow loam chiefly. Low span-roofed houses, pits, or frames are the best structures in which to grow them, as they should be as near the glass as possible. Even those sown early in the year will be ready for their final shift. As old plants commence to throw up fresh leaves, they should be re-potted. Keep the crown of the tuber well above the soil to prevent the damping of the buds.

Peaches.—With the renewal of hot dry weather, the late houses in which the fruits are swelling will require liberal supplies of water. Elevate every fruit so as to expose it to sunshine as much as possible, tie down loose and growing shoots, and stop the laterals on strong ones. Trees from which the fruit has been gathered, should be kept as cool as possible, and heavily syringed twice a day, in fine weather particularly, to keep down insects.

Melons.—The last batch of plants intended for late autumn and early winter fruiting should now be planted out if not already done. Give a good amount of ventilation on fine days to ensure a sturdy, short-jointed growth, and although it should be the aim to encourage a free growth, yet it would be a mistake to do so by keeping them too close.

Onions.—When the bulbs give evidence of having completed their growth by the tops dying down or bending at the necks, have them pulled up and laid on the ground with their roots towards the sun at mid-day, so as to ensure their thorough ripening or drying off, for upon that will depend their power to keep during winter. They may be turned at intervals of a few days to complete the drying process as quickly as possible.

Obituary.

THE LATE MR. THOMAS LAXTON.—The news of the death of this most energetic and able horticulturist came to hand too late for reference last week. It seems to have been very unexpected, but few persons probably, outside of the deceased's domestic circle, had heard of his illness. Mr. Laxton was a real amateur gardener. His profession was the law, and he was long a solicitor at Stamford, from which town came many of his earlier products. Removing later to Sandy, and again to Bedford, he seems to have become not only an energetic hybridist, but also a trader, as he published lists and traded as an ordinary florist. He seems to have taken in hand a host of diverse subjects—Potatos, Peas (both edible and sweet), Strawberries, Runner Beans, and other things. Almost myriads of diverse varieties came from his hands, some of which will live for a time; others will soon be forgotten. We say this much, not in discredit, but simply because in all things horticultural change is the order of the day, for sort soon succeeds to sort. That Mr. Laxton was a wonderfully industrious and devoted hybridist there can be no doubt; but it is given to few men, however, to produce many new things that are really first-class. His new first Early Laxton Potato is his best of that vegetable, and ought to live long, for it is excellent. William the First and Omega are perhaps his best Peas, and Royal Sovereign and Noble his longest lived Strawberries. What he may have left behind, him the produce of his intense love for intercrossing, we shall no doubt learn of later on, as his sons will continue to conduct the business the deceased had built up.

QUESTIONS AND ANSWERS.

NAMES OF PLANTS.—*B. L.*: Tilia petiolaris. *H. F. R.*: Eucomis punctata.—*Skimmia*: 1, Genista præcox; 2, Amelanchier vulgaris; 3, Spiræa Lindleyana.—*J. S. C.*: The Norway Maple, Acer platanoides.—*B. H.*: 1, Dendrobium aduncum; 2, Brassia verrucosa.—*X.*: Sedum spectabile, sometimes called S. Fabaria.

RATING GLASS.—*E, B.*: The Worthing case was decided under the Public Health Act, 1875, whereby it was held that a market gardener or nurseryman, who had erected greenhouses and glasshouses on land in an urban district, was only liable to be rated to the general district rate in the proportion of one

fourth part only of the nett annual value of the property. We have no details at hand of the other case you refer to.

NAMES OF FRUITS.—*W.*: 1, Ingestrie Yellow; 2, Duchess of Oldenburg; 3, Irish Peach.—*F. R. G.*: Nectarine Violette Hâtive.

CARNATIONS FROM CUTTINGS.—*W. G.* asks if some reader will tell him what is the best and most certain method of striking cuttings of Carnations and Cloves.

PANSIES.—*W. D.*: 1 is too much like a variety we have under the name of Favourite, and 3 we should like to see again in better condition.

COMMUNICATIONS RECEIVED.—J. B.—H. T.—C. W. S.—W. C.—A. H.—W. D.—T. Whyte.—F. C. S.—Hessle (next week).—J. C. (next week).

TRADE CATALOGUES RECEIVED.

SUTTON & SONS, Reading.—Bulbs for 1893.

E. D. SHUTTLEWORTH & Co., LIMITED, Albert Nurseries, Peckham Rye, S.E.—Trade list of Plants. etc.

DAVID W. THOMSON, 24, Frederick Street, Edinburgh.—Hyacinths and other spring flowering roots.

OSMAN & Co., 132, 134, Commercial Street, London, E.—Nurserymen, Seedsmen, and Florists' Requisites.

DICKSON, BROWN, & TAIT.—43, 45, Corporation Street, Manchester.—Autumn Catalogue of Flowering Bulbs.

LONDON SEED TRADE.

August 15th, 1893.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a steady demand for Mustard at hardening rates. Rapeseed in fair request. Trifolium incarnatum sells slowly at prices current last week. Italian Ryegrass dearer. Perennial Ryegrass unchanged. Winter Tares and Rye easier.

COVENT GARDEN MARKET.

August 16th, 1893.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples..... per bushel	1 0	6 0	Plums.....½ sieve	1 6	2 6
Filberts, per 100 lb.	30 0	35 0	Melons ..... each	1 6	2 6
Grapes, per lb.	0 9	2 0	Pine apples.		
Peaches ... per dozen	3 0	8 0	—St. Michael's, each	2 6	6 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
Artichokes Globe doz.	3 0	6 0	Horse Radish, bundle	2 0	4 0
Beans, French, per lb.	0 4	0 6	Lettuces ...per dozen	2 0	3 0
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 0	1 6
Cabbages ... per doz.	3 0	4 0	Onions.....per bunch	0 4	0 6
Carrots ... per bunch	0 6		Parsley ... per bunch	0 6	
Cauliflowers, Eng. dz.	3 0	5 0	Radishes... per dozen	1 6	
Celery.....per bundle	2 6		Small salading, punnet	0 4	
Cucumbers .....each	0 4	0 8	Spinach ... per strike	4 0	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	1 0
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arum Lilies, 12 blms.	2 0	4 0	Orchid Bloom in var. per bloom, from	0 3	1 0
Bouvardias, per bun.	0 6	1 0	Mignonette... 12 bun.	2 0	4 0
Carnations...per doz.	1 0	2 0	Pelargoniums, 12 sps.	0 6	0 9
doz. bunches.....	4 0	8 0	—scarlet.....12 bchs.	3 0	6 0
Chrysanthemums dz bn	4 0	9 0	Pyrethrum doz. bun.	1 6	4 0
doz. blooms	0 6	2 0	Primula, double, bun.	0 6	1 0
Cornflowers, dz. bun.	1 6	3 0	Red Roses, doz. bhs.	3 0	6 0
Eucharis ...per doz.	1 0	3 0	Roses, yellow, dozen	2 0	4 0
Gardenias 12 blooms	2 0	4 0	— Red..... doz. blms.	1 0	1 6
Heliotropes, 12 sprays	0 4	0 6	— Saffrano...per doz.	1 6	2 0
Lavender...doz. bun.	4 0	8 0	— Tea ..... per dozen	0 6	2 0
Lilium Harrisii, doz. blooms	2 0	4 0	Stephanotis, dz. sprays	2 0	3 0
Lilium speciosum doz. blooms	1 0	3 0	Sweet Peas, doz. bhs.	2 0	4 0
Maidenhair Fern, 12 bs.	4 0	6 0	Sweet Sultan, dz. bhs.	2 0	4 0
Marguerites, 12 bun.	2 0	4 0	Tuberoses, per doz	0 4	0 6

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Balsams .....per doz.	2 0	6 0	Hydrangea, per doz.	9 0	18 0
Campanula, per doz.	6 0	9 0	Ivy Geraniums...doz.	4 0	6 0
Chrysanthemums doz.	6 0	12 0	Liliums, various, per doz.	12 0	24 0
Cissus discolor...each	1 6	2 6	Lobelia .....per doz.	3 0	4 0
Cyperus .....per doz.	4 0	12 0	Marguerites, per doz.	6 0	12 0
Dracæna term., doz.	18 0	36 0	Mignonette, per doz.	4 0	6 0
Dracæna viridis, doz.	9 0	18 0	Palms in variety, each	2 6	10 0
Evergreens, invar. doz	6 0	24 0	Palms, Specimen ...	15 0	63 0
Ferns, invar., per doz.	4 0	18 0	Pelargoniums ... doz.	6 0	12 0
Ferns, small, per 100	4 0	8 0	— scarlet.....per doz.	3 0	6 0
Foliage Plants, doz.	12 0	60 0	Rhodanthe .....doz.	4 0	6 0
Fuchsia .....per doz.	6 0	9 0			

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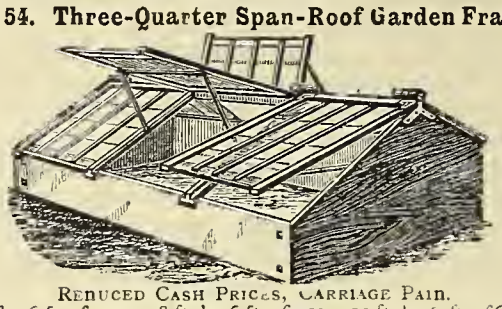
GREAT REDUCTION IN GARDEN FRAMES.

No. 54. Three-Quarter Span-Roof Garden Frame.



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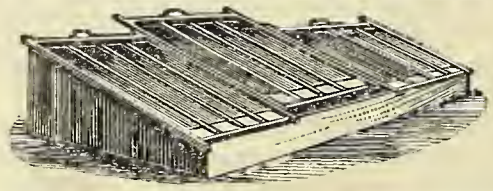
4 ft. by 6 ft., £2 10s.; 8 ft. by 6 ft., £4 5s.; 12 ft. by 6 ft., £6 0s.; 20 ft. by 6 ft., £9 0s.

No. 60. CHEAP CUCUMBER FRAMES.



Lights glazed with 21-oz. English Glass, and painted three coats of oil colour, and fitted with iron handle, complete. A Large Stock kept. 4 ft. by 4 ft., £1 5s.; 6 ft. by 4 ft., £1 15s; 9 ft. by 4 ft., £2 7s. 6d.; 15 ft. by 4 ft., £3 7s. 6d.; 18 ft. by 4 ft., £4 5s. Packing Cases extra, allowed if returned.

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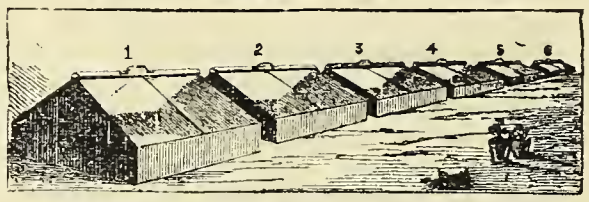

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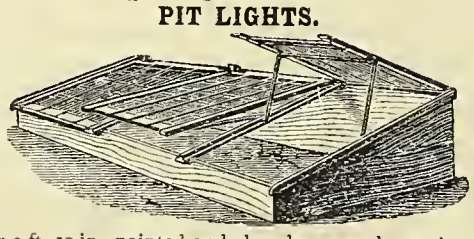

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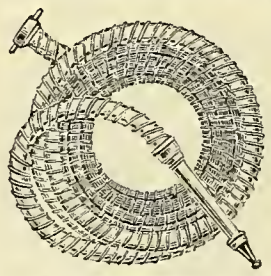

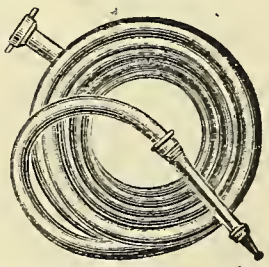

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"Gardening is the purest of human pleasures, and the greatest refreshment to the spirit of man."—BACON.

NEXT WEEK'S ENGAGEMENTS.

MONDAY, AUGUST 28th.—Bulb Sale at Protheroe & Morris' Rooms.

TUESDAY, AUGUST 29th.—Royal Horticultural Society's Show at the Agricultural Hall (four days). Committees meet at 11 a.m.

WEDNESDAY, AUGUST 30th.—Bath Autumn Show (two days). Easingwold Flower Show.

THURSDAY, AUGUST 31st.—Thame Flower Show. Bulb Sale at Protheroe & Morris' Rooms.

FRIDAY, SEPTEMBER 1st.—National Dahlia Show at the Crystal Palace (two days). Orchid and Bulb Sale at Protheroe & Morris' Rooms.

SATURDAY, SEPTEMBER 2nd.—Stretford Flower Show. Bridge of Allan Flower Show. Bulb Sale at Protheroe & Morris' Rooms.

The Gardening World.
Edited by BRIAN WYNNE, F.R.H.S.
SATURDAY, AUGUST 26th, 1893.

THE ROYAL BOTANIC SOCIETY.—The information recently given as to the present position of the Royal Botanic Society will have been by no means unexpected by many of our readers, whilst it has undoubtedly surprised many others. When a Society like this becomes indebted to the amount of some £18,000, and that, too, in spite of its Royal patronage, it certainly looks as if bankruptcy was impending, and that further existence only means increased indebtedness. The position of the Society is, indeed, a serious one, and it may be that, amongst other economies, it may have to close its series of shows, for it is the shows, and that alone, that give the Society any form of horticultural status.

What seems absolutely certain is that whether as a botanic garden, as a place of resort for the wealthy, or as an exhibition area for flowers, the gardens have lamentably failed, and there can be no doubt but that presently they must revert to the Crown to be converted into a sort of Regent's Park Kew, when they will become a most popular place of resort without doubt, but hardly so under any other conditions. The suggestion that the Society should strive to convert the gardens into a sort of swell Cremorne is an intolerable one, and likely to meet with rigorous opposition from the other leaseholders of Crown property in the neighbourhood. The land was originally taken from the Regent's Park, and must, of necessity, and in due course, revert to the Park and the public.

There can be no fair comparison instituted between the merits of the Zoological Gardens and the Botanic Gardens. The former command our highest admiration, and are open to the poor as well as to the wealthy. They constitute, also, the finest object lesson in Zoology to be found almost in the world. The Botanic Gardens have no such claim, either horticulturally or botanically, indeed, in the latter sense, they constitute only a tenth rate Kew. It is but too obvious that the Government will have to relieve the Society of its liabilities and take possession of the Gardens.

PHLOXES AT CHISWICK.—A suggestion which has been made in favour of the holding of a Phlox conference at Chiswick next summer is one that it would be pleasant to have acted upon, if for no other reason than that the collection of these beautiful hardy flowers, now growing there, is one of the best in the kingdom. All lovers of hardy plants may well be pleased at the proposal, because the Phlox is one of the most beautiful of all hardy border flowers. It is curious, however, that we rarely see these Phloxes grown as pot plants, and yet if propagated from crown cuttings early in the spring, when they soon make root and become strong young single stem plants in a few weeks, really fine heads and charming dwarf plants result.

Provided the suggestion referred to be acted upon, we should like to see all the best varieties so treated, not only to show their adaptability for pot culture, but also evidence the fine form in pip and truss, the best varieties now possess. The Blue Thistle-like Eryngiums and Echinops, would make a beautiful class, both for show and for a paper at the same time. Delphiniums and Campanulas might also be available for the same purposes at the time Phloxes are at their best. The practice of setting up hardy flowers in bewildering profusion on these occasions is much to be deprecated, and new ideas on the more effective and more instructive arrangement of such materials might also well be invited.

One or two papers at the most to any section of flowers is ample, and only two or three striking sections should be taken at any one time. So far as Phloxes are concerned, we are certain that knowledge concerning them and their wondrous variety is very limited. Very few gardeners, for instance, know anything about the grand new dwarf forms which present such a striking contrast to the old tall section, and are so valuable for massing.

BEDDING PELARGONIUMS.—When last year all descriptions of bedding Pelargoniums under the effects of the frequent heavy rains collapsed so uttely, and so far from being gaudy masses of flowers, became literally masses of leafage, whilst the tuberous Begonias presented so bright an appearance, it was felt that the days of the Pelargonium were numbered and that the Begonia was the bedder of the period. This season, however, we are treated to a remarkable transformation, for what do we now see almost everywhere in bedding displays but Pelargoniums in wondrous bloom, giving splendid masses of colour and inviting, by their beauty, returning admiration.

It is really a bedding Pelargonium season, one of the finest indeed for our old favourites, and big beds of Henry Jacoby so gorgeously brilliant under the hot sunshine, Vesuvius, Tom Bowling and others, besides the beautiful soft pinks and salmons are in their very best form. We are rather glad, than otherwise, that this should be so, because in bedding arrangements we have always felt some degree of affection for an old favourite, which has in the past, whether florally or by means of its various forms of foliage, won so much of admiration, and rendered such exceeding service.

All the same, the Begonia has nothing to fear from this resuscitation of the Pelar-

gonium. Begonias bedded out in well-enriched soils and well watered are again this season most beautiful. It is a great mistake to plant them too thickly, to plant in poor soil, and to neglect the water-pot in dry weather, The finest effects are produced when planted thinly on some neutral carpet, and have intermixed with them a few tall plants of a diverse character. However, we may leave the Begonias to themselves, for as bedding plants they have a long and important future. We are pleased to see the old favourite Pelargonium—the geranium of common life—again having such a good innings.

Hot Weather Diet.—How many of us are there who, during the recent hot weather have felt a great disinclination to partake of the ordinary diet, usually of a heated and heating nature, and have gladly accepted something light, green, or fruity, cool and pleasant, and which, while refreshing did not overload the stomach, or produce that heaviness which the heat itself is too provocative of. It was but the other day—not specially thinking of the weather, for it was not so hot just then—the president of the Royal Horticultural Society, who is also a physician, deprecated in public the conservatism of the British public in relation to meat diet, and strongly advised the greater use of vegetables and fruit as food.

How the heat of the preceding fortnight has emphasised that advice, by making food of the old form completely lose its charm! We have been reading in one of the daily papers an urgent appeal to consume light mid-day meals, and these should consist of cool salads and fruits; also that good fruit should always be found on our breakfast and tea tables. This season, with a magnificent fruit crop, we see immense quantities literally spoiling for want of a good market, and yet millions of the people do not eat one-hundredth part of the fruit they should, simply because their food associations are of the very worst traditions.

What an immense boon to gardening would result were the vegetables, salads, and fruits that vocation produces, in ten times greater demand than now! What enormous benefit to the health as well as to the intelligence of the people! Would that the recent tropical heat would help to bring the great army of consumers more to their senses in this matter—how much better for horticulture generally and the people at large!

Cliveden Gardens.—Mr. Astor, the new owner of Cliveden, has engaged Mr. A. Wadds as his gardener, and he will take up his duties about the middle of September. Mr. Wadds is a son of that able gardener, Mr. B. Wadds, Birdsall Hall, York, and has himself had a good training at Mentmore and other places.

The Annual Trade Sales of stove and greenhouse plants, winter flowering Heaths, etc., conducted by Messrs. Protheroe & Morris, are announced to take place as follows:—Mr. H. B. May's, Dyson's Lane, Upper Edmonton, September 11th; Messrs. B. Maller & Sons, Burnt Ash Road, Lee, September 12th; Mr. John Fraser's, Lea Bridge Road, September 13th; Mr. John Maller's. Enfield Highway, September 14th; Mesrrs. Gregory & Evans, Sidcup, September 15th.

The Employees of Messrs. William Cutbush & Son, of the Highgate and Barnet Nurseries, had their annual outing on Saturday last and visited Hastings, where they dined together at the Café Monico under the presidency of Mr. H. J. Cutbush, and generally spent a very enjoyable day.

A Fuchsia Show at Bristol.—At no time, says a local paper, are the Zoological Gardens, at Clifton, Bristol, a more agreeable sight than during the summer, and the grounds presented an exceptionally attractive appearance last week, when the Fuchsia show of the Zoological Society was held. The plants were attractively set out in a large marquee erected on the lawn the effectiveness of the display being enhanced by the judicious use of Palms and Ferns. There were altogether 160 Fuchsia plants exhibited, and Mr. Harris, the society's head gardener, may well be proud of the fine show they made. Possibly owing to the fierce heat experienced of late, the collection would have looked a little better a month ago, but the sight of the Fuchsias, over fruitful in their rich clusters of pendulous bloom, was one not to be missed by admirers of flowers. Altogether 109 distinct kinds were represented.

Pomological Congress in France.—The tenth general show and the eleventh Pomological Congress, organised by the Pomological Association of the West of France, will take place at Vannes from October 17th to 22nd. The samples of fruit destined for the show are to be the property of the society, and must be sound, ripe (or almost ripe), and represent the average type of exhibited varieties. The Pomological Show is to be accompanied by a special exhibition of instruments, such as crushers, grinders, presses, and stills.

Fruit Imports.—The imports of green fruit were very large last year, especially Oranges, which showed an advance of 1,600,000 bushels over the previous year. Foreign Apples were also in abundance, there having been an increased import on the previous year of 1,600,000 bushels. The Board of Trade have for the first time begun to distinguish the other ripe fruit imported, 217,000 bushels of Cherries being recorded last year, 413,000 bushels of Plums, 637,000 bushels of Pears, 764,432 bushels of Grapes, and 841,000 bushels of unenumerated fruits.

The Jersey Potato Crop.—For the second year in succession the Jersey Potato crop has been unsatisfactory, the price made per ton for those exported having been a little less than £5, against an averaged value for eleven years of a little over £6. The crop also is about 11,000 tons less than in 1892. The figures for the present year have been issued by Mr. Philip Barbier, steamship agent, and these show that the earliest consignments only made £20 per ton this year against £52 last year, while the last lot made £3 10s. per ton against £2 3s. 4d. last year. The total amount received for the crop this year is no less than £160,275 8s. 4d. less than for the good crop of 1891, in which year no Potatos were sold at less than £5 per ton.

A Glass Brick Greenhouse.—This is decidedly the greatest novelty in greenhouses on the World's Fair grounds. It is made of what might be termed hollow glass tiles set together in such a way as to form a Gothic arch, doing away entirely with the necessity of any framework. The roof is built over a wooden framework in much the same way that masons construct an arch and the framework afterwards removed. The tiles are joined by cement. Naturally the light does not penetrate the roof as readily as through sheet glass, but the hollow space between the outer and inner surfaces of the tiles would certainly make the house very warm in winter. Still but little assistance could be expected from the sun in the way of supplying heat. It is claimed that this style of structure has been in use in Europe for several years, and that it is giving excellent results.—*American Florist.*

Torquay Gardeners at Taunton.—The members of the Torquay District Gardeners' Association held their first annual excursion on the 10th inst., when over 200 journeyed to the floral fête at Taunton. The train left at 8 a.m., and arrived at Taunton soon after ten. An inspection was made of Taunton Castle, which contains a very interesting museum. At 12.30 seventy members of the society partook of lunch at the George Hotel, Mr. W. B. Smale presiding. A few toasts were proposed—that of "The Torquay District Gardeners' Association" being received with enthusiasm and suitably acknowledged by Mr. French and Mr. Pears. The toasts of "The Chairman" and "The Hon. Secretary" (Mr. F. C. Smale) were also received with much heartiness. A visit was subsequently made to the flower show, the best in the West of England, and so attractive that last year over £400 was taken at the gate. Later in the afternoon a few Chrysanthemum enthusiasts went to Claremont, the residence of Mr. W. H. Fowler, one of the greatest, if not the greatest, growers of Chrysanthemums in the West.

A Beautiful Memorial.—The botanical museum of Harvard University, Cambridge, Massachusetts, is being enriched by a beautiful series of models of flowers, intended to represent the leading genera in all the families of plants. The foliage and flowers are represented life size and in natural colours, while characteristic generic details are given on an enlarged scale, such as a section of ovary or fruit, the style, or stamens or general structure of the flower. An average of six pieces are thus made to represent each species included in the series. These models are constructed wholly of blown glass, thus being nearly indestructible, the mineral colours entering into the composition of the glass with few exceptions. They are the work of Leopold Blaschka and his son, Rudolf Blaschka, of Dresden, Germany, renowned for their accurate models of jelly fish and other marine life. The Blaschkas are to devote ten years to the work. The series was presented to Harvard University by Mrs. Charles E. Ware and Miss Mary L. Ware, of Boston, in memoriam of the husband and father, Dr. Charles E. Ware. Nearly four years have already been devoted to the work, and from eighty to 100 models represent a year's labour. American plants are given preference in the series to those of other countries.

The weather in the West during the past week has been very erratic. There have been heavy squalls of wind, accompanied by drenching showers of rain, with intervals of brilliant sunshine. The temperature at one time was 98°. It is hardly necessary to state that the heavy winds brought down the apples by the ton, and as they have never previously been known to be so abundant, they are actually retailed at 2d. per gallon, the finest and best fruits. Pears are unusually fine this year and free from the disease witnessed in Cornwall during the last few years. This great plenty has suggested the thought that the present means of communication between the grower and the would-be buyers in the larger centres of population might be much improved. Better facilities by way of collection and cheap carriage are amongst the improvements hoped for in the future, though how to bring about the desirability is quite out of our power to suggest. To some little extent it has been meted out to the Strawberry growers residing in the east of Cornwall, and alike to the Mushroom pickers, whilst the Potato growers in the West are still left without the means of that cheap transit which is so desirable to the industry, and which keeps the army of growers in the West as poor as the proverbial church mouse. Gardening in Cornwall would be immensely benefited by cheaper railway rates.

The Excessive Heat.—The recent high summer temperatures (remarks the *Standard*) are in excess of those commonly experienced during an English summer, and for nine consecutive days the shade temperature at Greenwich has exceeded 80°, which, so far as August is concerned, is the longest period with the daily maxima above 80° during the last half century. There have already been twenty-two days this summer with a shade temperature of 80° and above, while during the whole period of the six summer months from April to September this number of hot days has only been exceeded twice since 1877. The temperature was 83° at ten o'clock on the morning of the 16th inst., in London, which is 17° above the average, and at two o'clock the thermometer stood at 89°, or 19° above the average. In Westminster the maximum temperature in the screen registered 91° which is the highest reading this summer, and the thermometer at Greenwich did not reach 90° during any of the five summers from 1888 to 1892. The temperature at two o'clock on the same day was 5° warmer than on the preceding day in the metropolis, and in the sun's rays the heat was practically unbearable. The hot weather of the last few days has been common to the whole of the United Kingdom, although the spell has been less prolonged in Scotland and Ireland. On Wednesday the greatest heat was limited to England and greatly to the southern and eastern portions of the country. On Tuesday the thermometer registered 89° at Greenwich and in other parts of the suburbs of London, while the reading was 88° at Loughborough, 87° at Jersey, 86° at Oxford, and 85° at Wick, Leith, and Cambridge. On each day since August 7th, the Bank Holiday, the temperature has exceeded 80° in several parts of England, and on some days the readings have exceeded 85°.

Excursion to Windsor and the Royal Gardens.—The annual trip to some famous gardens is invariably a red-letter day with the members of the Birmingham Gardeners' Association, and thanks to the kindness of Mr. Owen Thomas—who has a troop of friends in the Midlands, and whose very hearty co-operation was secured—he met the large party of members and ladies at Windsor, and was their genial guide for the whole of the day. The State apartments were visited, and the Albert Memorial and St. George Chapels, the Rev. Canon Walton most kindly piloting the party and explaining details. Then an inspection of the terrace gardens, the stables, and then dinner in the Town Hall. Brakes were then in readiness, and with Mr. Thomas in his wagonette to lead the way, a glorious drive up the Long Walk to see the big Vine with its 1,800 bunches, at Cumberland Lodge, and away for a drive around Virginia Water, was a surprise and a treat to the greater portion of the party who had never before seen the 300 acres of water surrounded by charming woods and scenery. The glorious old forest trees, and such specimens of Spruce, Scots and other Firs, the long Rhododendron drive, and so many rare trees, were of great interest. A brief look through the Home Farm, and all the high bred cattle there, and a view through the Royal Dairy—for the time was rapidly passing away, and the Royal Gardens at Frogmore had to be reached and seen through—but it was a brief, hurried visit, for tea was ordered to be ready at Windsor, and time allowed for gaining our seats in the train and starting homewards. It will be an ever-remembered day by the party, although the heat was intense, and so trying, and warm, and hearty thanks came from all to Mr. Thomas for his kind and courteous attention.—*W D.*

LETTUCES FOR WINTER AND SPRING.

There are establishments where a daily supply of Lettuce is expected from the garden during the whole year, and some with a limited amount of experience may think this a comparatively easy matter, whilst most of those who have had to do it will readily admit that with respect to the dull winter months it is a task of some difficulty, and not readily accomplished without ample means and some amount of forethought. Employers who expect the salad bowl to be supplied with this, the best of all salading materials, during winter should furnish their gardens with an ample supply of two light boxes, which I prefer to anything else; and given these there need seldom be a time when the gardener cannot furnish the table with a fairly good salad, if proper steps are taken.

The practice frequently advocated of lifting plants from the open ground with good balls of earth in October and November is rarely a success, as the plants too frequently gradually dwindle away, so that by February and March there is a difficulty in getting even a few good leaves. I advocate the marking out of a plot of well-manured ground into beds the width of the lights and planting the Lettuce when quite young in their permanent quarters, so that flagging, which invariably accompanies the lifting of the plants when large, is avoided, and this has very much to do with the after decay attendant upon the too common practice alluded to. For the early and mid-winter supply a few frames full of plants, which are nearly at their best when the winter sets in, should be provided, and directly there is any danger of frost, the frames should be put over them, keeping them well aired and as cool as possible. They will move very slowly, and not having been disturbed by the lifting process after attaining maturity, will not be so subject to decay from damp. Frost, of course, must be excluded, by covering the lights, and if necessary the sides of the frame.

For later plantations to succeed these I would keep the lights off till frost becomes severe enough to injure them, unless, owing to excessive rains, the soil is in danger of becoming soddened. I would also, when the frames are first put on, elevate them on bricks, in order to secure a free circulation of air, and as much air as the exigences of the season will admit of. For the earlier part of spring, some provision should be made by arranging a few frames so that a lining of fermenting material can be placed around them to secure a gentle warmth, and where this is done, cover up with mats at night. For use later on, those left to grow more naturally should have occasional waterings with liquid-manure, or a top dressing of some of the artificial manures now so much in use, keeping the surface of the soil well stirred. Cabbage Lettuces are really the best for winter work, because, owing to their flat growth they can be kept nearer the glass; at the same time there are those who prefer Cos varieties, and will have them if possible.

I have sometimes noticed that on the well-manured soil of market gardens where they have had to brave the storms of winter without the slightest protection, good, well hearted Lettuces have been obtained earlier than in private establishments supposed to be more favourably circumstanced; at the same time, market men consider them a risky crop which cannot be reckoned on to pay oftener than once in four or five years. In most, if not all, suburban districts the sparrows have for some years done great damage to this crop during the autumn, winter, and spring months; so to prevent their depredations it will in many instances be found necessary to protect the plants when young by stretching a piece of netting over them. Of Cabbage Lettuces, All the Year Round is the one I have most largely grown, and I once grew one of German origin called Golden Ball which I thought well of, but after a few seasons could not get it true. It stood a long time in summer without bolting. As a White Cos for winter and spring I consider Hick's Hardy White still unequalled.—*G.*

THE CHICAGO EXHIBITION.

The "mountain" under the great dome of the horticultural building at the World's Fair, which we were lead to expect would "astonish the natives" is a total failure from an artistic point of view. Readers of horticultural and other papers have, for nearly two years been looking forward to this anticipated triumph of floricultural and decorative art, but, alas! they have been doomed to disappointment, for the whole thing has not a single redeeming feature. You will remember how the magnitude of the dome was boomed, how loudly it was claimed for it that it would be "a world beater" for grandeur and artistic skill; and you will consequently not be surprised at my being anxious to see the wonder. Late in April I arrived at the Fair when the whole thing was chaos, and the mound consisted only of a rough wooden framework, rising in the air some sixty or more feet, and without shape or design, excepting that here and there were some stretches of canvas painted red and which we had to imagine represented rocks.

Being absent from the Fair for some weeks I expected on my return that I should see the crude idea developed into a mountain clothed with verdure and beautiful beyond compare, but to my astonishment and disgust, such a jumbled up heap of rubbish I had never before set eyes on. It is true there were a few good plants to be seen, but the way in which the good and the bad had been pitched together spoilt the whole thing, so that it represents nothing in nature. To call it a mountain is positively absurd, for no mountain was ever clothed like it. It represents no particular type of vegetation, and to say that it is rustic and natural in design, is a libel on Nature, for the greatest crank must admit that Nature never appears so much out of shape, proportion and place as does this thing.

Let me give you a brief description of the things to be seen on this wonderful mountain. Looking towards the west, which is possibly the best side, we see a few large pieces of the Screw Pine, a large tree of Ficus elastica, a scrubby bush of Hibiscus Cooperi, a number of plants of Musa ensete, and a few Cannas. On the south side common Poplars, some dead and dying Palms, some Maples and Gourds form the chief feature. The eastern side much resembles the south, but the north is slightly better, the attractions being a few good Musas and a huge plant of Ficus elastica. I should add that bare places between the plants are filled up with Spruce boughs.

Underneath the heap, for I can call it nothing else, there is a great cave in which we were told that experiments with the electric light on vegetation would be conducted, and which was to be an object lesson to florists on the value of the electric light. But this brilliant idea went the way of others and we have instead a "Crystal Cave" let out to a concession who charge five cents and sometimes ten cents for admission, but show nothing for the money except a little crystal from Dakota, which they try to sell to the unwary at exhorbitant prices. At the base of the mound is a splendid exhibit of Palms shown by Messrs. Pitcher & Manda, and the States of Pennsylvania and New York. These I will refer to more fully in my next. In the pathway round the mound are some twenty-two stands for the sale of "fakes," souvenirs of the exhibition, &c. These have the best positions and shut out from the public view some splendid exhibits, brought here from great distances and at great expense. One's sympathies are entirely with the Exhibitors and against the management which tolerates such outrages against common sense and fair dealing. In my next I will send you some notes on exhibits and exhibitors; in the meantime believe me, the World's Fair does not represent American horticulture at its best.—*Am. Cor.*

PARK PLACE, HENLEY-ON-THAMES.

This, the magnificent residence of Mrs. Noble, is situated on the left bank of the Thames, that is, on the Berkshire side of the river, and on or near the top of a heavily-wooded chalk hill overlooking Henley and the Valley of the Thames. Some beautiful views of the latter can be obtained from different standpoints, and in some instances the eye can ramble far over the low-lying portions of Oxfordshire, while the view in the distance is closed in by the various interrupted or isolated ridges of the Chiltern range of hills. The trees consist of Beeches, Yews, Maples, Elms, Oaks, and others that do best on the chalk, and here indeed may be seen some noble and patriarchal specimens, particularly of Elms and Beeches. Towards the top are some masses of Norway Spruce coning heavily; and near the mansion itself the Evergreen Holly Oak thrives and rejoices in its dense masses of dark green foliage.

Our visit being made in company with the members of the Ealing Gardeners' Society, and time being altogether too limited for anything like an adequate inspection of this well-kept place, we cannot go into the details which the noble residence well merits. The estate consists of 1,000 acres, of which 600 acres are included in the park. The open spaces are covered by a dense turf of apparently great antiquity, and well might we say with Cowper that the foot

"Sinks ankle deep in Moss and flowery Thyme."

The turf is indeed studded with beautiful wild flowers that grow on the chalk, including tufts of Campanula glomerata still flowering, and as the foot treads on the yielding turf it becomes strongly redolent of the fragrance of wild Thyme. The sides of the pathway, or winding drive up the hill are also studded with wild flowers, but more particularly with a belt on either side of Hypericum calycinum, whose flowers are now mostly over.

Arrived at the gardens, a hurried inspection of the houses was made. The first entered was a range of Peach and Nectarine houses, the fruits of which had to a great extent been gathered, but some of the later trees still bore a heavy crop of fine fruits, and showed what might have been seen a little earlier. The border in front of this house was gay with stocks and masses of Zinnias revelling in the sunshine, with fine flowers of brilliant and gaudy colouring. Here also on the gravel was a fine batch of Strawberries, in large 32-size pots. The party then passed through the cool Odontoglossom house, the roof of which was heavily draped with rose and white-flowered Lapagerias in a free flowering condition. Another compartment contained flowering Cattleya Gaskelliana, Dendrobium Dearei, and a floriferous piece of Epidendrum prismatocarpum. A third compartpartment was also occupied with Cattleyas. Another range included an early vinery, a section containing Tomatos in pots, and the long stems were well furnished with fruits of the Perfection type. The third compartment of this house contained Figs bearing a good second crop of fruit: and the fourth was devoted to Black Hamburgh Grapes. A stove next visited was occupied with Caladiums, Dracænas, and Crotons while the roof was shaded with flowering Stephanotis floribunda. Three compartments contained each, crops of Melons and Cucumbers, the Melons in the first ripeniug a heavy crop of fruit, while those in the second were just set, and in the

third compartment the plants were only 8 in. to 3 ft. high.

From here the party passed through an area surrounded by the bothies, fruit-house, etc. A quantity of sturdy Chrysanthemums were notable for their dwarfness. The walls of the bothies were heavily hung with Clematis flammula, C. montana, Tamerisk, Ceanothus fragrans, and various other climbers or wall plants. The pale flowers of the Ceanothus (a variety of C. azureus) were indeed distinctly fragrant. The fruit-house contained some handsome fruits of William's Bon Chrêtien, and Beurré d'Amanlis Pears, Peaches, Plums of various kinds, and large, tempting-looking fruits of the Brunswick Fig.

The next house entered, was a tall roofed stove containing Palms, Ferns and Water Lilies in a tank. The roof was heavily draped with flowering masses of Bougainvillea glabra, Aristolochia gigas and Stigmaphyllum ciliatum, the latter having yellow Oncidium-like flowers. Near this was a very wide lean-to Fig-house bearing a heavy second crop. The next was a vinery rejoicing in a splendid crop of Madresfield Court and Muscat Grapes now ripe or nearly so. Another stove inspected contained Crotons, Dracænas and other fine foliaged plants, while the roof was covered with a profusely flowering mass of Allamanda Hendersoni. In a small area between the ends of two houses, but exposed to the atmosphere, was a well-flowered plant of the Common Trumpet Flower (Tecoma radicans) with scarlet red flowers. Another range of houses included two vineries filled with Black Hamburgh grapes, on the back walls of which were covered with Camellias and some trees of the Shaddock (Citrus decumana) the numerous huge sized fruit of which were a source of great interest to the visitors. At the far end was a Peach house from which the fruits were gathered. A cool conservatory near this was gay with Campanula pyramidalis, Plumbago capensis, Petunias, Begonias, Celosias, Musa ensete, and the roof with Passion flowers, &c. The last house entered was a vinery containing Foster's Seedling, Black Hamburgh, also under the name of Frankenthal, Muscats, Madresfield Court, scarcely ripe and a large, handsome white sort like the Duke of Buccleuch, grafted on another sort, and bearing finely.

As the inspection was hurriedly being accomplished, tantalising glimpses could be obtained of single, upright, cordon Pears on the walls heavily laden with fruit, also Pyramidal and Standard or bush Apples and Pears all more or less heavily laden with fine fruit. Pears, Plums, Figs and Peaches on the walls will yield a rich harvest presently, but at present constitute as fine a sight as any gardener could wish to see. The fruit had also irresistible attractions for swarms of unwelcome visitors in the shape of wasps and blue-bottle flies, which were being caught by bottles containing sweets as well as by a simple but efficient contrivance consisting of a handlight placed over the top of another, the lower one having a hole in it near the top, and through which the insects could make their way up into the top light, but failed to find their way back again. Broken fruits were placed below the lower light to attract the insects, and the trap may be described as a great delusion for the ill fated insects.

We had no time to thoroughly inspect the herbaceous borders, suffice to say that the prominent features at present are Phloxes, Eryngium planum, Anemone japonica alba, A. j. elegans, Sedum spectabile, Asters, Salpiglossis, &c. The dry season is very favourable to the latter for they are flowering most profusely, and the several varieties are rich in colour, while there is no diminution in the size of the flowers. A very striking feature of one of the borders was the free use made of moderately large bushes of Rosa rugosa and R. spinosissima, the former being laden with their crimson red fruits and the latter with their smaller black heps. A notable feature of Park Place is the collection of Sweet Peas numbering some fifty of the newer varieties and about ten of the old Invincible varieties, making sixty sorts. The earlier sowings have ripened their fruits and have been gathered while a piece of ground is still tolerably gay with a later sowing of numerous varieties; but the heat is almost too much for them, and the flowers are indeed out of character both as to shape and size, which can only be seen to perfection in the earlier part of the summer when Sweet Peas are most at home, in the sunny south at least. Amongst the white varieties grown here, the best is White Eagle. One of the most striking and distinct is Orange Prince, the flowers of which have a decided tint of orange, but the constitution of the plant is rather delicate.

Close under the mansion is a curious grotto, forming as it were the basement of a conservatory above. Here stalactites (artificial of course) hang in great profusion and in all sorts of grotesque and fantastic shapes from the roof and sides of what might be termed a curious and cool retreat. The floor is stood round with Palms, Ferns, Bamboos, and other kinds of vegetation that can live under the subdued light. Numerous mirrors round the sides in recesses give the illusive impression of extensive galleries or corridors stretching away in the distance. The house above is a combination of conservato and drawing room, with numerous tables, easy chairs and other articles that invite luxurious ease, but none was allotted the party of hurried inspection. Ivies, Eucalyptus, Fuchsias, Dracænas, and other plants occupied highly ornamental boxes or vases. The new variegated Japan Hop swung high overhead in a basket, and is already bearing its catkins of curious flowers.

Right in front of the mansion is the flower garden, surrounded by a low Yew hedge. Variegated and golden Conifers make a strong feature of the display. Begonias and Pelargoniums form the groundwork. A collection of these Conifers is also planted out near some of the hothouses and includes amongst their number the silvery, frosted looking Cedrus atlantica glauca, with Golden Yews, Cupressus, Thuya Verveneana, and various others of the genus, besides Retinospora plumosa, R. p. aurea and a whole host of the golden and dwarf Conifers now at the command of the planter. All this had to be perforce examined, or rather scampered over, in considerably less than an hour in view of the fact that the steam launch was waiting in the river to take the party back in time to catch the last train from Taplow to Ealing.

We cannot take leave of Park Place, however, without making honourable mention of Mr. George Stanton who has successfully discharged the duties of gardener in this notable establishment for the last twenty years, and we must say that the garden, but more particularly the houses and hardy fruit do him credit in golden silence, even in an exceptionally difficult season.

A ROCK GARDEN IN SOUTH DEVON.

What may, without exaggeration, be described as certainly the best rock garden in the western counties has been recently completed at Abbotsbury, Newton Abbot. It is devoted principally to the cultivation of the choicest kinds of Alpine and other mountain plants from high altitudes. Considering that only last winter this picturesque spot was nothing but a plain grass field about an acre in extent, and adjoining the existing pleasure ground, the transformation effected is truly wonderful. To produce the required irregularity several thousand tons of soil had to be excavated, and hundreds of tons of stones, some of which were over forty hundredweight each, were used to build the rocks. These have been formed of limestone found in the neighbourhood, and already look more like natural stratified rocks than the handiwork of man.

Approaching the new Alpine garden from the older parts of the grounds, one would first notice scattered groups of rocks projecting through the sward, here and there, looking as though they had been forced through the surface by volcanic upheavals. They are adorned in every crevice with suitable vegetation, and in a part more massive than the rest is a cleft from which emerges a pleasant streamlet, bounded by huge boulders at intervals, and fringed with a variety of graceful flowering plants delighting in the moist bed provided for their roots. The stream is crossed by stepping stones from which the water can be seen dashing over rocks and forming a fall some 15ft. deep. The rocks on each side of the waterfall have a particularly bold and striking appearance, and in one place are traversed by a ravine in which the massive stonework is so arranged that, although having an irregular and natural appearance, it provides, at the same time, a convenient series of steps for descending to the lower levels. Below the waterfall a large boulder forms a natural bridge across the stream, and here is found that part of the rocks which has been devoted to the smallest and choicest gems of the Mountain flora, which are arranged, not singly but in groups and colonies, and as nearly as possible as they would be seen in their native home.

There are over 900 varieties of plants, most of which are already doing exceedingly well. There are large patches of the interesting Edelweiss, some fifteen or sixteen kinds of Alpine pinks, including the lovely Dianthus neglectus from Mont Cenis. The Gentian is represented by about a dozen sorts, and the varieties of Sedum, Sempervivum, and Saxifrage are numbered by the score. The latter include the great silvery Rockfoil, or Queen of Saxifrages (Saxifraga rougifolia), from the Pyrenees. Another area has been devoted to the choicest kinds of Androsace, consisting not only of Alpine, but including many specimens from the Pyrenees and the Himalayas. Close by the pond is a bog bed set apart for American cowslips, hardy Orchids, Primula farinosa, and many other plants which love a marshy ground. Perhaps the boldest part of the work is a cavern, apparently formed by the toppling over of cumbrous blocks of stratified rock. The entrance is suitable adorned with graceful creepers, and the interior with ferns, and other shade-frequenting plants. Close by is a group of the lovely Pyrenean plant, Ramondia pyrenaica. Another recess among the rocks is in a more sunny position, and is decorated with plants requiring such a situation, including many rare and new kinds. The whole of the work has (says the *Western Morning News*) been designed and carried out under the direction of their able landscape gardener, Mr. F. W. Meyer, by Messrs. R. Veitch and Son, of the Royal Nurseries, Exeter, with whom the formation of picturesque rock gardens has long been an important department.

EXETER FLOWER SHOW.

The annual summer exhibition of the Devon and Exeter Horticultural Society took place at Northernhay, Exeter, on the 18th inst., and the weather being exceedingly fine, and the show a good one, there was a large attendance of visitors from the city and country. The number of exhibitors showed a steady increase, and the quality all round was excellent, especially the fruits and vegetables, while the local trade contributions were, as usual, a most attractive feature. The keenest competition took place in the class for a collection of vegetables. Here Mr. Copp, gardener to W. E. S. Erle Drax, Esq., ran Mr. Mairs, gardener to Sir John Shelley, very close, but the award of premier honours to the last-named gave general satisfaction, his collection having a finish and uniformity of style that told much in its favour, while the individual exhibits were really first-rate, and, taken together, yielded the largest number of points.

In the class for twelve and six stove and greenhouse plants, as well as for a miscellaneous group arranged for effect, Mr. Rowland, gardener to W. Brock, Esq., had much his own way, coming out first in each competition. In the grouping a judicious use was made of some natural grasses, which gave a light and graceful finish. If anything, the group was a little deficient in colour, but this was compensated for by graceful management and harmony of grouping.

In the smaller group class (12 ft. by 8 ft.) the premier award was taken by Mr. W. F. Richards with a very nice collection arranged much on the same lines as that of Mr. Brock's. Crotons, Humea elegans, Hyacinthus candicans, a few Coleus, Francoa racemosa, and a fringe of Panicum seemed to be the orthodox style. For eight stove and greenhouse Ferns, the Rev. Hamilton-Gell was first, and premier awards for collections of fruit went to V. Stuckey, Esq., and Col. Sir W. H. Walrond, Bart., M.P.

The wild-flower classes were keenly contested, and the exhibits were worthy of all praise. Some of the specimens were very rare indeed, while all were arranged with exquisite taste. The open class in this section brought out a grand collection, and the Devonshire class, in which Miss Elsie Boundy was first, was also very good. Messrs. R. Veitch & Son made a most beautiful display of the good things grown in their nursery, including their new climbing French Bean, for which they received a Certificate of Merit. Other liberal contributors also were Mr. George, Kerswell, Mr. C. G. Sclater, Messrs. Jarman & Co., Chard, and Mr. Smale, Torquay.

ABERDEEN FLOWER SHOW.

In beautiful weather the sixty-ninth annual show of the Royal Horticultural Society of Aberdeen was held on the 17th, 18th and 19th inst, in the Central Park. It was expected that the quality of the exhibits would be somewhat below par, owing to the early season; but this anticipation, it is gratifying to record, did not prove true. In every department there was an advance on former years, and never in the seventy years' history of the Society were there such a large nnmber of entries. In addition to the entries proper, a considerable number of nurserymen and gardeners had choice collections on view, and without doubt these were the chief features of the show. Each of these collections was awarded the Society's Silver Medal, while Mr. M. Cuthbertson, Rothesay, secured the Gold Medal with a magnificent collection of Herbaceous plants. Messrs. Ben. Reid & Co., Aberdeen, had a beautifully arranged stall. A wreath and cross, grounded with Lichens, and having clusters of Stephanotis, Liliums, and Roses was much admired, as was also one grounded with Mahonia leaves and relieved with sprays of White Heather and clusters of Roses. Their shower bouquets also were deservedly admired. The stall of Messrs. William Smith & Son, Aberdeen, had a great number of admirers. Its most noticeable feature was the charming assortment of flowers on mirrors and velvet cloth. Messrs. James Cocker & Sons, Aberdeen, had on view (independent of those they had in competition), a large display of Roses. This firm had also a superb display of pot plants. Mr. Joseph Dalgarno, Whitehall Nursery; Mr. John Forbes, Hawick; Messrs. D. & W. Croll, Dundee; and Mr. Campbell, Blantyre, had also beautifully arranged stands.

Pot Plants.—The entries in this section numbered 319 as compared with 257 last year. For the collection of best grown plants, arranged on a side table 15 ft. by 4 ft., Mr. Andrew Reid, Durris, took first place, Mr. Grigor, Fairfield, being a good second. Mr. Grigor carried off the premier honours in Ferns, exotic and hardy, with beautiful specimens. In the section for Ferns from the stove or greenhouse, Mr. James Strachan, Beechgrove, scored best. Begonias were a splendid show, the chief honours going to Mr. A. Robb, gardener to Mr. James Murray, Glenburnie Park. Mr. R. Kiloh, gardener to Mr. Collie, of Woodlands, had the best table decoration. Mr. G. Ross, gardener to Mr. McHardy, of Cranford, carried the first place in Pelargoniums with a choice collection. Mr. Strachan, Beechgrove, was deservedly first with plants for dinner-table decoration. For Pelargoniums, bronze, tricolor, or variegated, Mr. Robert Kiloh, Woodlands, led the way. In Orchids a magnificent specimen shown by Mr. A. Howie, Fordoun, received the first prize.

Cut Flowers.—These were very fine. Mr. Kiloh, Woodlands, won the premier place with a magnificent collection, arranged for effect on a side table, 6 ft. by 3½ ft., Mr. D. McHardy, Cranford, being second. Mr. J. Robertson, Ferryhill House, was first for floral decorations for dinner-table, 8 ft. by 3½ ft. Roses were somewhat similar to last year. For twelve blooms, Mr. R. Watson, Stoneywood, was first, and Mr. George Ross was equally successful with twenty-four blooms. Tea Roses were a grand collection, and were much admired. Mr. William Coutts, Ellon, was first. The trusses of cut flowers from the stove or greenhouse were grand. The chief prize-winner was Mr. J. Moir, Dundee. Mr. James Fife, junr., Aberdeen, exhibited some capital Carnations, and a grand assortment of Phloxes from Mr. A. Reid, gardener to Mr. Baird, of Urie, was deservedly awarded the first place. An old prize-taker, Mr. John Wilson, Charleton, Montrose, was again to the front with Dahlias. There was a big display of Asters, and the quality was extra fine. The bouquets, bride, hand, and buttonhole, were universally admired.

Fruit.—The turn-out in this section, all things considered, was unquestionably creditable. Better bunches of Grapes could not be wished, while Peaches, Apricots, and Plums also presented a first-class display. The collection of nine distinct varieties shown by Mr. Reid, Durris, was considered the finest yet shown under the auspices of the society. Mr. Reid was also one of the chief prize-takers for Grapes. Mr. John Moir, gardener to Mr. Cox, Dundee, made a good second to Mr. Reid in the competition for the best nine distinct varieties. The hardy fruits were also of a very high quality, one of the most worthy collections in this class being that of Mr. George Taylor, Raeden, Stocket; while the chief honours for Cherries and Pears went to Mr. Robert Grigor, gardener to Sir John Amory, Bart., Tiverton, North Devon. Gooseberries made a fine display, and Currants were large and well formed. A prominent prize-taker in the latter class was Mr. W. Williamson, gardener to Colonel Turner, of Turnerhall. Mr. John Wilson, Montrose, gained a well-merited prize with his fine specimens of Peaches. The chief honours for Apples went to Tiverton. Plums were above an average. Mr. F. Duncan, gardener to the Earl of Crawford and Balcarres, exhibited some, which for quality and size would have been difficult to beat.

Vegetables.—The display in this section was acknowledged on all hands to be one of the best ever seen in Aberdeen. Finer collections of ten different varieties, arranged in boxes, than those forwarded by the professional gardeners, it would be difficult to imagine. Mr. George Milne, gardener to Lady Gordon Cathcart, Cluny Castle, headed the list with a superb collection, the second place going to Mr. T. B. Middleton, gardener to Sir Arthur Grant, Bart., of Monymusk. The first prize-takers in the various classes were—Mr. A. Reid, Urie; Mr. A. Davidson, Kepplestone; Mr. Robert Grigor, Tiverton, North Devon; Mr. A. Gardiner, gardener to Mr. A. Burnett, Kemnay House; Mr. Williamson, Turnerhall; Mr. J. Dalgarno, Pitgaveny, etc.

The classes devoted to nurserymen and florists were well contested. For thirty-six Rose blooms, dissimilar, Messrs. James Cocker & Sons, Sunnypark, led the way. For Tea Roses, however, Messrs. D. & W. Croll, Dundee, sent the local firm to the right-about with a beautiful collection. The Messrs. Cocker, however, secured premier honours for cut flowers of Gladioli and a Bride's Bouquet. Mr. John McPherson, Deemount; Messrs. Croll, Dundee; and Mr. M. Campbell, Blantyre, also gave a good account of themselves. The exhibits sent in by amateurs and working men were a most creditable display.

The arrangements were under the capable direction of the courteous Secretary, Mr. A. M. Byres, C.A. The takings for the three days were £357 17s. 11d. Last year, the gate yielded for the three days £1,341 9s. 5d., but the Military Sports were the great attraction then.

THE VEGETABLE GARDEN.

Potatos at Chiswick.

In going through the Potatos on trial in the gardens of the Royal Horticultural Society at Chiswick, there are to be seen a few very desirable varieties. Of course, Potatos are this season, as a rule, cooking better than usual, and those under notice cooked beautifully, besides turning out a good crop of regularly sized tubers. Sutton's Triumph comes first, and is in my opinion the best one of the whole lot on trial; it is a good cropper, the tubers are of nice size, flatish-round in shape, with a slightly rough skin, and the eyes level with the surface, while its cooking qualities are everything that could be desired. Windsor Castle is also a splendid Potato, somewhat of the same shape as Triumph, but slightly longer; a fine crop of even shape and size, a good cooker, and of excellent flavour. Lily Langtry is not so good a shape as the foregoing, but it is a large cropper, and of good cooking quality; a good allotment or field Potato. Redcliffe Kidney, Jeannie Deans, and Veitch's Early Regent are all good croppers, and, like the above-named, after being cooked, received the full number of marks.—*O. H. S.*

Petunias.—There are abundant illustrations this year of the suitability of these gay flowering plants for dry situations. The single striped ones are the most largely used, but having seen a most glorious bed of a fringed double variety I must put in a plea for these, which are somewhat more difficult to obtain. The bed I refer to consisted of one variety, the colours rich plum and pure white, and being of a closer habit of growth than the singles, they are better adapted for small beds, and when well done amply repay the extra labour attending them.—*G.*

Gleanings from the World of Science.

The White Man's Foot.—When a plant or fruit is encumbered with numerous synonyms, it is evidence of its wide-spread distribution or its popularity. Mr. A. Davidson, writing in the *West American Scientist* about immigrant plants in Los Angeles County, California, says that the constant association of Plantago major with the homes of the early settlers, led the Indians to call it the White Man's Foot. Seeing that it is so largely used for feeding cage birds in this country, the Plantain might have originally been introduced by the settlers on purpose; but that can hardly apply to the Shepherd's Purse (Capsella bursa-pastoris) a prolific weed which is said to have followed the Roman legions in their conquest of Gaul and Britain. Already it is abundant in California, although it probably first landed on the east coast of America and followed cultivation across the great continent, as peacefully as did the Anglo-Saxon settlers themselves.

A more useful weed.—The leguminous plant familiar to us as Lucern (Medicago sativa) was introduced to Italy in 470 B.C. by the Romans, who brought it from Media. They probably introduced it to Britain during their occupation of it as fodder for their horses. It is still cultivated in some parts of the country, and is disseminating itself over the country by way of the railway embankments and on chalk cliffs and similar waste places. Now, after 2,363 years since it first touched European soil, it has established itself on the Pacific coast of America as a naturalised weed.

Black Mustard in California.—Although a native of this country, the common or Black Mustard (Brassica nigra) has never proved such a mischievous weed as the field Mustard or Cherlock (B. arvensis). In California, on the contrary, it has multiplied to such an extent as to prove an injurious weed by covering acres of ground to the exclusion of more useful vegetation. The same may be said of the Wild Turnip (Brassica campestris) and the Hoarhound (Marrabium vulgan), and it is only an inadequate supply of water that prevents the Watercress (Nasturtium officinale) and the Peppermint (Mentha piperita) from becoming equally troublesome.

The Stork's Bill as a Fodder Plant.—There are three species of Erodium, natives of this country, but we never hear of them being grown as fodder, nor are they at all plentiful, although E. cicutarium is tolerably frequently met with in certain localities. It, as well as E. moschatum, would appear to have been sown as fodder plants in the sandy soil of Los Angeles, and now they occupy the ground to the exclusion of the more permanent native grasses which would have afforded grazing for cattle long after the Erodiums, which are only annuals, have died down.

Number of Immigrant Plants observed in Los Angeles.—Altogether forty-two European plants have now established themselves in Los Angeles, including ten grasses. Some are only maintaining an existence, while a large proportion of them have become a veritable nuisance to the farmer and cultivator generally. Of course, a considerable number are escapes from cultivation, while others are mere casuals; but as time goes on it will be more difficult to determine the plants that are truly indigenous from those that are not without a record being kept of recent arrivals.

Causes that operate for the spread of Plants.—These are manifold. Some are intentionally introduced for one purpose or another. Seeds of others are introduced as weeds amongst grain and other agricultural seeds. Some, such as the Thistle, are furnished with a pappus which acts as wings, by means of which they are often carried to great distances by the wind. Birds and furred animals also carry others which cling to their legs, wool, hairy bodies, etc. Once introduced, the conditions must be congenial to their welfare; and we know that the circumstances are sometimes more favourable to them than to the native vegetation, for they are able to oust the latter. They sometimes grow with such uxuriance as to be scarcely recognisable alongside of European specimens. There are but few of the introductions to this country that oust the native vegetation to any extent except the troublesome Peruvian weed named Galinsoga parviflora.

FLORICULTURE.

The Florists' Laced Pink.

Mr. Thurstan does well to keep his favourite flower—the fragrant laced florists' Pink—before the public, and claim for it the high qualities he does. It is one of those flowers which gives comparatively little trouble to cultivate and yet makes such a large return. It does not require to be grown in pots, like the Carnations, in order to get exhibition blooms, it will grow on any fairly dry spot in the open. If any one will take the trouble to raise the bed for Pinks a little above the ground level so as to throw off some of the superabundant moisture which comes with the autumn and winter rains he will be rewarded for his pains. The Pink is apparently of a hardier character than the Carnation, because it can be planted in the open in the autumn to stand through the winter—and it does stand through the winter with safety.

The Pink does not appear to be so much affected with spot as the Carnation, and therefore gives less trouble and causes less anxiety during the winter than does the Carnation. My friend Mr. Thurstan holds the Pink to be the progenitor of the Carnation, and he has shown me in times past his bed of seedling Pinks and called my attention to the robust Carnation-like growth of the seedlings, which looked like the "Jacks" the costermonger hawks about the streets on his barrow and sells as double Carnations, while he slyly winks the other eye. I cannot venture to set up as an authority as to whether the Pink begat the Carnation or the Carnation the Pink—perhaps they are cousins, or more distantly related—but I am heartily with Mr. Thurstan in advocating the claims of this charming flower. I this season grew a good batch of that fine laced Pink John Ball; the plant came through the trying winter with scarcely the loss of a single one, and they bloomed freely and finely, the season considered. We saw at Chiswick plants of some of the leading varieties in good bloom, and that early variety Modesty must be written down as one of the best border Pinks in cultivation.

When at Cardiff a few days ago I had the pleasure of looking through Mr. Thurstan's small garden. It is a pity he has not more leisure so that he could have a larger garden and give more of his time to his favourite flowers. He had a capital bed of fine strong plants of named laced Pinks raised from pipings taken in the spring. Under a cool west wall a few pipings are put into some light sandy soil, and a glass jam jar, cut off just below the shoulders, is inverted over them. Scarcely a piping is lost, the little plants rooting quickly soon grow into size and now the early struck cuttings are splendid stuff—to plant out in October; for if anyone would have fine laced Pinks not only should the bed be well prepared and adequately manured, but the plants should be well established by the winter. I have known persons to order plants of Pinks in April, when they had begun to develop their blooming shoots, and then express disappointment because the flowers did not come nicely laced.

Among the rooted plants was Duke of York, a very fine dark laced Pink, raised, I think, by Mr. Charles F. Thurstan, of Wolverhampton, the secretary of the Midland Pink Society, and shown by him in 1892 in fine condition, when it was awarded a First-class Certificate of Merit. It is a rare grower; one may as well term a twenty stone man delicate as to regard this fine new variety as in any degree "miffy," for it has all the vigour of a Carnation. I predict a rare future for it, but whether it is to be put into commerce and by whom I cannot say.

Whether, as my old friend imagines, the Pink will supersede the Carnation remains to be seen. It has an advantage over it in its hardihood, its capability of being grown in the open, its freedom of bloom and its exquisite fragrance. It may be said that it admits of but little variety, though to the Pink grower there are many gradations of marking and shading. But some persons say bizarre and flake Carnations are alike, which they certainly are not, and then there is growing in our midst a large section of self and bicoloured and tricoloured fancy Pinks that are invaluable in the border, and are being much sought after for border cultivation. It is because we have little opportunity for bringing these together that I regret the temporary eclipse of the Southern Pink Society. I will not say collapse because the organisation exists and can be called into action at any time. I hope something will be done in the approaching autumn to prepare a schedule of prizes and programme for 1894. We began so well a few years ago, and with so much promise of the future that a resurrection of past efforts is absolutely required.—*R. Dean.*

TOMATOS AT CHISWICK.

Those who were fortunate in securing a good set of Tomatos in the open air before the middle of the present month will be able to secure a good supply of ripe fruit from the open ground during the remaining portion of this and all the next month. The great heat that set in about the 12th has brought on the fruit very rapidly, and it will no doubt be excellent in quality. The market prices will undoubtedly rule low, for good samples have been selling for some time past at 3d. a pound (retail price), and it is unlikely that they will be dearer for some time to come. Since the 12th the atmosphere has been too arid for the setting of the blooms, and in shallow soils watering has been necessary to keep the plants from succumbing altogether. The leaves have dried up and dropped to an unprecedented extent perhaps in the case of this sun-loving plant. The fruits already upon the plants will, however, probably all ripen, provided the warmth during next month is only moderate.

The earlier varieties in the collection of Tomatos in the gardens of the Royal Horticultural Society at Chiswick, commenced to ripen during the third week of July. Amongst the more improved and smooth fruited kinds of appreciable size, Conference still maintains its position as a free bearing and early variety. Indeed it is the opinion of some cultivators that it is one of the best all-round Tomatos in cultivation. Ham Green and Chemin are very little behind in point of earliness, and produce a size larger fruits. The last named is a beautifully shaped Tomato, somewhat deeper than wide as a rule, but otherwise nearly globular. In wet seasons Ham Green is rather liable to split during the ripening process. Market Favourite is a slightly ribbed fruit, but like Ham Green, is liable to split. A free-setting kind is Tennis Ball with a roundly-oblong fruit, but inferior in flavour to the above. We noted a peculiarity here in the case of a plant having the fruits of a second bunch quite red and almost ripe, while those of the first bunch next the ground were still green. Prince of Orange is a yellow variety with fruits about the size of those of Conference, and not much behind in point of ripening. Here also may be placed Queen of the Earlies, a slightly ribbed, red fruit, akin to Market Favourite and Sutton's Earliest of All. Cherry Shaped and Pear Shaped are both small, red kinds of the shape indicated by their names, and are to be regarded as fancy kinds on account of their small size. They bear freely, however, and are amongst the first to ripen. A size or two larger is Sutton's Dessert, a round, red fruit which bears freely and ought to be pretty well flavoured this season. On a par with this as to size is Sutton's Golden Nugget, of neat, oval shape, and bright yellow.

As regards earliness, a second and a third group may be made. The second group would include Advance, a slightly flattened, red fruit. Another red variety advancing to maturity about the 29th of July was Sutton's Wonder. Curiously enough, Horsford's Prelude came in about the same time, whereas, being a small round fruit and a free setter, one would expect it to ripen amongst the first. Independently of this fact, it is inferior to Conference on account of its diminutive size. As far as quality is concerned, however, there is not much to complain of, and it might find favour in private establishments on account of the length of time during which it continues to set fruit in autumn, particularly if a little fire heat is applied when the nights are becoming cold. The yellow fruits of Greengage are somewhat larger. In some cases Tennis Ball comes late enough to be classed as a second early. Although a large fruiting kind, Champion ripened sufficiently early to be placed amongst the second earlies. The fruits are smooth, flattened, of fine flavour, and the plants are relatively dwarf and short-jointed. It does not, as a rule, however, bear a great number of fruits in a bunch.

The third or late group would include Perfection, Mikado, Golden Queen, and Blenheim Orange, all of which had a few fairly well coloured fruits by the 29th of July. Other varieties we have not named were even later, although most of them might be classed with Perfection. They are likewise mostly large fruiting kinds.

SHRUBBY VERONICAS.

Exclusive of the garden hybrids and varieties, the bulk of the shrubby Veronicas come from New Zealand and the neighbouring islands. So neat in habit and varied are they, that the wonder is they are not more extensively cultivated for the ornamentation of the rockery, if for nothing else. Some of them are quite hardy while the rest are nearly so and only require the shelter of a cold frame to ensure their safety. They can readily be propagated and to any extent from cuttings during the summer months, so that a stock can always be kept up in frame to supply any loss that may occur during the winter months, amongst those that are planted out. A very representative collection may be seen in the gardens of the Royal Horticultural Society at Chiswick.

All of the plants are comparatively small, but the larger ones are planted out in beds upon the grass, while an extensive lot of miniature specimens may be seen in small pots in a north aspect pit. Few of the larger leaved kinds such as V. speciosa, V. Andersoni, V. salicifolia and their varieties are represented, but the small and wonderfully neat leaved kinds are plentiful. The undermentioned kinds include the more interesting species, but are not exhaustive of those to be seen at Chiswick.

As the name implies, Veronica lycopodioides resembles a Lycopod or Club Moss as much as any other kind of vegetation. The leaves are oval-shaped and adpressed to the stems, but spreading on the branches; some of the lower ones are five-lobed with narrow segments, indicating an ancestral condition of the plant. Even more singular is V. Hectorii, having blunt, scale-like leaves closely adpressed to the branches in four rows, resembling for all the world Cassiope tetragona belonging to the Heath family. As the latter is grown in the same frame, the resemblance may be seen at a glance. A small tuft of acute, spreading leaves generally occupy the tips of the branches. Similar in habit but different in foliage is V. Armstrongii, with short, acute leaves, spreading at the tips, and giving the smaller shoots a four ranked appearance. The whole plant has a yellowish green hue. Another interesting and pretty plant is V. cupressoides with erect, branching stems, and whipcord-like branchlets of a light green, not inaptly compared to a Cypress. The minute, triangular, leaves are adpressed to the shoots and decurrent upon, and completely covering them.

The better known V. pinquifolia may be taken as the type of another group. It has roundly obovate, concave leaves of an attractive sea-green hue with pink or whitish edges. An unnamed species with much larger leaves of leathery texture and the same glaucous hue, but yellow at the edges, is otherwise similar to the last. Some years ago V. pinquifolia and V. carnosula were frequently confused, but the latter has much larger, obovate, and nearly flat, glaucous leaves, tapering more decidedly to the base. They are also of a paler glaucous hue,, and the young stems are dark purple. V. amplexicaulis may be compared with V. carnosula, but the leaves are much longer and green, so that the general aspect is quite different.

A species that seems destined to become popular is V. buxifolia, with spreading, spathulate-oblong leaves, very similar to those of the Box in size, shape and dense arrangement, but of a dark, shining green. Here may be placed V. epacroidea which has been compared with an Epacris, so neat and densely arranged are its dark green leaves with a yellow edge The younger ones are ovate and ascending upon the branches so as to cover them, but they become oblong and spreading when about two years old or more. The plant is of erect branching habit as is V. anomala. The latter has larger, oblong, deep green leaves with a yellow edge. To the same category belongs V. rakiensis, having lanceolate-oblong, bright green leaves about six to nine lines long. Another erect habited plant is V. lævis with spathulate-oblong

leaves, nine to twelve lines long. As the name implies, the leaves are smooth and dark green. Unlike several of the preceding kinds, V. diosmæfolia is of a bushy and spreading habit, with oblong, yellowish green leaves about half an inch long. V. pimeloides differs from all of the rest of this group in having deeply glaucous leaves of elliptic outline and only a quarter of an inch long. The plant is of dwarf habit and grows slowly. The leaves of V. elliptica are much larger than those of the above, spathulate elliptic and green with a grey edge consisting of short, downy hairs. V. parviflora augustifolia may be seen here under the name of V. ligustrifolia. The latter has linear, oblong leaves, really shorter and broader than those of the former. The leaves of shrubby Veronicas are usually entire, but a number of them have serrate leaves including V. Bidwilli which has small, roundly wedge-shaped leaves, serrate along the upper edge. The stems are procumbent with ascending, purple shoots, 1 in. to 2 in. long, and furnished with two rows of white hairs. Few of the above flower freely in a small state, but V. Bidwilli is an exception and has white flowers with lilac veins. Totally different from all of the above is a small creeping species with miniature, roundly ovate leaves covered above with white hairs. It is V. canescens, a herbaceous species which covers the ground like a patch of Nertera depressa. It is therefore pretty and as interesting as it is uncommon. The solitary flowers are of good size and white. A number of the larger leaved, shrubby species such as V. speciosa, V. decussata, V. parviflora, V. salicifolia, V. Andersoni and others are very successfully grown and flowered in sea-side gardens of the south of England close on the beach, and these finer leaved kinds might be planted there to great advantage.

EUCRYPHIA PINNATIFOLIA.

There are three or four species of Eucryphia, and that under notice is not only the most handsome but the hardiest, as the others require greenhouse temperature and give but little satisfaction, even there. It is satisfactory to state that it passed through last winter with little or no injury even in the open ground, while many other reputedly hardy plants succumbed even under the protection of a wall. The leaves are pinnate, of a dark shining green, and more or less evergreen according to the severity or mildness of the winter. They of course accompany the large and snowy flowers, which are produced in August or even in July in such seasons as the present. As the centre of the flower is occupied by a large mass of stamens, the bloom resembles a white Hypericum or even a Rose at a little distance off, whereas the foliage is somewhat intermediate in character between that of a Rose and a Barberry. The plant is a native of Chili, from whence it was introduced in 1880, but is not yet half so common as we should like to see it. The genus belongs indeed to the Rose family, but to a tribe of it which is but very little represented in this country outside of botanic gardens. Our illustration of it shows the flowers and foliage natural size. The plant forms a bush 2 ft. to 5 ft. high in the open ground and grows very slowly.

Eucryphia pinnatifolia.

A TERRIBLE VINE DISEASE.

At the meeting of the Scientific Committee of the Royal Horticultural Society, held on the 8th inst., specimens of Grapes from a garden near Dorking were exhibited, suffering from Anthracnose.

Mr. G. Massee, of Kew, who determined the disease, stated that the vines were affected by "a mild form of Anthracnose," which is caused by a fungus called Sphaceloma ampelinum, De Bary (*Bot. Zeit.*, 1873). The fruit of the fungus is developed during the winter, hence, before this period, all diseased portions should be removed, and furthermore, such portions should be cut well back, as the mycelium is perennial, and works backwards from the young shoots which it first attacks.

The Chairman (Mr. D. Morris), stated that no one knew until a few weeks ago that this terrible Vine disease was in England; but now it was reported from an Edinburgh garden as well as from Dorking. In America, the disease was most deadly, and it was also the source of much trouble on the Continent. Notwithstanding the above statement, it is possible that the disease has been lingering for at least two or three years in this country, as Mr. R. D. Blackmore, of Teddington, called attention to it at the Grape Conference, held at Chiswick in September, 1890. In the *Journal of the Royal Horticultural Society*, vol. xiii., p. 49, Mr. Blackmore said a disease which attacked his Vines, "resembled Anthracnose,"

although the symptoms were not quite identical. The tip of the shoot is first attacked, and the crinkles of the unexpanded leaf, which becomes of a dirty wash-leather colour, and loses its pellucidity; then the leaves that are expanded further down the shoot become cupped and concave on the lower side, convex on the upper, and lose their grailing. All the shoot becomes dull, and its crispness is gone; and if pinched it indents without without breaking. The disease, unless checked at the outset, descends the stem very quickly, runs into the older wood, and destroys the Vine." The specimen submitted to the committee, had the canes, fruit-stalks, and berries affected with dark-brownish blotches and spots, while the leaves were of a dull greyish tint, shaded here and there with brown on the under surface. As a remedy, it was suggested that Vines suspected of the disease should be dusted with sulphur in the springtime, and later on a mixture of sulphur and lime should be applied judiciously. In some places on the Continent, a wash of sulphate of iron is used for the stems. Any Vines now suffering badly from "Anthracnose" should be immediately destroyed by fire, to prevent the disease spreading. It may be mentioned that Mr. Blackmore plunged an infected shoot into a can of strong liquid-manure; and this arrested the evil, and after two or three such dippings, sound growth was renewed. The manure should be undiluted and strong.

GLADIOLUS AND DAHLIA SHOW AT EARL'S COURT.

The show on the 23rd and 24th inst. was chiefly devoted to the exhibition of Gladioli and Dahlias. which made a brave display in their respective ways. Prizes were also offered for China Asters and for fruit. In both of these last the competitive exhibits were considerably augmented by others in the miscellaneous class. The different subjects in the latter, while increasing the size of the exhibition, also contributed largely to its effect by the greater amount of variety and the novelty of the exhibits themselves. Notable in this latter respect was a group of Cape Pelargoniums of large size, varied, and strongly fragrant, a qualification that is unfortunately more or less entirely deficient in the more showy and flowering subjects. Cut flowers of herbaceous plants and fruit trees in pots as effectively occupied the other end of the large tent in which the show was held. Cut flowers being the dominant feature of the exhibits, there were more numerous tables to accommodate them than on last occasion. Rain fell steadily and rather heavily in the morning, a fact which, no doubt, militated to some extent against the attendance of visitors later in the day.

Messrs. J. Burrell & Co., Howe House, Cambridge, were the only competitors in the open class for 100 spikes of Gladioli, and they certainly merited the first prize which was awarded them. The spikes were strong and bore from ten to fifteen fully expanded blooms, according to the variety and the size of the individual flowers. They were all of the Gandavensis type and exhibited a considerable range of colouring, the bulk of them being of light and pleasing hues. The first prize for twelve spikes in the amateur's class was awarded to Mr. D. Whitlaw, Brechin, Scotland. Here again there was only one competitor whose spikes were very meritorious. The first prize for twenty-four show and fancy Dahlias in an open class was awarded to Mr. S. Mortimer, Rowledge, Farnham, Surrey. Some of his finer show blooms were John Walker, Eclipse, Duke of Fife, Muriel, and Diadem, while Mrs. Saunders, Buttercup, and Mrs. John Downie were good fancy blooms. Mr. C. Turner, Royal Nurseries. Slough, was second with smaller blooms, but all beautifully neat and fresh. Fine blooms were W. Keith, Diadem, John Walker, Hy. Walton, and others. Mr. M. V. Seal, Vine Nurseries, Sevenoaks, was third with an even lot of medium-sized blooms, amongst which fancy sorts largely dominated. The first prize for twelve show and fancy Dahlias in the amateurs' class was accorded to Mr. T. Vagg, gardener to J. Theobald, Esq., M.P., Bedford, Havering, Romford. The blooms were of good average size. Mr. A. Ocock, gardener to Mrs. McIntosh, Havering Park, Romford, was a good second. J. G. Fowler, Esq., Glebeland, South Woodford, was third. The first prize for nine bunches of Cactus and decorative Dahlias, was awarded to Messrs. J. Cheal & Sons, Crawley, Sussex, who had very fine Cactus sorts in Bertha Mawley, Countess of Gosford, orange and yellow centre, Beauty of Arundel, and Delicata. Mr. M. V. Seal took the second place with some attractive varieties likewise. Mr. C. Turner took the third place, showing decorative sorts chiefly. There were five entries in this class. The first award for twelve bunches of pompon Dahlias was taken by Mr. M. V. Seale, who had exceedingly neat blooms in Whisper, Dorothy, Eva, Hilda, Favourite, and Eurydice. Mr. C. Turner was second with distinctly larger blooms, and less neatly set up, though otherwise good. Messrs. J. Cheal & Sons took the third place. There were five entries in the class. Messrs. J. Cheal & Sons easily carried off the first prize for twenty-four bunches of single Dahlias, which were varied and very highly coloured, both selfs, striped and zoned varieties being very attractive. The second award went to Mr. M. V. Seale, whose blooms were smaller but good. Mr. E. F. Such, Maidenhead, took the third place. An extra prize for flat-petalled Asters was awarded to Mr. W. Salmon, Elder Road, West Norwood.

The first award for twelve dishes of hardy fruits was taken by Mr. J. McIndoe, Hutton Hall Gardens, Guisborough, Yorks., who had fine Pears, Apples, Peaches, Nectarines, Plums, Apricots, and Cherries. The second prize was taken by Mr. G. Wythes, gardener to the Duke of Northumberland, Syon House, Brentford, who had a dish of Mulberries in addition to his other fruits. The third prize was taken by Mr. G. H. Sage, Ham House, Richmond, who also had larger and riper Mulberries. There were four competitors.

In the miscellaneous class a group of large plants of Cape Pelargoniums was exhibited by Mr. J. Hudson, gardener to the Messrs. de Rothschild, Gunnersbury House, Acton. About half of the plants were flowering fairly freely, but the flowers of the unimproved sorts, are, as every one acquainted with them knows, of small importance; nor are flowers needed to encourage the cultivation of so fragrant and beautiful leaved a class of plants. Some of the finest pieces were Pelargonium denticulatum (filicifolium odoratissium) P. capitatum, P. fragraus, P. Radula, P. quercifolium majus, P. Pheasant's Foot, and others (Silver Gilt Medal). On a side table a large collection of Gladioli including nine new varieties exhibited for certificates, was shown by Messrs. Kelway & Son, Langport, Somerset. The new sorts exhibited a considerable range of variety, mostly of light and pleasing shades of colour. They also had smaller collections of herbaceous plants, such as Delphiniums, Asters, Sunflowers, Gaillardias and some stands of quilled varieties of China Asters (Silver Gilt Medal). Two fresh and interesting groups of hardy cut flowers were exhibited by Messrs. Barr & Son, Covent Garden, and Long Ditton, Surrey. Conspicuous amongst others were Lilium speciosum, perennial Asters, Pentstemons, Zinnias, Stocks, Pyrethrums, Rudbeckia (Echinacea) purpurea, R. speciosa, Liatris pycnostachya, Heleniums, Sunflowers in variety, and others in considerable variety for this period of the year (Silver Medal). A large group of fruit trees in pots, including Peaches, Nectarines, &c., came from Messrs. W. Paul & Son. They also had numerous stands of Roses and baskets of ornamental Crabs interpersed amongst the pots of fruit trees (Gold Medal). Half a dozen stands of Dahlias were exhibited by Mr. S. Mortimer. The blooms were large and fresh and included seven new varieties of show, fancy, and Cactus Dahlias, Mrs. Mortimer and S. Mortimer being fine fancies, and John Knight a good show variety (Silver Medal). A collection of Pompon Chrysanthemums, set up in bunches, was exhibited by Mr. E. F. Such. Zinnias and seedling Hollyhocks were shown by Mr. W. Slogrove, gardener to Mrs. Crawford, Gatton, Reigate. A showy collection of show, fancy, Cactus and Pompon Dahlias was exhibited by Messrs. J. Cheal & Sons, Crawley, Sussex. The Cactus kinds were shown with their foliage, whether arranged in bunches or staged on flat stands, and looked fresh and beautiful (Silver Medal). A collection of Melons, consisting of 163 fruits or thereby, was exhibited by Mr. T. J. Stacey, The Peacheries, Caversham, Reading (Silver Medal). A collection of 100 fruits of Peaches in ten varieties was shown by Mr. A. H. Rickwood, gardener to the Dowager Lady Freake, Fulwell Park, Twickenham (Silver Medal). A collection of flowers, fruit, and vegetables was also shown by Mr. W. G. Rickerd, gardener to T Lilley, Esq., Croftmount Park, Ealing (Bronze Medal). A collection of Grapes and hardy fruit was exhibited by Mr. J. T. Hoar, gardener to J. T. Cooper, Esq., The Grange, West Molesey. A showy collection of Apples neatly arranged in baskets with cotton wool and also in plates was exhibited by Messrs. S. Spooner & Sons, Hounslow (Silver Medal). Some stands of Gloxinias and tuberous Begonias were shown by Mr. A. W. Young, 137, Holmesdale Road, South Norwood (Bronze Medal). A group of Antirrhinums, China Asters, and double Matricarias, as well as a group of Sunflowers, Phloxes, etc., were shown by Mr. Wm Welsford, South Lambeth (Silver Medal). A group of well-pitchered Nepenthes, Crotons, Palms, and Ferns were set up by Mr. G. Wythes (Silver-gilt Medal). A large collection of Dahlias, Sunflowers, Gaillardias, China Pinks, etc., was staged by Mr. W. Salmon, Elder Road, West Norwood (Silver Medal). Eight stands of show and fancy Dahlias were exhibited by Mr. Seale (Silver Medal). Five stands in similar style were also shown by Mr. E. F. Such. A group of Palms, Lilies, Crotons, etc, was arranged by Mr. J. Walborn, Cedars Nursery, West Kensington (Silver Medal).

THE HERBACEOUS BORDER.

Choice plants in Flower.

Eryngium planum.—The herbaceous border is considerably enlivened during the month of August by the branching stems and free flowering character of this species. It did, indeed, flower in July this year, but that is to a considerable extent exceptional. The lower leaves are oblong with a cordate base, while the upper ones are five-parted. The upper part of the branches and the bracts are of a bright steel blue, and the flower heads themselves, small, globular and deep blue.

Scabiosa ochroleucha.—The leaves of this perennial Scabious are deeply pinnatisect with linear segments, and the branching stems grow about 2 ft. to 3 ft. high. The flower heads are of medium or moderately large size, so that it cannot be considered a plant of the first rank compared with S. caucasica, but it blooms profusely long after the latter species has gone to rest, and for that reason alone is worthy of cultivation.

Anemone japonica alba.—The flowering of one of the most beautiful of autumn flowering plants has been considerably hastened by the remarkably dry and warm season. It is to be hoped that its duration will not be reduced by that amount. To avoid which the ground should be mulched and good supplies of water given.

Eupatorium Ageratoides.—The flowers of this Composite are white or of a faintly flesh tint in their earlier stages. The plant is of dwarfer and neater habit than the other species in cultivation growing generally about 18 in. to 2 ft. high. The leaves are ovate or cordate but undivided. Few of the species are hardy, and this one comes from North America. It is sometimes grown under the name of E. Fraseri.

Montbretia crocosmæflora.—The stems of this Irid grow about 18 in. to 2 ft. high and bear a profusion of showy flowers of an orange-scarlet and more intense externally, with a few crimson markings in the throat. The flowers are larger and more spreading than those of M. Potsii which was one of its parents. It should be favoured with a sheltered position and well drained soil.

GARDENING MISCELLANY.

LILIUM HENRYI.

There is evidently a great future before this rare Lily, when time has been afforded for its distribution. Some of the plants in Kew Gardens have stems from 6 ft. to 8 ft. high or more, bearing a conical panicle of flowers to the number of 12 to 27. The lower branches of the raceme generally bear two flowers each, rarely three, and the upper pedicels has solitary flowers. The bulbs would therefore seem to increase in vigour year after year,

and many of them may now be described as stately and handsome objects. The flowers hang with their face downwards, and the segments are strongly revolute, closely resembling those of L. speciosum in form, but entirely different in colour, being of a beautiful orange-apricot, spotted with crimson on the lower half, and more or less distinctly tuberculate. It is a more vigorous Lily evidently than L. speciosum; but if the two are planted together in a bed, L. Henryi should be planted in the centre. It is a native of Western China, and would increase all the more readily, probably, if the Chinese would take up its culture, and then send importations of it to this country in the same way as other Lilies from that part of the world. The species is also now flowering in the nursery of Mr. T. S. Ware, Tottenham, who holds, perhaps, the largest trade stock in Europe.

BIG GOOSEBERRIES.

Your correspondent "A. D." respecting these is going rather out of the track, as records were not referred to further than noting *current* events. But even if heating the record of the "Fruit Manual" were tried for, I do not doubt but it would be found, as some of the finest fruits burst before they can be shown. It is just possible that there is a little vanity in growing large Gosseberries, but it is also possible that an artisan who finds a hobby in growing large Gooseberries has as much pleasure in doing so as the late Mr. Barlow had in growing large Apples, or a florist may have in producing a fine Dahlia bloom. A good bush of the variety Catherine, bearing fine ripe fruit, is, I can say in its way a very interesting object. Your correspondent is right respecting the error in the figures on p. 788. Instead of 22 dwts. 17 grs., it should be 29 dwts. 17 grs., and what read 29 dwts. 26 grs. should be 29 dwts. 6 grs. A Gooseberry grower tells me that London has been grown or shown in the neighbourhood of Congleton, not far from here, weighing 34 dwts. Regarding the white Warrington sport, it would be easy to fix it; but as it is not such a good variety as the red, we have simply tied a string on the branch to mark it so that it is not pruned off in winter. As a curiosity to visitors, it is always interesting noticing the white and red fruit growing upon the same bush.—*Robt. Mackellar, Abney, Cheadle.*

TOM TITS IN THE GARDEN.

There are loud complaints occasionally against Tom Tits but at the same time we must not forget that they do an immense amount of good in destroying insect pests, in the pursuit of which they will come close to open windows at which some one may be sitting, and I have at times noticed the rapidity with which they will clear young growths of Roses from aphis. Living now in the heart of a town and enclosed in with houses I was much surprised the other day to see ten or a dozen of them on a Laburnum tree close to the window. How they should have found it out seemed rather strange, and what were they after? Well, the caterpillars of one of the roller moths. The way they go about their work is most interesting, sometimes even suspended head downwards. When they take to clearing a tree of insects, if undisturbed they will usually make a pretty clean job of it.—*G.*

SUCCESSFUL PEACH CULTURE.

Calling at a market nursery the other day I saw a Peach house about 80 ft. by 15 ft. from which 2,000 fruits, of the first quality have been taken. The house was planted in 1891 with fair, but not extra-sized trees which have now completely covered the roof with wood of a sturdy growth. The foliage is now, after the fruit has been gathered, quite free from spider, and is of the richest hue imaginable. As only about one-third of the roof was covered with bearing wood this year there is a fair prospect of the cropping doubled next season. I think this an instance of successful culture which is deserving of record, especially as I know that those upon whom the work of accomplishing this result has fallen had no previous experience of Peach growing. In the same establishment they are good hands at Tomatos, Cucumbers, Grapes, and Chrysanthemums, of which more anon.—*W. B. Glasscock.*

PLUMBAGO CAPENSIS.

Having come across this old favourite under two very diverse circumstances, in both of which it presents at the present time a most attractive appearance, and is, I think, of a richer hue than usual, I should like to draw attention to its value as a conservatory climber and window plant. At the back of a conservatory I saw the other day the finest mass of it that I have ever met with, and its value for this purpose is pretty generally known, but to find what looked like a splendid bouquet of it in a cottage window was to me at least a novel experience. It formed a superb blind and a striking contrast to the general run of plants used for the purpose. The plant was growing in a 12-in. pot, and would do credit to any professional gardener.—*W. B. Glasscock.*

TROPÆOLUM SPECIOSUM.

It is generally considered that drought and heat are the great enemies of this species in the South of England, and if that were entirely the case, the flowering of the plant in the south would have been a failure this season. We have seen moderate-sized clumps of it, however, both in Middlesex and Surrey flowering with comparative freedom, that is, as far plants in the south are concerned. The fleshy, rhizomatous roots have been slowly establishing themselves for some years past amongst some shrubbery at Falkland Park, South Norwood Hill. The stems have been allowed to ramble over a low tree of Abies Pinsapo, and they are now flowering freely. The soil is gravelly and open, but enriched to some extent by a natural deposit of vegetable humis, while the aspect is north-west. Being on the side of the hill the ground has a considerable slope generally, but in the position where the plant is located the slope is less, just as if there had been a slip at one time, or the soil washed down by rains, so that the situation would appear to be naturally favourable to the well-being of the plant.

THE NATIONAL CO-OPERATIVE FLOWER SHOW.

The Eighth Annual Co-operative Flower Show, organised by the Agricultural and Horticultural Association, Limited, and the Sixth Annual National Co-operative Festival, which was founded by Mr. Edward Owen Greening, were held in conjunction at the Crystal Palace on Friday and Saturday of last week, and the result was a most gratifying success, notwithstanding that the number of visitors on the second day was not so large as on the corresponding day of last year. Still, 30,000 people assembled in one place makes a great crowd, and unquestionably proclaims the success of the movement which has for its object the promotion of the higher ideals of co-operation. The festival was favoured with glorious weather, and the attractions of the show, the music, the sports, the various meetings and demonstrations, and finally the excellent display of fireworks provided abundant sources of amusement and enjoyment, and appeared to give great satisfaction to all.

The flower show, at which some £300 was distributed in prizes, was of a most excellent and inspirating character, and the raising of the standard of quality all round to a higher level than heretofore, proves that as an object lesson to the working classes these annual shows are doing a good work, and deserve our warmest support and encouragement. We remember well the first two shows of the kind held in the great conservatory at South Kensington, and those which preceded the last one at the Crystal Palace, and difficult indeed is it to make any comparison between the first and the last, so great is the difference between them. At the first show at South Kensington less than 300 exhibits were staged by working co-operators, and with some few exceptions the quality was very poor. On the present occasion the number of entries was 4,077, an advance of about 40 on last year, but the difference in these figures gives no adequate idea of the greater extent of this year's exhibition, which will be best explained by a reference to the amount of tabling called into requisition. Last year the total length of the tables was about half a mile, and this year it was nearly 200 yards longer. Both transepts were used this year, and the disposing of the subjects exhibited over a greater area was a very welcome improvement, inasmuch as it prevented undue crowding at any time and allowed of a more favourable examination of the admirable products staged to be made.

In the workmen's section there were 1,202 entries of vegetables, 744 of cut flowers, 240 of fruit, 224 of plants in pots, and 129 by women and children; and in the section confined to members of the Agricultural and Horticultural Associations the numbers were also in an ascending scale. In the cottagers' section the entries showed an increase of flowers and fruit at the expense of vegetables, while there was no falling off in regard to the latter among the gardeners employed by members of the association. The inference was drawn from the figures given that the drought had told more severely on the ordinary working men exhibitors than it had done on the more favourably circumstanced competitors. But the drought served rich and poor alike, and selected no particular class for adverse treatment, so that we must look in another direction for the explanation, and we believe it is to be found in the question of expense. For the first time it was arranged that the show should be of two days' duration, the vegetables being judged on the first day, and the flowers and fruit on the second, and we believe it was the increased expenditure of time and money which this arrangement involved to the poorer man which was the cause of the shortcoming, and not the drought. In any case, with some notable exceptions, such as in the case of Peas, Broad Beans, and Cauliflowers, which were poor all round, there was no falling off in quality, and we hope ere another year Mr. Greening will find a means of obviating the increased expenditure to which we have referred.

Turning to the products staged, it may be said that the most marked advance noted was to be seen in the plant and cut flower classes, which showed an immense improvement all round and gave much promise of future excellence. In plants the Ferns and Fuchsias were really admirable, and the Pelargoniums, Balsams, Begonias, Musk, Lobelia, etc., much better than usual, though still showing room for improvement. The cut flowers in all sections were better, and notably so the bouquets and baskets of flowers which generally showed a welcome departure from the lumpy style of former days. The addition of some very neatly decorated tables to this section was a decided acquisition to the show. With the exception of Peas, Broad Beans, and Cauliflowers, as before explained, the vegetables were remarkably good, indeed, of the very best quality, and the fruit classes were in all respects admirably represented. The organising secretary, Mr. Bromhall, and the flower show manager, Mr. Waugh, worked hard to ensure the success of the festival, and deserve all praise for their admirable arrangements.

VICTORIA PARK.

Wherever the visitor goes just now he will find that where the soil of park or garden is naturally moist or has been kept so by watering, the Pelargoniums have done remarkably well; indeed they revel in dry sunny weather if the roots are in a tolerably moist medium. As a class, Pelargoniums are largely used in Victoria Park, and the visitor that enters by the Victoria Park Road gate will soon find himself confronted with beds of this class of plants right and left, but if he pursues the path to the left he will soon arrive on the chief bedding centres. Along this path the beds occupy the border on the right pretty closely. There are two or three beds of Pelargonium Henry Jacoby flowering profusely and edged with Pelargonium Flower of Spring. There are some beds of a rose variety edged with Pelargonium Robert Fish; and a bed or two of the latter mixed with Iresine Lindeni, and edged with Amaranthus melancholicus ruber and Gnaphalium lanatum, producing a fine effect by contrast. Flower of Spring mixed with a blue Viola and edged with Iresine Lindeni and Golden Feather also tell by contrast. At the east end of this border is a pretty bed of the bronze Pelargonium Golden Harry Hieover edged with Flower of Spring and blue Lobelias.

The familiar half circular area closely laid out with beds next claims attention, as some bold and effective bedding is usually attempted here. Along the front of this area and next the walks are four neatly designed carpet beds of different designs, but they are practically in pairs. One of these has an octagonal figure in the centre of Alternanthera aurea and A. versicolor lined off with Pachyphyton bracteosum. Arranged concentrically round this are eight crosses of two different kinds alternating one with the other and corresponding in position to the faces of the octagon. They consist of Alternantheras on a ground

of Mentha Pulegium gibraltarica. The edge consists of Alternanthera magnifica and Echeveria secunda glauca. There are also dot plants of Echeveria metalica and Sempervivum canariense on tufts of Antennaria tomentosa aud Golden Feather. In the other two beds is a circle of Alternantheras in the centre round which are four club-shaped figures alternating with as many circles. The former are edged witb a single or double line of Echeverias and the circles are edged with Pachyphytum bracteosum. The outer edge of the bed consists of Alternantheras and Echeveria.

Along the outer edge of the semi-circular area are four large curved beds of scarlet Pelargoniums, all in a very floriferous condition and edged with Flower of Spring. Bolder, but less profusely in flower, are two beds of pink Pelargoniums edged with the yellow leaved and dwarf Robert Fish. A happy contrast is effected in two beds of Verbena venosa mixed with Cantaurea ragusina candidissima. Everywhere this year Coleus Verschaffeltii is very dark in colour, being here of a rich maroon or amaranth, and the bed is edged with Golden Feather and Ecbeveria. One bed imitates the Prince of Wales' Feathers, and the centre of it consists of a salmon-eyed Pelargonium edged witb a golden leaved Fuchsia. The middle feather is occupied witb Pelargonium Henry Jacoby, and the two lateral ones of a pink Pelargonium. The whole is banded with P. Flower of Spring, then with Iresine Lindeni, and that again witb P. Robert Fish, with a double edge of Echeveria. There are other beds here of scarlet, pink and tbe bronze Pelargonium, Golden Harry Hieover, in this place, and in fact with exception of the four carpet beds, the bulk of the display consists of Pelargoniums, all of which are very floriferous. Close by is a large, isolated, circular bed on the grass, and filled with succulents of grotesque and antique form. Tbe larger plants consist of Agave americana and A. a. variegata on mounds. The ground work consists of Mesembryanthemum cordifolium variegatum which runs up the mounds to the plants named. Interspersed on this ground are Chamæpeuce diacantha, Sempervivum canariense, S. cuneatum, Aloe frutescens, Opuntias, Yucca aloe folia variegata, Sedum spathulatum, and Echeveria metallica.

Pursuing the path round to the east end of tbe lake, some more neat and interesting bedding is met with in a wide bay on the left hand side. A very large carpet bed, consisting of a modified form of cbain bedding is the chief feature of this part of tbe park. The bed is elevated above the grass and carpeted with Mentha, on which are diamonds and circles, to which are attacbed pendants or crosses of various shapes, forming elongated figures, of Alternanthera aurea, A. amœna, and edged with Echeveria. There are also detached circles and diamond shaped figures. Amongst these are numerous dot plants of Echeveria metallica, Sempervivum canariense, Gasteria verrucosa, Aloe subulata, Pachyphytum bracteosum, Kleinia repens, Chamæpeuce diacantha, C. Casabonæ, Echeveria atropurpurea, E. Peacocki, and Agave americana. The whole is neatly done, as is usually the case here. There are some circular beds of pink and scarlet Pelargoniums in a free flowering condition. A bed of Fucbsias mixed with Chamæpeuce diacantha is also pretty. A circular bed with scolloped edges, consisting of six rounded curves, is also noteworthy. The centre is occupied with Ecbeveria metallica, tben follow Alternanthera aurea, and A versicolor, the latter being continued into six prolongations or rays, edged with Pachyphytum bracteosum. Beyond this the raised central portion of the bed is prolonged into six cone-shaped figures covered with Alternanthera amœna and edged with A. aurea. Around these the ground is lowered and occupied with Mentha. The outer edge again consists of Alternanthera versicolor and Echeveria secunda glauca, the whole forming a neat and pleasing combination.

The beds of sub-tropical plants are arranged in recesses, bays, or open areas amongst the shrubs and trees bordering one side of the lake, wbere they are tolerably well sheltered from rough winds. One oval bed filled with green-leaved Cannas is edged with Iresine Lindeni and Golden Feather, while a second contains bronzy Cannas edged with yellow leaved Fuchsias and Echeveria A bold effect is produced by a bed of Ficus elastica, 5 ft. to 6 ft. high, having tbe upper leaves of a bronzy hue and the stipulas bright red. Mixed beds are pretty frequent here, and two of them are filled with Abutilon Thompsoni, 5 ft. high, Ficus elastica, 3 ft., Abutilon Boule de Neige and Fucbsias, each 2 ft., all on a ground of Harrison's Musk and edged with Mesembryanthemum. Three moderate sized, circular beds contain a much greater variety, and form compact masses now at their best. The central plants are the tallest, and consist of Coral Plants, Blue Gum Trees, Abutilon Thompsoni, A. Boule de Neige, and A., brasiliense. Around these are somewhat dwarfer plants of Amicia zygomeris, Aralia Sieboldi, Acacia lophantha, Grevillea robusta, Dracæna rubra, and Fuchsias. The taller ones are about 3 ft. in height, and are topped to keep them within bounds and evenly rounded on the top. The second series of plants are about 2 ft. high, and they in turn are edged with still dwarfer plants of Amarantus melancholicus ruber, variegated Maize, Celosia pyramidalis, Heliotrope, Centaurea ragusina candidissima, and an outer edge of Sempervivum cuneatum. With such plants and sucb strange mixtures it is possible to produce a pleasing, luxuriant, and sub-tropical effect.

A second and smaller recess on the opposite side of the walk is also occupied with sub-tropical bedding. A large oval bed in tbe centre is filled witb a mixture precisely like that already mentioned, but as the bed is larger, so the plants range from 2 ft. at the margin to 6 ft. high in the centre. Two sombre but bold-looking and heart-shaped beds are filled with bronzy, broad-leaved Cannas, 2 ft. to 3, ft. high, and edged with a mass of the dark Perilla nankinensis. On either side of these again are two small mixed beds, followed at either end by a bed of green-leaved Cannas, edged with Perilla. Behind and in front of the above, and close to the walks, are small carpet beds, neatly designed with a scroll work of Alternantheras. Further along on the right is a luxuriant, but quiet bed of Caster Oil plants, both green, and the bronzy Ricinus Gibsoni, edged with Perilla and the French grey Cineraria maritima.

A rocky bank, backed up by the sbrubs and trees on the top, is planted with various succulents, which seem at home amongst the dry projecting stones, and give the whole a grotesque appearance. Interesting also is an attempt with a different class of plants, consisting largely of Palms, on a sloping rocky bank, with many of the specimens receding amongst the trees behind. Other plants used are the green and variegated New Zealand Flax, Aspidistras, Opuntias, Sempervivum cuneatum, American Aloes, Echeveria metalica, Ficus elastica, and otbers, which give a distinct and sub-tropical effect.

GARDENING NOTES FROM AYRSHIRE

In making a retrospect of twenty years' practice in different districts of this county, it is pleasing to be able to state that tbe results of the present season have been tbe most gratifying of any during tbese two decades. Following hard on an exceptionally severe winter, the spring months, as if to compensate for past disappointments, were ushered in by weather conditions which made out-door gardening a comparatively simple matter. The growth of vegetables and other products, to quote the language of an old writer, seemed to be altogether magical. The inevitable fly, however, which lurks in every one's pot of ointment, proved to be in store for horticulturists as tbe season advanced.

The extreme heat which, in conjunction with an adequate amount of moisture, would have secured something like perfection in fruits, flowers, and vegetables, on good and well-cultivated soils, had otherwise a counteracting effect, and but for the repeated and liberal applications of water artificially to the roots and top growth of various descriptions of plants, trees, and bushes, light crops of inferior produce, instead of abundance and high quality, would have to be recorded. In most instances, extra labour in hot, dry seasons is not grudged by anxious and persevering cultivators; but it is to be regretted that on account of the lack of a sufficient supply of that valuable auxiliary, water, they are rendered powerless to prevent many of the failures which occur.

Probably the finest breadth of early Cauliflowers I have ever grown was this season's crop, but about three weeks before heading in, the persistency with wbich they flagged for several days, indicated that a crisis bad arrived, but soakings of liquid manure and a good mulching seemed to be applied just in time to secure the crop. We have had more difficulty with Peas, however, the mid-season crops in particular. These are annually sown in prepared trenches, but besides this advantage heavy waterings were necessary to maintain the plants in a healthy bearing condition. This, however, could not be afforded on account of the extra quantities that bad to be drawn for vine borders, pot plants, besides about 500 gallons at one time to mix with weed killer during the beight of the drought.

Kidney Beans with respect to strong growtb and bearing have beaten any previous record. Although the lines were 24 in. apart we have had to remove every alternate row to enable us to pick off withered foliage and old beans. The crop is the earliest since 1875, when William's Dwarf Prolific afforded pods the last week of July. This season our first dish was sent to table on the 21st July from seed sown on May 15th of Osborn's Forcing.

Referring to fruit crops, all small fruits have been satisfactory. Plums are the heaviest we have had for ten years. Some young trees of Jefferson's, Kirke's Seedling, and Victoria in particular, planted six years ago have done specially good service, but old trees have also afforded beavy crops. Apples in orcbards also on bush trees and walls have also abundant yields. Pears are equally good on walls, notably Jargonelle, Bon Cbrétien, and Marie Louise. —*M., Ayrshire.*

HASTINGS FLOWER SHOW.

The Hastings Horticultural and Floricultural Society has unfortunately had a larger percentage of wet days tban any other in the soutb of England, but for the show held on the 7th inst. better weather could not be desired, except perhaps for the excessive heat. In every way the show was a success, and the Alexandra Park is a much better locale than Warrior Square or the Pier. All of the classes were well contested, and the stove plants were particularly bright and well grown. The following is a list of tbe first and second prizes in the principal classes open to all England:—Stove and greenhouse plants; eight varieties. First, Mr. T. Portnell, gardener to Sir A. Lamb. Second, Mr. A. Gadd, gardener to A. Eagles, Esq., wbo was also first for six varieties of tbe same, being followed by J. Warren, Esq., Handcross Park. Mr. Warren was also first for variegated and ornamental plants and exotic Ferns, Mr. E. C. Gilbert, of Springfield Nurseries, being a good second in botb. For a collection of six plants, Mr. J. Warren, Mr. T. Portnell, and Mr. E. C. Gilbert took honours in the order named. For a specimen foliage plant tbe first and second prizes went to Mr. J. Warren and Mr. E. C. Gilbert, this order being reversed for a specimen plant in bloom.

Roses: Twenty-four varieties; first, Messrs. Woolard & Son, Lewes; second, Mr. G. W. Piper, Uckfield; third, A. Slaughter, Esq., Steyning. The competition here was very close and far better quality blooms than are usually exhibited at this show. For twelve varieties Mr C. M. Carter was first. Dinner table decorations were well represented, the two premier prizes going to Mrs. Morris and Mrs. Mole, in the order named. Mr. E. C. Gilbert and Mr. A. Gadd shared the honours for a group of plants.

Fruit: Collection of six dishes; first, Mr. T. Portnell; second, Mr. J. Snow. Mr. G. Helman, gardener to Viscount Gage, was first for dessert Apples, while Mr. W. Allen, gardener to Lord Brassey, took similar bonours with culinary varieties. Mr. F. Crossman, gardener to Captain Dick, was first for Black Hamburgh Grapes and also for Whites. Mr. J. Snow being a good first for any variety of Black Grape. Mr. S. Golding and Mr. F. Crossman took first for scarlet and green fleshed Melons respectively. For the best system of packing fruit to go per parcels post, Mr. W. Robinson, gardener to Mrs. Meryon Rye, was first, being followed by Mr. T. J. Mitchell.

Amateurs and gentlemen's gardeners. Stove and greenhouse: six varieties; first, Mr. T. Portnell, gardener to Sir A. Lamb; ditto, four varieties, Mr. Morris, gardener to C. J. Ebden Esq., who was also first for ornamental foliage plants. Mr. T. Portnell was first for a specimen foliage plant and also for one in bloom. Roses: first, A. Slaughter, Esq., Steyning; second, Mr. C. M. Carter. Dahlias, show and fancy: first, Mr. F. J. Mitchell; Cactus:

first, Mr. J. Stredwick, who was awarded the same honour for Pompons and followed in each class by Mr. J. Budgeon. For a collection of cut flowers, Messrs. J. Snow and Morris shared the prizes. There were a large number of minor prizes, no less than 133 classes being fairly well contested throughout the show.

THE BEECHHILL NURSERY, EDINBURGH.

We observe that the firm of Mr. John Downie, Edinburgh, has recently been developing their business in new and important directions. The firm has long been known to the horticultural world as being well to the front in the cultivation of herbaceous plants and florists' flowers. This was their specialty. Now, however, they are "lengthening their cords and strengthening their stakes," evidently determined to make a fresh and vigorous start on more modern lines. At the late Royal Caledonian Show they caused considerable remark by the quality and variety of their exhibits.

A tidy and cosy place is Beechhill, situate about a mile and a half to the west of Edinburgh, in a pretty and well selected spot, among fine old Beech trees, from which it derives its name; and a more healthy, compact, and representative collection of general decorative plants, native and exotic, it will be difficult to find north of the Tweed. Antirrhinums, Phloxes, Pentstemons, Dahlias, and kindred subjects are much in evidence, as are also tuberous-rooted Begonias, of which there are several thousands, all generously responding to the kindly treatment they receive. Of these the Begonias take the lead, the excellence of the strain, together with the compact habit of the plants making them a special attraction. Every shade of colour at present observed in Begonias is well represented, and embrace double as well as single-flowering specimens.

We believe that for the Begonia there is a good time coming. The ease with which it may be grown, as well as the great variety of colour, together with the size and beauty of the bloom, and the reasonable prices at which it may be purchased will make this prolific bloomer a general favourite. Some of the doubles are so fine that they appear to combine the beauties of the Carnation, the Camelia, and the Rose. They are bound to become more widely known.

In the glass house department, house after house is filled with choice and select subjects, all good, clean, and healthy saleable stuff. Crotons are remarkable for their high colour. No stove can be considered complete without having a few of these interspersed among the more sombre green, which they touch off by their light, graceful, and "taking" appearance. Dracænas, notably Lindeni, Norwoodensis, Louisa, and Superba, are well grown; White Stephanotis, Alamandas, Caladiums, Pandanas, Hibiscus, Aralias, etc., also find an honoured place. The Fern and Palm houses, too, are replete with the leading varieties. The nurseries are easily accessible either by bus or on foot, and a visit will amply repay the time and trouble.—*G. S. W.*

ORCHID NOTES AND GLEANINGS.

Miltonia Roezlii alba Falkland Park var.

The typical form of this Miltonia is characterised by white flowers with a purple blotch at the base of each petal, and a pale yellow disc or blotch at the base of the lip. The white variety lacks the blotches on the petals, and the disc of the lip is a paler yellow. The sub-variety under notice differs from the latter by the disc being intensified, of a much deeper yellow and divided into two wedge-shaped blotches, separated by the dark lines running along the shallow ridges of the crest. There are also some orange-brown spots isolated and disposed near the margins of the basal portion of the lip. It has just flowered in an imported lot in the collection of John McMeekin, Esq., Falkland Park, South Norwood Hill.

Rodriguezia pubescens.

Few of the species of this genus are cultivated to any great extent, but it is surprising that R. pubescens should have been so long neglected, for a pot or well-flowered basket of it is a conspicuous object in the Orchid house at this season of the year when flowering Orchids are by no means over-plentiful. A large potful of it suspended from the roof of the Orchid house is now flowering handsomely in the collection of John McMeekin, Esq., Falkland Park, South Norwood Hill, under the charge of Mr. Wright. There are ten racemes of blooms, bearing in the aggregate 130 flowers. They are relatively of large size for this genus, and pure white with exception of the yellow, two-ridged crest. They are very fragrant in the morning, but become more faintly so later in the day when the atmosphere gets warm. There are several plants in the pot, and the racemes show different habits of growth, some having the flowers closely aggregated together, and others have them placed more distantly apart. Whether this characteristic will be permanent, remains to be seen in after years when the plants get more firmly established and in seasons that are different from the present.

Oncidium Jonesianum Maida Vale var.

This beautiful variety flowered recently with Mr. P. McArthur, London Nurseries, Maida Vale. The sepals are elliptic, heavily and distinctly blotched with brown on a greenish-yellow ground. The petals are similarly blotched on a ground that is nearly white. The large lip is white with some red spots on the base of the claw; the lateral lobes are yellow, and the prominent five-lobed crest is spotted with tawny-orange. Some pieces of this Oncidium growing on blocks are just now flowering in the Orchid houses at Falkland Park, South Norwood Hill, and show some variation in colour, and some of them are very fine. Sometimes the lateral lobes of the lip are of considerable size, and the base of the middle lobe has a greater or less number of crimson-red spots.

Cattleya Gaskelliana

We have seen some very fine varieties of this Cattleya at different times this season, and which show a considerable improvement upon the originally imported pieces, especially with regard to size. A plant has been flowering for some time past at Falkland Park, South Norwood Hill, under the care of Mr. Wright, and the flowers measure 8 in. across the petals. The lip is also darker than usual, the lamina being dark purple with a heavily crisped, lilac margin and a deep golden yellow throat.

WHAT TO DO IN THE GARDEN.

Bananas.—The present is a suitable time for removing suckers from fruiting Bananas, when it is intended to make up a fresh bed. Pot them up in rich turfy loam mixed with a quantity of sheep or deer droppings, and plunge the pots in a bottom heat of 95° with a top heat of 90° allowing it to rise 10° by sun heat when closing, at which time they should be heavily syringed. In the meantime the bed should be cleared out and filled with the richest loam procurable and mixed with the dung above mentioned if possible. Maintain a mean temperature of 85° after planting, which should be done when the roots begin to ramify freely in the pots. Close the house early, allowing the heat to run up to 100° giving plenty of moisture, both at the roots and in the atmosphere.

Gladioli.—Notwithstanding the long continued drought, these plants have flowered magnificently. If cross-breeding and seed saving is intended, the finer varieties should be selected, avoiding violent contrast of colour in the sorts used. The stigmas are ready for fertilisation about two days after the flowers open. The stamens should be removed from the intended seed parents before the anthers open. Stake all the flower spikes before there is any chance of their getting broken down.

Hollyhocks.—Continue to propagate from the eyes of young side shoots until sufficient stock has been secured. Plants so obtained are of more vigorous and healthy constitution than those struck in heat during the spring months. The great heat and drought must encourage the development of red spider to an alarming extent on flowering plants. To palliate the evil to some extent, mulch the ground for some distance round the roots and give copious supplies of water afterwards.

Pinks.—No time should now be lost in having the rooted cuttings planted out in their permanent positions. The ground should be well prepared, trodden, and planted; then a mulch of short manure should be given, and the ground watered to settle it about the roots. The plants soon become drawn and weakly if they are left too long in the cutting beds.

Carnations and Picotees.—Water the layered plants in the open ground pretty frequently to encourage the development of roots during the prevalence of dry weather. Pot plants that have been layered should be placed in the open air on a cool bed of ashes, and looked after in the matter of watering. The method of dealing with pot plants is to remove the top layer of soil, and put in some light sandy material, then to layer the shoots in this.

Auriculas.—Those who have not yet repotted their established plants, should lose no time in doing so. A moderate amount of water only is necessary after this time, but they must not be allowed to get dry. Be careful to remove decaying foliage from plants or offsets that were potted off some time ago.

Peaches.—September and October are the resting months for the earliest fruited trees. All doors and ventilators should be kept wide open to maintain a cool atmosphere conducive to rest. Indeed, if the sashes or some of them are removable this can be done to the advantage of the trees. The roots must not, however, be suffered to get dry under the impression that this will assist the trees in ripening.

Orange Trees.—Scale and mealy bug increase rapidly at this season of the year and soon cause the leaves to become black with a fungus that grows upon their excrement. Syringing will not clean them, although this serviceable work must be continued for the health of the trees. Soft soap dissolved in warm water and applied with a sponge will however clean the leaves.

Orchard House.—Pot plants that require a shift should have this accomplished as soon as the fruits are gathered or soon after, using good fibrous loam. See that they do not suffer from over dryness at the roots, and syringe twice daily to keep the foliage clean. Any repairing, cleaning and painting that may be required should be done while the weather remains fine.

Strawberries in Pots.—The fine weather should be causing the plumping up of the crowns of plants in pots. If large fruits are desired, all axillary or side shoots should be removed as soon as they can be detected, leaving only the strong, central one to bear fruit. As the flowers expand after being forced, remove the smaller and malformed flowers, retaining the best and most vigorous, for from these the best fruits will be obtained.

Scarlet Runners.—The dry weather is telling very much upon the setting of the flowers of this vegetable, whose usefulness is being felt more and more every day as Peas give in owing to the drought. The Runners would derive great advantage by being mulched around the roots with manure and then receiving copious supplies of water.

Vegetable quarters.—The continued dry weather is most favourable to the extirpation of all weeds, so that the ground should easily be kept clean next year. Keep the hoe at work amongst all recently planted crops, not only to keep down weeds, but to loosen the surface of the soil, thus preventing evaporation to a considerable extent.

Herbs.—The ground being dry it may be necessary to defer the making of fresh plantations for a time, that is, by the division of the plants; but seedlings of slow growing subjects such as Sage, Thyme, Marjoram, and Savory, and which were sown in boxes may now be planted out to let them get established so long as the weather remains good.

Obituary.

On the 15th ult., died at Slough, at the age of 75, William Whittaker, for many years the foreman of the plant houses at the Royal Nursery, Slough. Going to the nursery as a boy sixty years ago, he may be said to have grown with the growth of the establishment during the time it was in the occupation of the brothers Brown; their successor, Mr. Cutter, and finally in the occupation of Mr. C. Turner. He was a most skilful soft-wooded propagator, and in his day, many millions of cuttings must have passed through his hands. Increasing infirmities caused his retirement from the Royal Nursery in 1891, and he died at Slough, where he had spent the whole of his life.

QUESTIONS AND ANSWERS.

NAMES OF FRUITS.—*A Constant Reader*: Your Plum is the Sultan; but without more local knowledge it is difficult to suggest the cause of the fruits cracking.—*Hessle*: We regret to say the Peaches became rotten before we could get them identified.

PSEUDO-BULB AND LEAF OF ORCHID.—*Norma*: The specimens sent are those of a Miltonia, probably Miltonia spectabilis, or some of its varieties. It flowers as a rule during the summer months, but at various times up to August and September. Miltonias usually receive treatment similar to that of Odontoglossums, but a number of them, including M. spectabilis, require somewhat warmer treatment, say that of the Cattleya house, or a temperature ranging from 55° in winter to 70° in summer by fire heat, allowing a rise by sun heat when the plants are making their growth. At this period they should receive copious supplies of water, and shading during the middle of the day, but an abundance of light at all other times. This species should be grown in shallow pans with about an inch of compost round their roots and never allowed to get quite dry.

TRIPLE DAHLIA.—*Norma*: The specimen of Mrs. Langtry you send is a case of three heads grown together, as a result probably of luxuriant growth. It is not common for three heads to become so completely amalgamated as those you sent us, but two blooms may pretty frequently be found in that condition. The flower stem showed no traces of combination, nor did the bracts under the head. As the mass had three distinct faces, it may be considered curious but not ornamental.

NAMES OF PLANTS.—*J. W.*: 1, Vellozia elegans; 2, Acorus gramineus variegatus; 3, Abutilon Sellowianum marmoratum; 4, Abutilon Darwini tesselatum; 5, Cyperus laxus variegatus; 6, Hibiscus Cooperi; 7, Aralia filicifolia; 8, Sellaginella Martensi robusta; 9, Pellionea pulchra; 10, Pilea muscosa.

COMMUNICATIONS RECEIVED.—W. E.—A. H.—J. S.—M. & Co.—S. C.—John Laing & Sons—C. S.—T. B. B.—Two Years' Sub.—Pinkie.—H. F. R.—J. E. L.—P. M.

TRADE CATALOGUES RECEIVED.

JAMES CARTER & Co., High Holborn, London, W.C.—Bulb Catalogue for 1893.

J. CHEAL & SONS, Lowfield Nurseries, Crawley, Sussex.—Spring Flowering Bulbs.

ANT. ROOZEN & SON, Overveen, near Haarlem, Holland.—Dutch and Cape Bulbs.

JOHN LAING & SONS, Forest Hill, London, S.E.—Dutch and other Bulbous Roots, etc.

LITTLE & BALLANTYNE, Carlisle.—Bulbs, Seeds, for autumn sowing, etc.

JOHN S. IRELAND, 81, Princes Street, Edinburgh.—Choice Hyacinths and other Spring Flowering Roots.

LONDON SEED TRADE.

August 22nd, 1893.

MESSRS. HURST & SON, 152, Houndsditch, and 39, Seed Market, Mark Lane, report a slow demand for seeds for autumn sowing. Trifolium incarnatum, owing to full supplies from France, is slightly easier. Winter Tares and Rye are also offering at lower rates. New Mustardseed is now being marketed, and is of fine quality, but prices are not established. Italian Ryegrass continues to advance.

COVENT GARDEN MARKET.

August 23rd, 1893.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples..... per bushel	1 0	6 0	Plums.....½ sieve	1 6	2 6
Filberts, per 100 lb.	25 0		Melons ..... each	1 6	2 6
Grapes, per lb.	0 9	1 6	Pine apples.		
Peaches ... per dozen	3 0	8 0	—St. Michael's, each	2 6	6 0

VEGETABLES.—AVERAGE RETAIL PRICES.

	s. d.	s. d.		s. d.	s. d.
ArtichokesGlobe doz.	3 0	6 0	Horse Radish, hundle	2 0	4 0
Beans, French, perlb.	0 4	0 6	Lettnces ...per dozen	2 0	3 0
Beet..... per dozen	2 0	3 0	Mushrooms, p. basket	1 0	1 6
Cabbages ... per doz.	3 0	4 0	Onions.....per hunch	0 4	0 6
Carrots ... per hunch	0 6		Parsley ... per bunch	0 6	
Canliflowers, Eng.dz.	3 0	5 0	Radishes... per dozen	1 6	
Celery.....per bundle	2 6		Smallsalading,punnet	0 4	
Cucumbers .....each	0 4	0 8	Spinach ... per strike	4 0	
Endive, French, doz.	2 6	3 0	Tomatos..... per lb.	0 6	0 9
Herbs .....per bunch	0 2	0 6	Turnips ..... per bun.	0 6	

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Hastings Flower Show	824	Tropæolum speciosum	823
Heat, the excessive	816	Vegetable Garden, the	819
Hot Weather Diet	816	Veronicas, Shrubby	820
Lilium Henryi	822	Victoria Park	823
Lettuces for Winter and Spring	817	Vine Disease: Anthracnose	821
Memorial, a beautiful	816	Weed, a useful	819
National Co-operative Flower Show	823	White-man's foot	819

FLOWER SHOWS, 1893.

Revised to date.

AUGUST.

29,30,31.—R.H.S., Agricultural Hall.
30.—Easingwold Flower Show.
30, 31.—Bath Autumn Show.
31.—Thame Flower Show.

SEPTEMBER.

1,2.—National Dahlia Society's Show at the Crystal Palace.
2.—Stretford Flower Show.
2.—Bridge of Allan Flower Show.
5, 6.—Brighton Autumn Show.
6,7,8.—National Chrysanthemum Society at the Aquarium.
8.—Bute Rose Show at Rothesay.
12,26.—R.H.S., Drill Hall.
13,14.—Royal Caledonian Horticultural.
13, 14.—Dahlia Show at Earl's Court.
27.—N.C.S. Floral Committee.
27 28, 29.—Hardy Fruit Show at Earl's Court.
27, 28.—County of Gloucester & Cheltenham R.H.S.

OCTOBER.

10,24.—R.H.S., Drill Hall.
11,12,13.—National Chrysanthemum Society at the Aquarium.
25.—N.C.S. Floral Committee.
28,29.—Havant Chrysanthemum Show.

NOVEMBER.

1,2.—Kent County Chrysanthemum Show.
1,2.—Battersea Chrysanthemum Show.
1,2.—Barnstaple Chrysanthemum Show.
1, 2.—Steyning Chrysanthemum Show.
2,3.—Forest Gate and Stratford Chrysanthemum Show.
2,3.—Ascot Chrysanthemum Show.
2,3.—Highgate Chrysanthemum Show.
2,3,4.—Cornwall Chrysanthemum Show.
3,4.—Grimsby Chrysanthemum Show.
6.—St. Neots Chrysanthemum Show.
7,8,9.—National Chrysanthemum Society at the Aquarium.
7,8.—Eastbourne Chrysanthemum Show.
7, 8.—Brighton Chrysanthemum Show.
7,8.—Kingston Chrysanthemum Show.
7,8.—Sevenoaks Chrysanthemum Show.
7,8.—Leeds Paxton Society's Chrysanthemum Show.
8.—Evesham Chrysanthemum Show.
8.—N.C.S. Floral Committee.
8, 9.—Bath Chrysanthemum Show.
8,9.—Barnsley Chrysanthemum Show.
8, 9.—Brixton, Streatham, etc., Chrysanthemum Show.
8,9.—Bournemouth Chrysanthemum Show.
8,9.—Bath Chrysanthemum Show.
8, 9.—Dalston Chrysanthemum Show.
8 9.—Guildford Chrysanthemum Show.
8, 9.—Northamptonshire Chrysanthemum Society.
10.—Exeter Chrysanthemum Show
10.—Windsor Chrysanthemum Show.
10,11.—Derby Chrysathemum Show.
10,11.—Bradford Chrysanthemum Show.
11.—Bacup Chrysanthemum Show.
11.—Batley Chrysanthemum Show.
11.—Crewe Chrysanthemum Show.
14, 15.—Ipswich and East of England Chrysanthemum Show.
14, 15.—Plymouth Chrysanthemum Show.
14,15.—Croydon Chrysanthemum Show.
14,15.—Hartlepool Chrysanthemum Show.
14,15.—Cardiff Chrysanthemum Show.
14,28.—R.H.S., Drill Hall.
15.—Ealing Chrysanthemum Show.
15.—Reading Chrysanthemum Show.
15,16.—Birmingham Chrysanthemum Show.
15,16.—Bristol Chrysanthemum Show.
15,16.—Cranbrook Chrysanthemum Show.
15,16.—Great Yarmouth Chrysanthemum Show.
15,16.—York Chrysanthemum Show.
15, 16, 17.—Hereford Fruit and Chrysanthemum Show.
16, 17, 18.—Edinburgh Chrysanthemum Show.
16, 17.—Royal Horticultural Society of Ireland.
17.—Crediton Chrysanthemum Show.
17,18.—Stockport Chrysanthemum Show.
21,22.—Manchester Chrysanthemum Show.
22.—Beverley Chrysanthemum Show.
22,23.—Dundee Chrysanthemum Show.
23,24.—Norwich Chrysanthemum Show.
24,25.—Eccles Chrysanthemum Show.

DECEMBER.

5,6,7.—National Chrysanthemum Show at the Aquarium.
12.—R.H.S., Drill Hall.

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